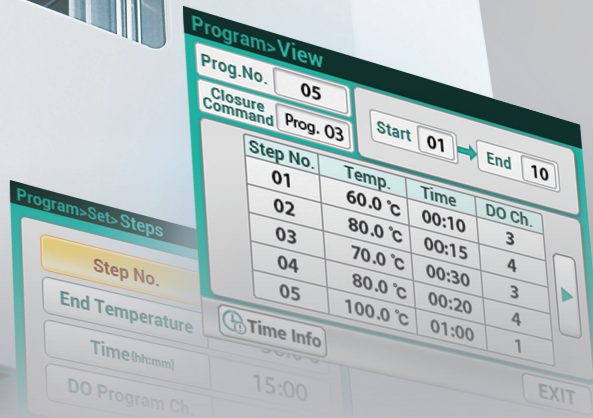


# Oven & Furnace



Satisfaction with the requirements of European regulations and guidelines.



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



Registered safety patent based on JEIO TECH's proprietary technology.



Intuitive operation with Color Touch display.



Digital Input / Output for external device interlock control.



More precise temperature control through 3-point temperature calibration.



More precise temperature control through temperature calibration.



Electronic over temperature protection system.



Over temperature protection function.



Warning alarm in case of deviation of temperature control.



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



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



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



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



2 year warranty Free A/S.

## 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/ Drying of plant tissue, 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
Forced Convection Ovens	<b>Program</b> <ul style="list-style-type: none"> <li>• 10 programs &amp; 10 steps</li> <li>• Easy operation with color touch</li> </ul>	Amb. +10 to 250 / Amb. +18 to 482	±0.5/ 0.9 at 100 °C	60, 102, 151 / 2.1, 3.6, 5.3	OF-P	64
	<b>General</b> <ul style="list-style-type: none"> <li>• Most representative forced convection type</li> <li>• Includes safety device as standard</li> </ul>	Amb. +10 to 250 / Amb. +18 to 482	±0.5 / 0.9 at 100 °C	60, 102, 151 / 2.1, 3.6, 5.3	OF-G	66
	<b>Large</b> <ul style="list-style-type: none"> <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 300	±0.2 / 0.36 at 100 °C	314, 450, 760 / 11.1, 15.9, 26.8	OF3 OF3-H	68
	<b>Economy</b> <ul style="list-style-type: none"> <li>• Stable product that is faithful to the basics</li> <li>• Includes safety device as standard</li> </ul>	Amb. +10 to 220 / Amb. +18 to 428	±0.4 / 0.72 at 100 °C	52, 100, 150 / 1.8, 3.5, 5.3	OF-E	70
	<b>Multi</b> <ul style="list-style-type: none"> <li>• Independent temperature control by chamber</li> <li>• 2-in-1, 4-in-1 models</li> </ul>	Amb. +10 to 200 / Amb. +18 to 392	±0.5 / 0.9 at 100 °C	120 / 4.2 (60/2.1 x 2 Chambers) 240 / 8.5 (60/2.1 x 4 Chambers)	OF-2C OF-4C	71
Natural Convection Ovens	<b>General</b> <ul style="list-style-type: none"> <li>• Most representative natural convection type</li> <li>• Suitable for drying powder samples</li> </ul>	Amb. +10 to 250 / Amb. +18 to 482	±0.3 / 0.54 at 100 °C	52, 91, 135 / 1.8, 3.2, 4.8	ON-G	72
	<b>Economy</b> <ul style="list-style-type: none"> <li>• Stable product that is faithful to the basics</li> <li>• Includes safety device as standard</li> </ul>	Amb. +15 to 220 / Amb. +27 to 428	±0.3 / 0.54 at 100 °C	52, 100, 150 / 1.8, 3.5, 5.3	ON-E	73
Vacuum Oven	<b>Vacuum</b> <ul style="list-style-type: none"> <li>• Product optimized for vacuum drying</li> <li>• Structure separating vacuum/release line</li> </ul>	Amb. +15 to 250 / Amb. +27 to 482	±0.1 / 0.18 at 100 °C	28, 65 / 1.0, 2.3	OV4	74
Furnace	<b>Furnace</b> <ul style="list-style-type: none"> <li>• High temperature test up to 1500°C</li> <li>• Convenient program control</li> </ul>	Max. 1100 / 2012 Max. 1500 / 2732	±1.5 / 2.7 at 1500°C	3.0, 4.5, 12.0 / 0.1, 0.2, 0.4	MF2-G MF2-H	76

※ 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 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 (OF3-Large, OF-P)

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



Inside of natural convection oven



Provision of remote equipment monitoring service.

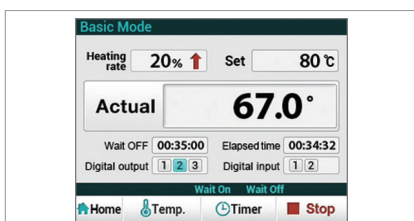




## Has functions that are convenient for actual use and applies Lab Companion's patented safety system

- > **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 (Lab Companion's patent)**  
Even if a failure occurs in the device control unit, the safety device is structured so that it is preferentially operated.
- > **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.

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



Program controller of the color touch screen.



General controller with clear VFD panel.



Triple-toughened glass windows.

# Forced Convection Oven

## Program type

### Convenient program control function

#### Structural Functional Features

- Wide temperature range that can be controlled up to 250°C.
- Intuitive operation with color touch display.
- 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.
- Two vent holes for gas discharge at the top.
- Safe temperature of the surface even when operating at maximum temperature.

#### Use Convenience Features

- 3-point temperature calibration, high temperature accuracy over a wide temperature range.
- Precise temperature control with temperature auto-tuning.
- Easy to adjust air circulation speed.
- Wait On/Off timer. (up to 99 hours 59 minutes)
- Microprocessor PID method for precise temperature control.
- Displays all major operation information on the main screen.
- Operation and data management with computer connection.
- Monitor via mobile app anytime, anywhere with LC Connected. (mobile monitoring system) (when purchased LC GreenBox)
- Automatic restart of operation when power is restored after sudden power failure.

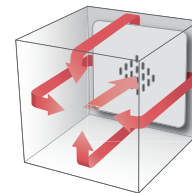
#### Outstanding Safety

- Top-rated overheating protection system. (registration 10-0397583)
- Over temperature limit function.
- Safety circuit design to protect against overcurrent and overheating.
- Safe surface temperature even when operating at high temperature.
- Triple-toughened viewing window for safe and convenient observation even at high temperatures. (OF-PW)
- Malfunction prevented by controller lock function.
- Self-diagnostics function to check abnormal condition of temperature sensor.



#### OF-12PW

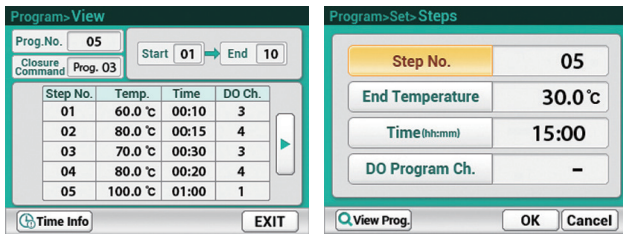
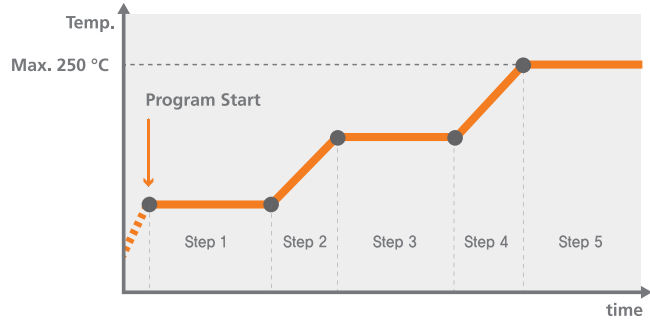
with Wire Shelves 2ea (standard)





## 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.
- Possible to set temperature rise time. (maximum 4.7°C/min)
- Digital Input / Output function makes it easy to connect external equipment.



## Specification

Model	Solid Door (without window)	OF-02P	OF-12P	OF-22P
	Window door	OF-02PW	OF-12PW	OF-22PW
Chamber volume (L / cu ft)		60 / 2.1	102 / 3.6	151 / 5.3
Temperature	Range (°C / °F)	Amb. +10 to 250 / Amb. +18 to 482	Amb. +10 to 250 / Amb. +18 to 482	Amb. +10 to 250 / Amb. +18 to 482
	Fluctuation at 100°C (±°C / °F)	0.5 / 0.9	0.6 / 1.08	0.8 / 1.44
	Variation at 100°C (±°C / °F)	1.0 / 1.8	1.3 / 2.3	1.7 / 3.1
	Heating time to 100°C (min.)	9	9	6
	Recovery time at 100°C (min.)	2	1	1
Dimension	Interior (W x D x H, mm / inch)	400 x 360 x 420 / 15.7 x 14.2 x 16.5	480 x 410 x 520 / 18.9 x 16.1 x 20.5	550 x 460 x 600 / 22 x 18 x 23.6
	Exterior (W x D x H, mm / inch)	577 x 642 x 760 / 22.7 x 25.3 x 30	657 x 692 x 870 / 25.9 x 27.2 x 34.3	727 x 742 x 974 / 28.7 x 29.2 x 38.3
	Net weight (Kg / lbs)	53 / 117	63 / 139	72.5 / 160
Shelves	Quantity of shelves (standard/max.)	2 / 4	2 / 6	2 / 7
	Max. Load per shelf (Kg / lbs)	30 / 66	30 / 66	30 / 66
Electrical requirements (230V, 50 / 60Hz, A)		4.2	5.9	7.1
Cat. No.	Solid door (without window)	AAH12555K	AAH12565K	AAH12575K
	Window door	AAH12655K	AAH12665K	AAH12675K
Electrical requirements (120V, 60Hz, A)		6.8	8.4	10.1
Cat. No.	Solid Door (without window)	AAH12553U	AAH12563U	AAH12573U
	Window door	AAH12653U	AAH12663U	AAH12673U

※ The lowest temperature that can be controlled depends on changes in room temperature and sample temperature. Therefore, please contact the distributor of our products before purchasing for technical consultation.  
 ※ Technical data (according to DIN 12880, before 2013)

Accessories Page 77 Wire Shelves, Perforated Shelves, Recorder, LC GreenBox

# Forced Convection Oven

## General type

**Superb air dispersion and uniform temperature distribution.**

### **Structural Functional Features**

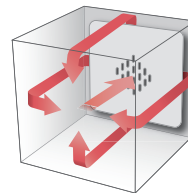
- Temperature range from ambient +10°C to 250°C.
- Microprocessor PID control / Temperature calibration / Automatic tuning.
- Forced air convection ensures optimal air circulation, temperature uniformity, and short heat-up time.
- Fan speed control by an analog dial prevents powdered samples from blowing away. (option)
- Adjustable dual slide vents for inner vapor circulation.

### **Use Convenience Features**

- Intuitive control panel with bright LED displays. (0.1°C resolution)
- Dual wait on/off timer modes. (1 min. to 99 hr. 59 min.)
- Convenient presetting function for 3 most commonly used temperature settings.
- Rounded inner chamber corners for easy cleaning and optimal airflow.
- Corrosion-resistant incoloy sheath heating element and stainless steel interior.
- Threefold tempered-glass window provides clear inside view of the chambers. (only OF-GW models)
- RS-232 interface for external control and data collection.
- Monitor via mobile app anytime, anywhere with LC Connected. (mobile monitoring system) (when purchased LC GreenBox)



**OF-22GW**  
with Wire Shelves 2ea (standard)

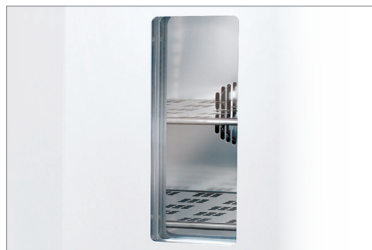


Effective heat transfer through airflow



#### **Stainless steel Chamber**

- Grade 304 stainless steel chamber interior and dirt-repellent external surface with power coating.
- Adjustable and electropolished stainless steel wire shelves allowing efficient airflow and easy cleaning.



#### **Glass Window**

- Threefold tempered-glass window providing clear inside view of the chambers. (only OF-GW models)
- Door opens 180 degrees and features a double latch handle.



#### **Air-tight Door Gasket**

- Air-tight door gasket minimizing heat loss.





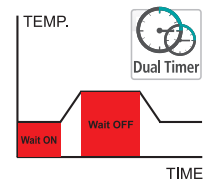
## Outstanding Safety

- Top-rated overheating protection system. (registration 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. (only OF-GW models)
- Malfunction prevented by controller lock function.
- Self-diagnostics function to check abnormal condition of temperature sensor.



### Safety

- Protection against overheating by automatic power cutoff from the heater and controller in sequence.
- Two separate fuses for protecting against overcurrent.
- Open door alert.



### Dual Wait ON/OFF Timer

- Dual wait on/off timer modes from 1 min to 99 hr 59 min.

## Specification

Model	Solid Door (without window)	OF-02G	OF-12G	OF-22G
	Window door	OF-02GW	OF-12GW	OF-22GW
<b>Chamber volume (L / cu ft)</b>		50 / 1.8	100 / 3.5	153 / 5.4
<b>Temperature</b>	Range (°C / °F)	Amb. +10 to 250 / Amb. +18 to 482	Amb. +10 to 250 / Amb. +18 to 482	Amb. +10 to 250 / Amb. +18 to 482
	Fluctuation at 100°C (±°C / °F)	0.5 / 0.9	0.6 / 1.08	0.8 / 1.44
	Variation at 100°C (±°C / °F)	1 / 1.8	1.3 / 2.3	1.7 / 3.1
	Heating time to 100°C (min.)	12	15	16
<b>Dimension</b>	Recovery time at 100°C (min.)	6	6	6
	Interior (W x D x H, mm / inch)	400 x 360 x 420 / 15.7 x 14.2 x 16.5	480 x 410 x 520 / 18.9 x 16.1 x 20.5	550 x 460 x 600 / 22 x 18 x 23.6
	Exterior (W x D x H, mm / inch)	577 x 642 x 760 / 22.7 x 25.3 x 30	657 x 692 x 870 / 25.9 x 27.2 x 34.3	727 x 742 x 974 / 28.7 x 29.2 x 38.3
<b>Shelves</b>	Net weight (Kg / lbs)	53 / 117	63 / 139	72.5 / 160
	Quantity of shelves (standard/max.)	2 / 4	2 / 6	2 / 7
<b>Electrical requirements (230V, 50 / 60Hz, A)</b>	Max. Load per shelf (Kg / lbs)	30 / 66	30 / 66	30 / 66
	Electrical requirements (230V, 50 / 60Hz, A)	4.4	6.1	7.4
<b>Cat. No.</b>	Solid Door (without window)	AAH12155K	AAH12165K	AAH12175K
	Window door	AAH12255K	AAH12265K	AAH12275K
<b>Electrical requirements (120V, 60Hz, A)</b>	Electrical requirements (120V, 60Hz, A)	6.8	8.4	10.1
	<b>Cat. No.</b>	Solid Door (without window)	AAH12156U	AAH12166U
	Window door	AAH12256U	AAH12266U	AAH12276U

1) Technical data according to DIN 12880. (before 2013)

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



# 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 distribution.
- 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. (mobile monitoring system) (when purchased LC GreenBox)
- Temperature calibration of up to 3 points allows for more reliable temperature control.
- Optimized control with temperature auto-tuning.
- Wait On/Off timer. (up to 999 hours 59 minutes)
- Microprocessor PID method for precise temperature control.

#### Outstanding Safety

- Top-rated overheating protection system. (registration 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)
- 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.

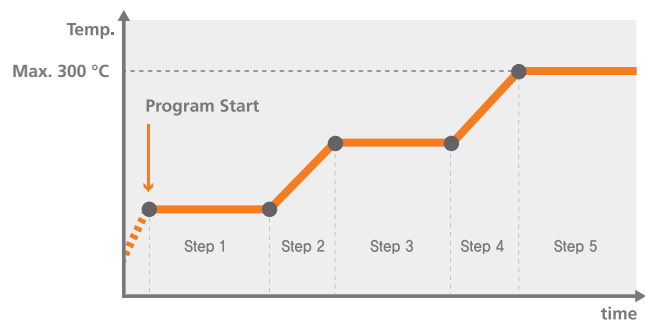
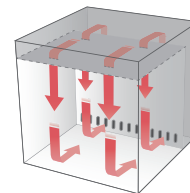
#### General Type

- 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.



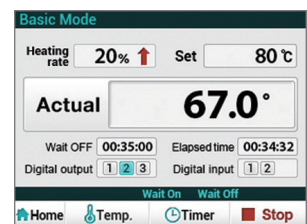
#### OF3-45PW

with Wire Shelves 2ea (standard)



#### General Controller

Simultaneous display of set temperature and current temperature.



#### Program Controller

- Color touch display
- Intuitive operation environment.



## Specification

		Max. 200°C		
Model	General (Without Window)	OF3-30	OF3-45 (CE Completed)	OF3-75 (CE Completed)
	General (Window Door)	OF3-30W	OF3-45W (CE Completed)	OF3-75W (CE Completed)
	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)
<b>Chamber volume (L / cu ft)</b>		314 / 11.1	450 / 15.9	760 / 26.8
<b>Temperature</b>	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
	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
<b>Dimension</b>	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
	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
<b>Shelves</b>	No. of wire shelf (standard / max.)	2 / 5	3 / 8	3 / 11
	Max. load per shelf (kg / lbs)	25 / 55.1	25 / 55.1	25 / 55.1
<b>Electrical requirements (230V, 50/60Hz, A)</b>		1P, 13.2		
<b>Cat. No.</b>	General (Without Window)	AAH18215K	-	-
	General (Window Door)	AAH18315K	-	-
	Program (Without Window)	AAH18615K	-	-
	Program (Window Door)	AAH18715K	-	-
<b>Electrical requirements (380V, 50Hz, A)</b>		-	3P, 6.7	3P, 9.0
<b>Cat. No.</b>	General (Without Window)	-	AAH182214K	AAH182314K
	General (Window Door)	-	AAH183214K	AAH183314K
	Program (Without Window)	-	AAH186214K	AAH186314K
	Program (Window Door)	-	AAH187214K	AAH187314K

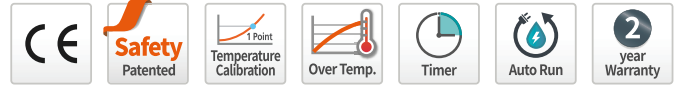
※ Technical data (according to DIN 12880 before 2013)

		Max. 300°C		
Model	General (Without Window)	OF3-30H (CE Completed)	OF3-45H (CE Completed)	OF3-75 (CE Completed)
	General (Window Door)	OF3-30HW (CE Completed)	OF3-45HW (CE Completed)	OF3-75HW (CE Completed)
	Program (Without Window)	OF3-30HP (CE Completed)	OF3-45HP (CE Completed)	OF3-75P (CE Completed)
	Program (Window Door)	OF3-30HPW (CE Completed)	OF3-45HPW (CE Completed)	OF3-75HPW (CE Completed)
<b>Chamber volume (L / cu ft)</b>		314 / 11.1	450 / 15.9	760 / 26.8
<b>Temperature</b>	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
<b>Dimension</b>	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
	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
<b>Shelves</b>	No. of wire shelf (standard / max.)	2 / 5	3 / 8	3 / 11
	Max. load per shelf (kg / lbs)	25 / 55.1	25 / 55.1	25 / 55.1
<b>Electrical requirements (380V, 50Hz, A)</b>		3P, 6.7	3P, 9.0	3P, 10.8
<b>Cat. No.</b>	General (Without Window)	AAH192114K	AAH192214K	AAH192314K
	General (Window Door)	AAH193114K	AAH193214K	AAH193314K
	Program (Without Window)	AAH196114K	AAH196214K	AAH196314K
	Program (Window Door)	AAH197114K	AAH197214K	AAH197314K

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

※ Technical data (according to DIN 12880 before 2013)

# Forced Convection Oven Economy type



## Stable oven that is faithful to the basic functions

### Structural Functional Features

- Economical model series that minimizes the purchase burden.
- Superior insulation and enclosed design minimize energy loss and reduce operating costs.
- Stainless steel interior and shelves are excellent in terms of corrosion resistance and clean maintenance.
- Two vent holes for gas discharge at the top.

### Use Convenience Features

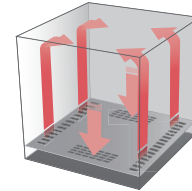
- Calibration function minimizes temperature difference.
- Optimized control with temperature auto-tuning.
- Save and use 3 frequently used temperatures.
- Wait On/Off timer. (up to 99 hours 59 minutes)
- Microprocessor PID method for precise temperature control.
- Automatic restart of operation when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

### Outstanding Safety

- Top-rated overheating protection system. (registration 10-0397583)
- Over temperature limit function.
- Safety circuit design to protect against overcurrent and overheating.
- Safe surface temperature even when operating at high temperatures.
- Malfunction prevented by controller lock function.
- Self-diagnostics function to check abnormal condition of temperature sensor.



**OF-01E**  
with Wire Shelves 2ea (standard)



## Specification

Model		OF-01E	OF-11E	OF-21E
<b>Chamber volume (L / cu ft)</b>		52 / 1.8	100 / 3.5	150 / 5.3
<b>Temperature</b>	Range (°C / °F)	Amb. +10 to 220 / Amb. +18 to 428	Amb. +10 to 220 / Amb. +18 to 428	Amb. +10 to 220 / Amb. +18 to 428
	Fluctuation at 100°C (±°C / °F)	0.4 / 0.72	0.4 / 0.72	0.4 / 0.72
	Variation at 100°C (±°C / °F)	3.3 / 5.94	3.3 / 5.94	2.3 / 4.14
	Heating time to 100°C (min.)	6	6	5
	Recovery time at 100°C (min.)	1	1	1
<b>Dimension</b>	Interior (W x D x H, mm / inch)	375 x 370 x 370 / 14.8 x 14.6 x 14.6	455 x 430 x 510 / 18 x 17 x 20	585 x 460 x 555 / 23 x 18.1 x 21.9
	Exterior (W x D x H, mm / inch)	530 x 535 x 737 / 20.9 x 21.1 x 29	610 x 595 x 877 / 24 x 23.4 x 34.5	740 x 625 x 922 / 29.1 x 24.6 x 36.3
	Net weight (Kg / lbs)	36 / 79.4	47 / 103.6	59 / 130
<b>Shelves</b>	Quantity of shelves (standard/max.)	2 / 5	2 / 7	2 / 7
	Max. Load per shelf (Kg / lbs)	30 / 66.1	30 / 66.1	25 / 55.1
<b>Electrical requirements (230V, 50 / 60Hz, A)</b>		4.3	6	7.4
<b>Cat. No.</b>		<b>AAH14012K</b>	<b>AAH14022K</b>	<b>AAH14032K</b>
<b>Electrical requirements (120V, 60Hz, A)</b>		6.8	8.4	10.1
<b>Cat. No.</b>		<b>AAH14016U</b>	<b>AAH14026U</b>	<b>AAH14036U</b>

※ The lowest temperature that can be controlled depends on changes in room temperature and sample temperature. Therefore, please contact the distributor of our products before purchasing for technical consultation.  
 ※ Technical data (according to DIN 12880, before 2013)

# 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 difference.
- 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 10-0397583)
- Over temperature limit function.
- Safe product surface, even when operated at maximum temperature.
- Malfunction prevented by controller lock function.
- Self-diagnostics function to check abnormal condition of temperature sensor.

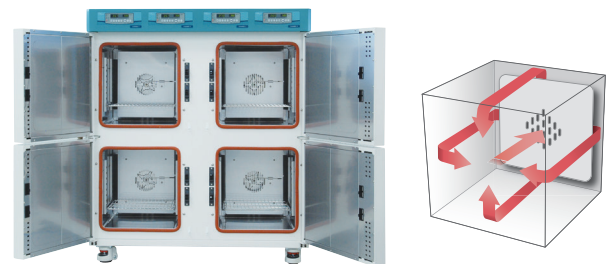


**OF-02G-2C**

with Wire Shelves 2ea (standard)

**OF-02G-4C**

with Wire Shelves 2ea (standard)



## Specification

Model		OF-02G-2C	OF-02G-4C
<b>Chamber volume (L / cu ft)</b>		120 / 4.2 (60 / 2.1 x 2 chambers)	240 / 8.5 (60 / 2.1 x 4 chambers)
<b>Temperature</b>	Range (°C / °F)	Amb. +10 to 200 / Amb. +18 to 392	Amb. +10 to 200 / Amb. +18 to 392
	Fluctuation at 100°C (±°C / °F)	0.5 / 0.9	0.5 / 0.9
	Variation at 100°C (±°C / °F)	1 / 1.8	1 / 1.8
	Heating time to 100°C (min.)	15	15
	Recovery time at 100°C (min.)	2	2
<b>Dimension</b>	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	170 / 374.8
<b>Shelves</b>	Quantity of shelves (standard/max.)	2 / 4 per chamber	2 / 4 per chamber
	Max. Load per shelf (Kg / lbs)	26 / 57.3	26 / 57.3
<b>Electrical requirements (230V, 50 / 60Hz, A)</b>		8.4	8.4 x 2
<b>Cat. No.</b>		<b>AAH1A115K</b>	<b>AAH1A015K</b>
<b>Electrical requirements (120V, 60Hz, A)</b>		16.7	16.7 x 2ea
<b>Cat. No.</b>		<b>AAH1A116U</b>	<b>AAH1A016U</b>

※ The lowest temperature that can be controlled depends on changes in room temperature and sample temperature. Therefore, please contact the distributor of our products before purchasing for technical consultation.  
 ※ Technical data (according to DIN 12880, before 2013)

**Accessories** Page 77 Wire Shelves, Perforated Shelves



# Natural Convection Oven

## General type



## Specially designed for applications requiring gentle airflow

### Structural Functional Features

- Gravity flow convection for uniform sample heating.
  - Ideal for all sterilization, drying, and high-temperature storage tasks that do not require high drying performance or airflow.
- Easy to open and close the door, soft handle minimizes shock to the sample.
- Two vent holes for gas discharge at the top.
- Stainless steel interior and shelves are excellent in terms of corrosion resistance and clean maintenance.
- Rounded inner chamber corners for easy cleaning and optimal airflow.

### Use Convenience Features

- Calibration function minimizes temperature difference.
- 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.

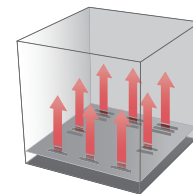
### Outstanding Safety

- Top-rated overheating protection system. (registration 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. (only ON-GW models)
- Malfunction prevented by controller lock function.
- Self-diagnostics function to check abnormal condition of temperature sensor.



**ON-22GW**

with Wire Shelves 2ea (standard)



## Specification

Model	Solid Door (without window)	ON-02G	ON-12G	ON-22G
	Window door	ON-02GW	ON-12GW	ON-22GW
<b>Chamber volume (L / cu ft)</b>		52 / 1.8	91 / 3.2	135 / 4.8
<b>Temperature</b>	Range (°C / °F)	Amb. +15 to 250 / Amb. +27 to 482	Amb. +15 to 250 / Amb. +27 to 482	Amb. +15 to 250 / Amb. +27 to 482
	Fluctuation at 100°C (±°C / °F)	0.3 / 0.54	0.3 / 0.54	0.3 / 0.54
	Variation at 100°C (±°C / °F)	5.9 / 10.62	7.5 / 13.5	6.9 / 12.42
	Heating time to 100°C (min.)	13	12	12
<b>Dimension</b>	Recovery time at 100°C (min.)	5	4	2
	Interior (W x D x H, mm / inch)	400 x 360 x 365 / 15.7 x 14.2 x 14.4	480 x 410 x 465 / 18.9 x 16.1 x 18.3	610 x 460 x 485 / 24 x 18 x 19
	Exterior (W x D x H, mm / inch)	577 x 542 x 760 / 22.7 x 21.3 x 30	657 x 592 x 870 / 25.9 x 23.3 x 34.3	785 x 642 x 897 / 30.9 x 25.3 x 35.3
	Net weight (Kg / lbs)	49 / 108	59 / 130	68 / 150
<b>Shelves</b>	Quantity of shelves (standard/max.)	2 / 4	2 / 6	2 / 7
	Max. Load per shelf (Kg / lbs)	30 / 66.1	30 / 66.1	30 / 66.1
<b>Electrical requirements (230V, 50 / 60Hz, A)</b>		4.3	6	7.4
<b>Cat. No.</b>	Solid Door (without window)	AAH11135K	AAH11145K	AAH11155K
	Window door	AAH11235K	AAH11245K	AAH11255K
<b>Electrical requirements (120V, 60Hz, A)</b>		6.7	8.3	10
<b>Cat. No.</b>	Solid Door (without window)	AAH11136U	AAH11146U	AAH11156U
	Window door	AAH11236U	AAH11246U	AAH11256U

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※ Technical data (according to DIN 12880, before 2013)

Accessories **Page 77** Wire Shelves, Perforated Shelves

# Natural Convection Oven Economy type



## Substantial oven that is faithful to the basic functions

### Structural Functional Features

- Economical model series that minimizes the purchase burden.
- Superior insulation and enclosed design minimize energy loss and reduce operating costs.
- Stainless steel interior and shelves are excellent in terms of corrosion resistance and clean maintenance.
- Two vent holes for gas discharge at the top.

### Use Convenience Features

- Calibration function minimizes temperature difference.
- 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.

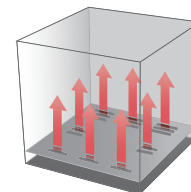
### Outstanding Safety

- Top-rated overheating protection system. (registration 10-0397583)
- Over temperature limit function.
- Safe product surface, even when operated at maximum temperature.
- Malfunction prevented by controller lock function.
- Self-diagnostics function to check abnormal condition of temperature sensor.
- Provides notification/alarms when the door is open for an extended period of time.



### ON-11E

with Wire Shelves 2ea (standard)



## Specification

Model		ON-01E	ON-11E	ON-21E
<b>Chamber volume (L / cu ft)</b>		52 / 1.8	100 / 3.5	150 / 5.3
<b>Temperature</b>	Range (°C / °F)	Amb. +15 to 220 / Amb. +27 to 428	Amb. +15 to 220 / Amb. +27 to 428	Amb. +15 to 220 / Amb. +27 to 428
	Fluctuation at 100°C (±°C / °F)	0.3 / 0.54	0.4 / 0.72	0.5 / 0.9
	Variation at 100°C (±°C / °F)	6.5 / 11.7	4.1 / 7.38	7.3 / 13.14
	Heating time to 100°C (min.)	12	13	10
	Recovery time at 100°C (min.)	4	5	3
<b>Dimension</b>	Interior (W x D x H, mm / inch)	375 x 370 x 370 / 14.8 x 14.6 x 14.6	455 x 430 x 510 / 18 x 17 x 20	585 x 460 x 555 / 23 x 18.1 x 21.9
	Exterior (W x D x H, mm / inch)	530 x 535 x 737 / 20.9 x 21.1 x 29	610 x 595 x 877 / 24 x 23.4 x 34.5	740 x 625 x 922 / 29.1 x 24.6 x 36.3
	Net weight (Kg / lbs)	34 / 75	46 / 101.4	59 / 130
<b>Shelves</b>	Quantity of shelves (standard/max.)	2 / 5	2 / 7	2 / 7
	Max. Load per shelf (Kg / lbs)	30 / 66.1	30 / 66.1	30 / 66.1
<b>Electrical requirements (230V, 50 / 60Hz, A)</b>		4.3	6	7.4
<b>Cat. No.</b>		<b>AAH15015K</b>	<b>AAH15025K</b>	<b>AAH15035K</b>
<b>Electrical requirements (120V, 60Hz, A)</b>		6.7	8.3	10
<b>Cat. No.</b>		<b>AAH15016U</b>	<b>AAH15026U</b>	<b>AAH15036U</b>

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

※ Technical data (according to DIN 12880, before 2013)

# Vacuum Oven

## New vacuum oven with improved usability and reliability

### Structural Functional Features

- Wide temperature range that can be controlled up to 250°C.
- Improved temperature distribution. ( $\pm 1.5^{\circ}\text{C}$  at 100°C)
- 3-point temperature calibration, high temperature accuracy over a wide temperature range.
- Inner stainless steel and aluminum shelves provide excellent corrosion resistance and clean maintenance.
- Protects equipment from overcurrent and over temperature through safety circuits.
- Vacuum line and release line are separated and convenient to use.
- The display is mounted at the top, minimizing floor size requirement.

### Use Convenience Features

- When a vacuum is formed and maintained, the toughened glass is attached to the gasket, so it is kept confined for long-time repeated use.
- Save and use 3 frequently used temperatures.
- PC connection using RS-232 port and USB port.
- Excellent visibility and viewing angle due to application of 5-inch large LCD.
- Wait On/Off timer. (up to 999 hours 59 minutes)
- Toughened glass viewing window for easy internal viewing
- Microprocessor PID method for precise temperature control.
- Automatic restart as it was operated after power recovery.
- Monitor via mobile app anytime, anywhere with LC Connected. (mobile monitoring system) (when purchased LC GreenBox)

### Outstanding Safety

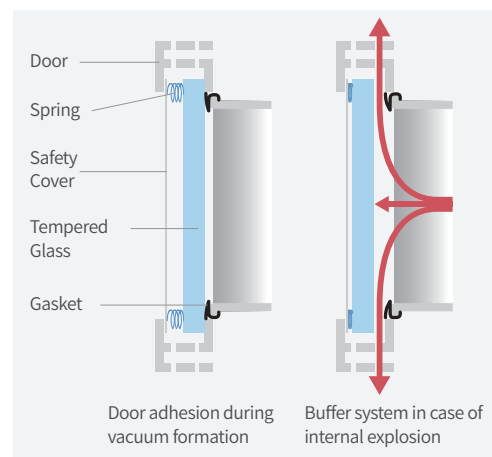
- Door structure including buffer system allows for internal pressure release through upper and lower ventilation holes when stable vacuum is formed/maintained and when there is an internal explosion.
- Polycarbonate safety cover provided in case of toughened glass breakage.
- 12 events is recorded in case of door open, error, and etc.
- Top-rated overheating protection system. (registration 10-0397583)
- Over temperature limit function.
- Safe product surface, even when operated at upper temperature.
- Malfunction prevented by controller lock function.
- Alarm if set temperature deviation outside of acceptable range.



OV4-30



Excellent visibility with 5-inch large LCD

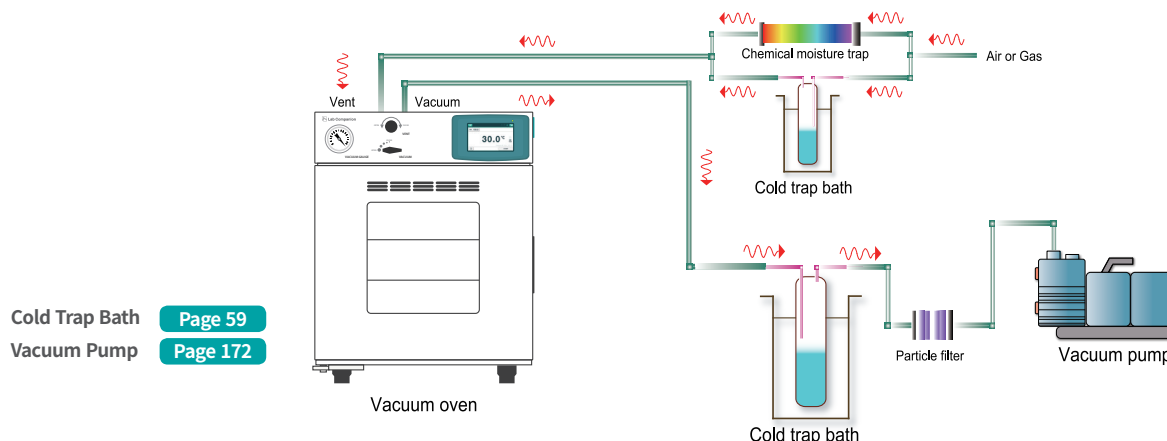


Buffer system door structure



## 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.



Cold Trap Bath [Page 59](#)  
 Vacuum Pump [Page 172](#)

## Specification

Model		OV4-30	OV4-65
<b>Chamber volume (L / cu ft)</b>		28 / 1	65 / 2.3
<b>Temperature</b>	Range (°C / °F)	Amb. +15 to 250 / Amb. +27 to 482	Amb. +15 to 250 / Amb. +27 to 482
	Fluctuation at 100°C (±°C / °F)	0.1 / 0.18	0.3 / 0.54
	Variation at 100°C (±°C / °F)	1.5 / 2.7	1.5 / 2.7
	Heating time to 100°C (min.)	60	90
<b>Vacuum gauge range, analog (Mpa)</b>		0 to 0.1	0 to 0.1
<b>Dimension</b>	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
	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)	69 / 152.1	110 / 242.5
<b>Shelves</b>	Quantity of shelves (standard/max.)	2 / 2	3 / 3
	Max. Load per shelf (Kg / lbs)	20 / 44.1	20 / 44.1
<b>Electrical requirements (230V, 50 / 60Hz, A)</b>		5	5.8
<b>Cat. No.</b>		<b>AAH13315K</b>	<b>AAH13325K</b>
<b>Electrical requirements (120V, 60Hz, A)</b>		10.2	11.7
<b>Cat. No.</b>		<b>AAH13316U</b>	<b>AAH13326U</b>

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※ Technical data (according to DIN 12880, after 2013)

## Accessories

Description	Model	Cat. No.
<b>Silicone Gasket</b>	OV4-30	<b>00FAA0005146</b>
	OV4-65	<b>00FAA0005147</b>
<b>Viton Gasket</b>	OV4-30	<b>00FAA0005187</b>
	OV4-65	<b>00FAA0005188</b>
<b>Safety Cover</b>	OV4-30	<b>AAA13603</b>
	OV4-65	<b>AAA13604</b>
<b>LC GreenBox</b>	OV4-30	<b>AAAQ1011</b>
	OV4-65	

### Silicone Gasket

Basics are included, and structure allows for easy replacement.

### Viton Gasket

Viton gasket with excellent chemical resistance.

### Safety Cover (Standard)

User and laboratory protection in case of toughened glass breakage.

### LC GreenBox

Monitor the operation status of the device in real time via mobile app with simple internet connection.



# Muffle Furnace



## Electric furnace for high temperature experiment at 1100 °C / 1500 °C

### Structural Functional Features

- Improved airtight system of internal due to door buffer devices and sturdy double-door structure.
- Use durable insulation to minimize heat loss.
- Easy replacement of upper heater. (only for 1500°C model)

### Use Convenience Features

- Monitor via mobile app anytime, anywhere with LC Connected. (mobile monitoring system) (when purchased LC GreenBox)
- Microprocessor PID method for precise temperature control.
- Optimal temperature control with temperature auto-tuning.
- Excellent visibility and viewing angle due to application of large 5-inch TFT LCD.
- Automatic restart as it was operated after power recovery.
- 12 events is recorded in case of door open, error, and etc.

### Outstanding Safety

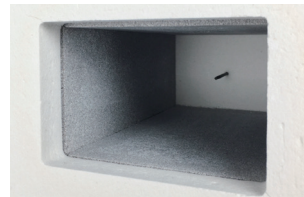
- When the present temperature is more than specific set-temperature for safety, product door will be locked.
- Precise electronic over-temperature protection system.
- Safe product surface, even when operated at maximum temperature.
- Automatic operating stop when door open for using safety.

### Program type

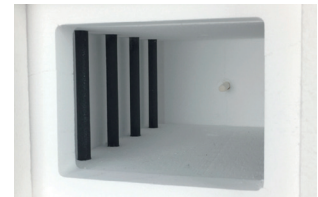
- Possible to set and save 10 programs.
- Up to 10 steps can be set in the one program.
- Program repetition possible up to 99 times.
- The temperature change rate over time and closing situation (standby, next step, and etc.) can be set.
- Displays the time remaining of the corresponding step when the program is operated.
- Desired program can be operating at reservation time.



MF2-12H



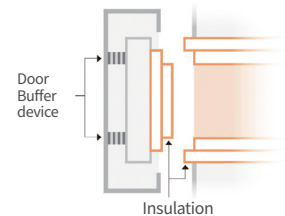
1100°C model  
(4-side molding type heater)



1500°C model  
(2-side exposed type heater)



Excellent visibility with 5-inch large LCD

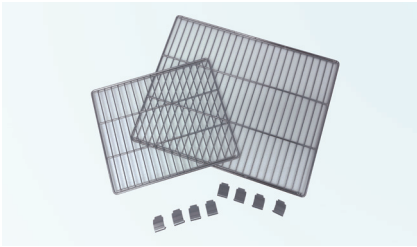


Excellent airtight structure even maximum temperature

## Specification

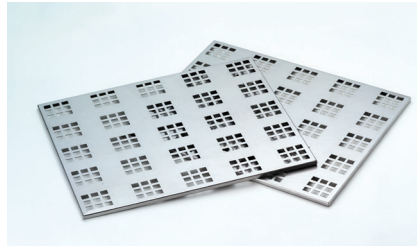
		Max. 1100°C / 2012°F			Max. 1500°C / 2732°F		
Model	Fix Mode Control	MF2-12GF	MF2-22GF	MF2-32GF	MF2-12HF	MF2-22HF	MF2-32HF
	Program Mode Control	MF2-12G	MF2-22G	MF2-32G	MF2-12H	MF2-22H	MF2-32H
<b>Chamber Volume (L / cu ft)</b>		3 / 0.11	4.5 / 0.16	12 / 0.42	3.2 / 0.11	4.5 / 0.16	12 / 0.42
<b>Temperature</b>							
Range (°C / °F)		Amb. +15 to 1100 / Amb. +27 to 2012	Amb. +15 to 1100 / Amb. +27 to 2012	Amb. +15 to 1100 / Amb. +27 to 2012	Amb. +15 to 1500 / Amb. +27 to 2732	Amb. +15 to 1500 / Amb. +27 to 2732	Amb. +15 to 1500 / Amb. +27 to 2732
Fluctuation at Max. temp. (±°C / °F)		1 / 1.8	1 / 1.8	1 / 1.8	1.5 / 2.7	1.5 / 2.7	1.5 / 2.7
<b>Dimensions</b>							
Interior (W x D x H, mm / inch)		130 x 250 x 90 / 5.1 x 9.8 x 3.5	150 x 300 x 100 / 5.1 x 11.8 x 3.9	250 x 300 x 160 / 9.8 x 11.8 x 6.3	130 x 250 x 100 / 5.1 x 9.8 x 3.9	150 x 300 x 100 / 5.1 x 11.8 x 3.9	250 x 300 x 160 / 9.8 x 11.8 x 6.3
Exterior (W x D x H, mm / inch)		395 x 500 x 590 / 15.6 x 19.7 x 23.2	425 x 550 x 630 / 16.7 x 21.7 x 24.8	525 x 550 x 690 / 20.7 x 21.7 x 27.2	515 x 590 x 670 / 20.3 x 23.2 x 26.4	535 x 640 x 670 / 26.4 x 25.2 x 26.4	635 x 640 x 730 / 25.0 x 25.2 x 28.7
Weight (Kg / lbs)		42 / 92.6	50 / 110.2	70 / 154.3	53 / 116.8	63 / 138.9	78 / 172.0
<b>Electrical requirements (230V, 50 / 60Hz, A)</b>		9.5	14.3	21.4	15.8	17.6	22.8
Cat. No.	Fix Mode Control	AAHP2112K	AAHP2122K	AAHP2132K	AAHP2212K	AAHP2222K	AAHP2232K
	Program Mode Control	AAHP2111K	AAHP2121K	AAHP2131K	AAHP2211K	AAHP2221K	AAHP2231K

# Accessories for Oven



### Wire Shelf

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



### Perforated Shelf

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



### LC GreenBox

- Monitor and control the operation status of the device in real time via mobile app with simple internet connection.
- One LC GreenBox can connect up to 4 devices.

## Wire & Perforated shelves

Model	Wire shelves		Perforated shelves	
	Cat. No.	Quantity of shelves (standard/max.)	Cat. No.	Quantity of shelves (max.)
OF-02G / GW	00EDA0008136	2 / 4	AAA12531	7
OF-12G / GW	00EDA0008135	2 / 6	AAA12532	6
OF-22G / GW	00EDA0008134	2 / 7	AAA12533	7
OF-02P / PW	00EDA0008136	2 / 4	AAA12531	7
OF-12P / PW	00EDA0008135	2 / 6	AAA12532	6
OF-22P / PW	00EDA0008134	2 / 7	AAA12533	7
OF-01E	00EDA0008136	2 / 5	AAA14501	5
OF-11E	00EDA0008135	2 / 7	AAA14502	7
OF-21E	00EDA0008137	2 / 7	AAA14503	7
OF3-30 / 30W / 30P / 30PW	00RTD0001196	2 / 5	AAA18501	5
OF3-45 / 45W / 45P / 45PW	00RTD0001196	3 / 8	AAA18501	8
OF3-75 / 75W / 75P / 75PW	00RTD0001197	3 / 11	AAA18502	11
OF3-30H / 30HW / 30HP / 30HPW	00RTD0001196	2 / 5	AAA18501	5
OF3-45H / 45HW / 45HP / 45HPW	00RTD0001196	3 / 8	AAA18501	8
OF3-75H / 75HW / 75HP / 75HPW	00RTD0001197	3 / 11	AAA18502	11
OF-02G-2C	00EDA0008136	4 / 8	AAA12531	8
OF-02G-4C	00EDA0008136	8 / 16	AAA12531	16
ON-02G / GW	00EDA0008136	2 / 4	AAA12531	4
ON-12G / GW	00EDA0008135	2 / 6	AAA12532	6
ON-22G / GW	00EDA0008137	2 / 7	AAA12535	7
ON-01E	00EDA0008136	2 / 5	AAA12531	5
ON-11E	00EDA0008135	2 / 7	AAA12532	7
ON-21E	00EDA0008137	2 / 7	AAA12535	7

※ Included bracket for each shelf

## LC GreenBox

Model	Description	Dimension (W x D x H, mm / inch)	Cat. No.
OF-P / OF-G / OF3 / OV4 / MF2	Mobile monitoring system	156 x 94 x 34 / 6.1 x 3.7 x 1.3	AAAQ1011

### Recorder (Dot)

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

### Recorder (Thermal Line)

Graph/Digital mode  
Thermal-type temperature recorder

### Fan speed adjuster

Adjustable inner air circulation speed, which protects spreading out powder sample.

Model	Description	Cat. No.
OF3-30/45/75/30H/45H/75H Series	Recorder (Dot)	AAA8T500
	Recorder (Thermal line)	AAAE1503

Model	Cat. No.
OF-02G, 12G, 22G	AAA12701