



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, 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



Inside of natural convection oven



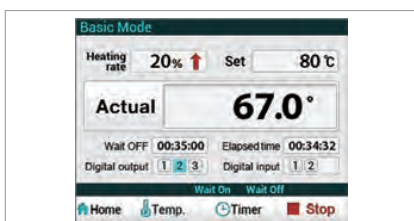
Provision of remote equipment monitoring service.



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

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 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)
- 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.

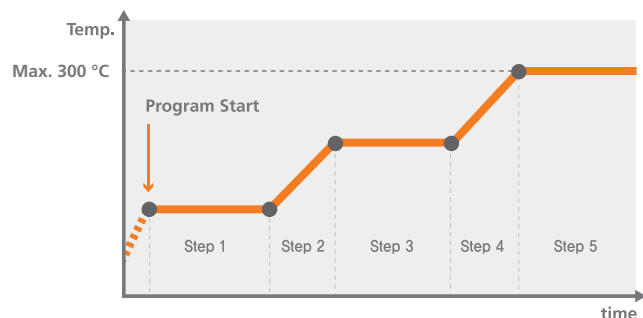
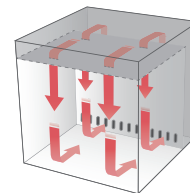
General Type

- 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.
- Save and use 3 frequently used temperatures.



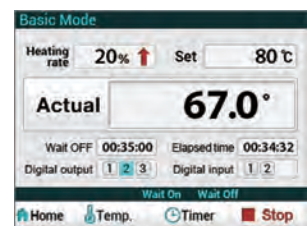
OF3-45PW

with Wire Shelves 2ea (standard)



General Controller

Simultaneous display of set temperature and current temperature.



Program Controller

- Color touch display
- Intuitive operation environment.



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)
Chamber volume (L / cu ft)		314 / 11.1	450 / 15.9	760 / 26.8
Temperature	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
Dimension	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
Shelves	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
Electrical requirements (230V, 50/60Hz, A)		1P, 13.2		
Cat. No.	General (Without Window)	AAH18215K	-	-
	General (Window Door)	AAH18315K	-	-
	Program (Without Window)	AAH18615K	-	-
	Program (Window Door)	AAH18715K	-	-
Electrical requirements (380V, 50/60Hz, A)		-	3P, 6.7	3P, 9.0
Cat. No.	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)	OF3-75H (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)	OF3-75HP (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
Dimension	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
Shelves	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
Electrical requirements (380V, 50/60Hz, A)		3P, 6.7	3P, 9.0	3P, 10.8
Cat. No.	General (Without Window)	AAH192114K	AAH192214K	AAH192314K
	General (Window Door)	AAH193114K	AAH193214K	AAH193314K
	Program (Without Window)	AAH196114K	AAH196214K	AAH196314K
	Program (Window Door)	AAH197114K	AAH197214K	AAH197314K

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※ 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

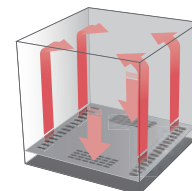
- Calibration function minimizes temperature difference.
- Optimized control with temperature auto-tuning.
- Save and use 3 frequently used temperatures.
- Wait On/Off timer. (up to 99 hours 59 minutes)
- Microprocessor PID method for precise temperature control.
- Automatic restart of operation when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

Outstanding Safety

- Top-rated overheating protection system. (registration KR 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
Chamber volume (L / cu ft)		52 / 1.8	100 / 3.5	150 / 5.3
Temperature	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
Dimension	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
Shelves	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
Electrical requirements (230V, 50/60Hz, A)		4.3	6	7.4
Cat. No.		AAH14012K	AAH14022K	AAH14032K
Electrical requirements (120V, 60Hz, A)		6.8	8.4	10.1
Cat. No.		AAH14016U	AAH14026U	AAH14036U

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

Accessories Page 78 Wire Shelves, Perforated Shelves

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 KR 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.

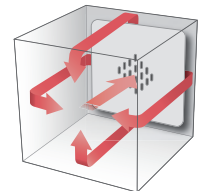
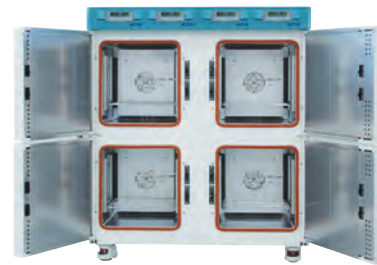


OF-02G-2C

with Wire Shelves 2ea (standard)

OF-02G-4C

with Wire Shelves 2ea (standard)



Specification

Model		OF-02G-2C	OF-02G-4C
Chamber volume (L / cu ft)		120 / 4.2 (60 / 2.1 x 2 chambers)	240 / 8.5 (60 / 2.1 x 4 chambers)
Temperature	Range (°C / °F)	Amb. +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
Dimension	Interior (W x D x H, mm / inch)	400 x 360 x 420 / 15.7 x 14.2 x 16.5 (each chamber)	400 x 360 x 420 / 15.7 x 14.2 x 16.5 (each chamber)
	Exterior (W x D x H, mm / inch)	570 x 640 x 1360 / 22.4 x 25.2 x 53.5	1170 x 640 x 1360 / 46.1 x 25.2 x 53.5
	Net weight (Kg / lbs)	110 / 242.5	170 / 374.8
Shelves	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
Electrical requirements (230V, 50/60Hz, A)		8.4	8.4 x 2
Cat. No.		AAH1A115K	AAH1A015K
Electrical requirements (120V, 60Hz, A)		16.7	16.7 x 2ea
Cat. No.		AAH1A116U	AAH1A016U

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

Accessories Page 78 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.

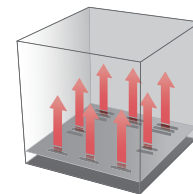
Outstanding Safety

- Top-rated overheating protection system. (registration 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. (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
Chamber volume (L / cu ft)		52 / 1.8	91 / 3.2	135 / 4.8
Temperature	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
Dimension	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
Shelves	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
Electrical requirements (230V, 50/60Hz, A)		4.3	6	7.4
Cat. No.	Solid Door (without window)	AAH11135K	AAH11145K	AAH11155K
	Window door	AAH11235K	AAH11245K	AAH11255K
Electrical requirements (120V, 60Hz, A)		6.7	8.3	10
Cat. No.	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 78** 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.

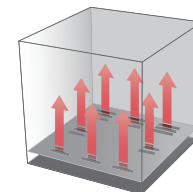
Outstanding Safety

- Top-rated overheating protection system. (registration KR 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
Chamber volume (L / cu ft)		52 / 1.8	100 / 3.5	150 / 5.3
Temperature	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
Dimension	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
Shelves	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
Electrical requirements (230V, 50/60Hz, A)		4.3	6	7.4
Cat. No.		AAH15015K	AAH15025K	AAH15035K
Electrical requirements (120V, 60Hz, A)		6.7	8.3	10
Cat. No.		AAH15016U	AAH15026U	AAH15036U

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※ 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.
- Viton gasket when drying chemical substances which has a high reactivity. (option)

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.
- BMS communication port that helps monitor the device temperature on the building management system.
- Monitor via mobile app anytime, anywhere with LC Connected. (mobile monitoring system) (when purchased LC GreenBox)
- Recording the most recent events, such as start/stop of operation and error occurrence.
- PC connection using RS-232 port and USB port.
- Excellent visibility and viewing angle due to application of large LCD.
- Auto 3 temperature recommendation based on operating history without any recording or storage.
- Wait On/Off timer. (up to 99 hours 59 minutes)
- Test data is automatically saved and easily downloaded via USB (CSV format) (except for OV4-30S/65S model)
- Real-time graphs that allow users to view events and alarms at a glance (except for OV4-30S/65S model)
- By selecting the ramp rate ($^{\circ}\text{C}/\text{min}$), you can limit the speed of temperature rise when using (except for OV4-30S/65S model)

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

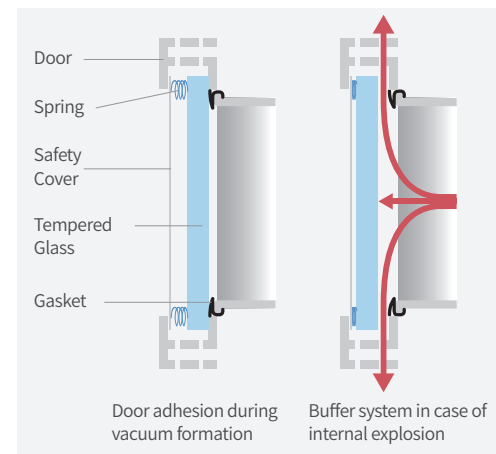


OV4-30

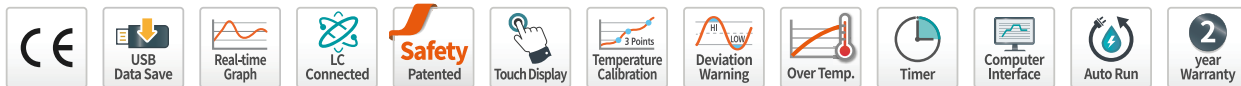
with Shelves 2ea (standard)



Excellent visibility with 5-inch large LCD

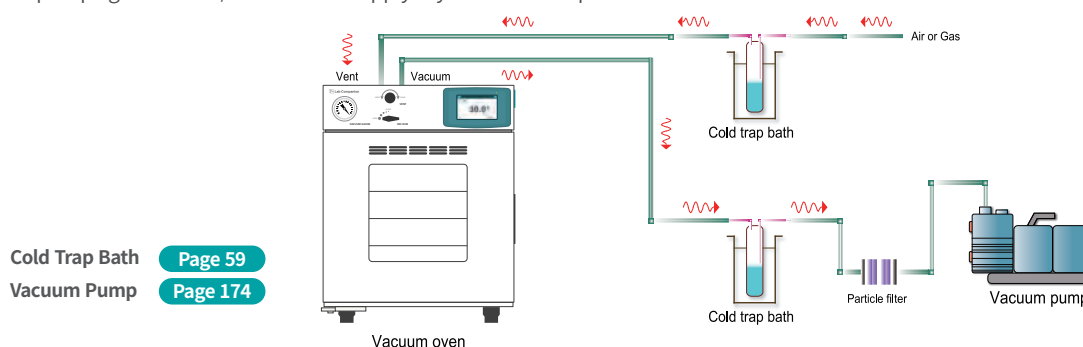


Buffer system door structure



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.



Specification

Model		OV4-30	OV4-30S*	OV4-65	OV4-65S*
Control panel		5 inch	3.5 inch	5 inch	3.5 inch
Chamber volume (L / cu ft)		28 / 1		65 / 2.3	
Temperature	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)	0.2 / 0.36		0.2 / 0.36	
	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	
Dimension	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)	68 / 150		107 / 235.9	
Shelves	Quantity of shelves (standard / max.)	2 / 3		3 / 4	
	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

※ 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, after 2013)

※ You can add an extra 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.

* Some convenience features are excluded for OV4-30S, OV4-65S models. (real-time graphs, data storage, etc.)

Accessories

Description		Cat. No.		Description	Position (OV4-30 ³⁾)	Material	Cat. No.	
		OV4-30/30S	OV4-65/65S				OV4-30/30S	OV4-65/65S
Silicone Gasket	Basic bundle accessory. Silicon gasket for sealing the door.	00FAA0005146	00FAA0005147	Bottom shelf, Basic²⁾		Aluminum	AAA13519	AAA13520
				STS		AAA13529	AAA13530	
Viton Gasket	High chemical resistance.	00FAA0005187	00FAA0005188	Extra shelf, Optional¹⁾		Aluminum	AAA13511	AAA13513
				STS		AAA13521	AAA13523	
LC GreenBox	Mobile connection adapter. Available real-time monitoring and control on Lab Companion mobile app.	AAAQ1011K	AAAQ1011	Lower shelf, Basic²⁾		Aluminum	AAA13517	AAA13518
				STS		AAA13527	AAA13528	
				Aluminum		AAA13512	AAA13514	
				STS		AAA13522	AAA13524	
Shelf spacer, Basic²⁾	Insert where the gap occurs					Aluminum	AAA13515	AAA13516
						STS	AAA13525	AAA13526

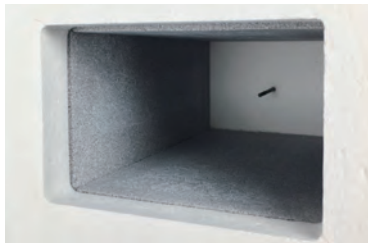
1) You can add an extra shelf that can be placed at the bottom to experiment with more samples same time, and the value of Variation and Fluctuation may increase slightly.

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

3) For OV4-65 models, 2 upper shelves are basic provided.

Muffle Furnace

Stable high-temperature experiments at 1100 °C Convenient and intuitive touch controller



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



MF2-12H

Enhanced user convenience of touch controller

- Intuitive use with a large 5-inch TFT touch controller.
- Auto 3 temperature recommendation based on operating history without any recording or storage.
- Timer(wait on, wait off) and Ramp(temperature increase rate) function
- Monitor and control via a mobile app anytime, anywhere, with LC Connected. (Mobile monitoring system) (Option)
- Recording the 36 most recent events, such as start/stop of operation and error occurrence.



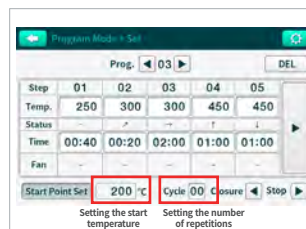
Large 5-inch touch display



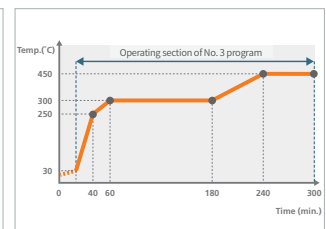
Real-time monitoring and control via mobile

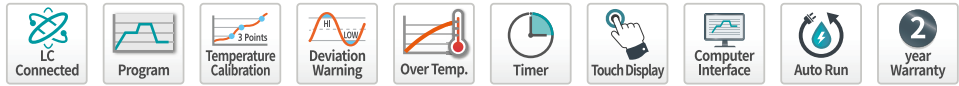
Easy program settings intuitively without a manual (MF2-G : program type only)

- Available to set up to 10 programs and 10 steps.
- Available to set up to 99 repetitions of program from 0.
- Function of setting the start temperature to begin an experiment at an accurate temperature the user wants.
- Possible to skip to the next step or hold the current step during program operation.
- Available to set a deviation of temperature or time to keep going a program operation even if the temperature is not reached to the target accurately.
- A useful scheduler function available to select and schedule the desired day, time, and program for repetitive experimental settings.



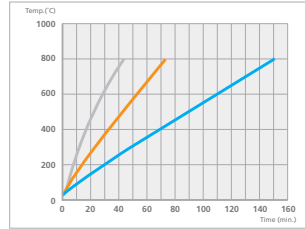
Setting a program for an ashing process
(Waste Processing Standard ES 06305.2)



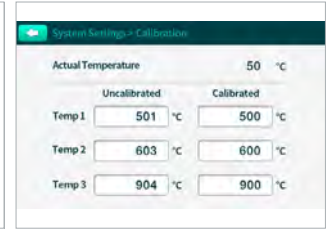


Highly reliable temperature control performance

- Possible to set the rate of temperature change (°C/min) (Ramp function) to control it.
- Minimizes heat loss through the use of durable ceramic insulation materials.
- Excellent interior sealability due to shock absorbers on the doors and a sturdy double-door structure.
- Stable temperature control through digital PID control.
- High-precision temperature control over a wide range of temperatures through a 3-point calibration process.



Temperature ramp control (Fastest, 5°C/min, 10°C/min) at the set temperature of 800 °C.



Precision temperature control with a 3-point calibration process

Various safety functions ensure user safety

- A safety door lock function that opens only below the door lock temperature set by user.
- A built-in electronic overheat protection system that prevents the equipment from being damaged due to overheating.
- Front surface of the product is safe even when operating at the maximum temperature.
- The equipment stops working when the door is opened for safe use



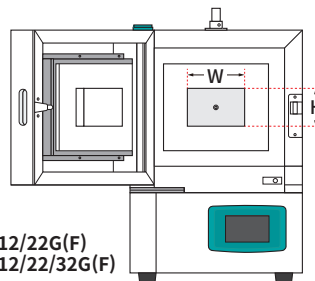
Safety door lock function



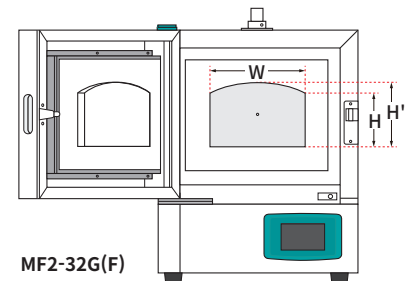
Electronic overheat protection system

Interior Dimensions (Unit: mm / inch)

Model	W	H	H'
MF2-12G(F)	130 / 5.1	90 / 3.5	-
MF2-22G(F)	150 / 5.9	100 / 3.9	-
MF2-32G(F)	250 / 9.8	150 / 5.9	175 / 6.8



MF2-12/22G(F)
MF2-12/22/32G(F)



MF2-32G(F)

Specification

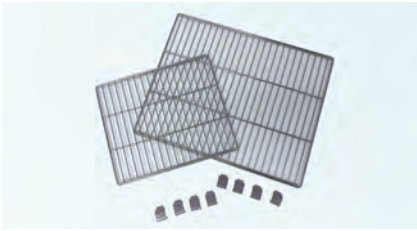
Model	General Type	MF2-12GF	MF2-22GF	MF2-32GF
	Program Type	MF2-12G	MF2-22G	MF2-32G
Chamber volume (L / cu ft)		3 / 0.11	4.5 / 0.16	12 / 0.42
Temperature				
Range (°C / °F)		Amb.+15 ~1100 / Amb.+27 ~ 2012		
Continuous operating temperature (°C/°F)*		Amb.+15 ~ 960 / Amb.+27 ~ 1760		
Fluctuation (±°C / °F) (at max. temp.)		1.0 / 1.8		
Dimensions				
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 / 5.9 x 11.8 x 3.9	250 x 300 x 150 (175) ¹⁾ / 9.8 x 11.8 x 5.9 (6.8)
Exterior (W x D x H, mm / inch)		395 x 500 x 590 / 15.6 x 19.7 x 23.2	415 x 550 x 600 / 16.3 x 21.7 x 23.6	525 x 550 x 690 / 20.7 x 21.7 x 27.2
Weight (kg / lbs)		42 / 92.6	50 / 110.2	70 / 154.3
Electrical requirements (230V, 60Hz, A)		9	13.6	20.4
Insulating material		Alumina ceramic		
Heater		4-side molding wire		
Cat. No.	General Type	AAHP2112K	AAHP2122K	AAHP2132K
	Program Type	AAHP2111K	AAHP2121K	AAHP2131K

* We recommend operating the equipment within the range of continuous operating temperatures for ensuring the stability and integrity of the equipment during its lifetime.

1) The shape of the top inside is an arch, and the height in parentheses is a measured value to the highest point.

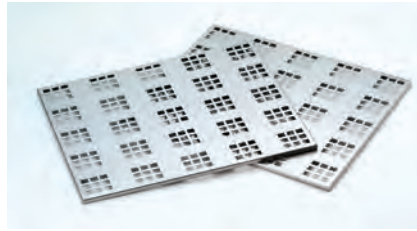
Accessories Page 78 Ceramic Shelf

Accessories for Oven & Furnace



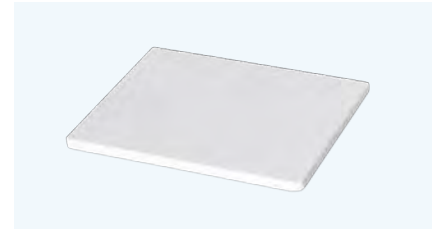
Wire Shelf (Oven)

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



Perforated Shelf (Oven)

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



Ceramic Shelf (Furnace)

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

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	4
OF-12G / GW	00EDA0008135	2 / 6	AAA12532	6
OF-22G / GW	00EDA0008134	2 / 7	AAA12533	7
OF-02P / PW	00EDA0008136	2 / 4	AAA12531	4
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

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



Recorder (Dot)

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



Recorder (Thermal Line)

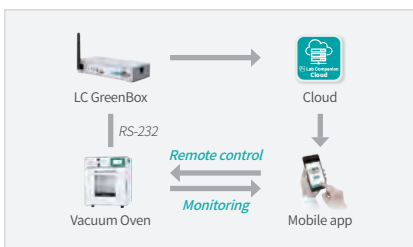
- Graph/Digital mode
- Thermal-type temperature recorder

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



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.



Remote monitoring diagram of LC Greenbox

- LC Greenbox and a device communicate with each other through RS-232 port, their signals forward to Lab Companion cloud for monitoring and control by Mobile application on a smartphone.

Model	Description	Dimension (W x D x H, mm)	Cat. No.
OF-P / OF-G / OF3 / OV4 / MF2	Mobile monitoring system	156 x 94 x 34	AAHQ1011K

Fan speed adjuster

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

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