Muffle Furnaces | Standard

FO111C/211C/311C/411C/511C/611C/711C/811C

Operating temp. range	100~1150℃

Temp. adjusting accuracy	±2℃

Internal capacity	1.5L	3.75L	7.5L	9L	11.3L	17.5L	23.6L	30L

8 types of internal capacity selection, equipped with program operation function.

Features

- Support program operation.
- Simple operation with up/down key settings, equipped with a high-operability controller for precise temperature control.
- Temperature, time and indicator values can all be displayed digitally.
- Use a controller with integrated digital settings and overheat protection. Support self-diagnosis functions, overcurrent leakage protection switch and other safety controls in case of anomalies.
- Use R-type thermocouple for long life.
- Equipped with an exhaust port.
- Optional features available, such as exhaust unit, sample trays, nitrogen gas introduction device (with flow meter), temperature output terminal and so on.

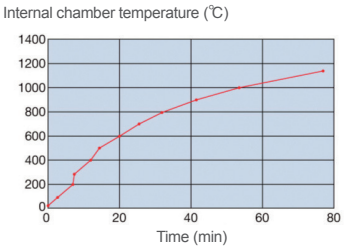
Specifications

	Model	FO111C	FO211C	FO311C	FO411C	FO511C	FO611C	FO711C	FO811C
Performance	Operating temp. range	100~1150℃							
	Temp. adjusting accuracy	±2℃ (at 1150℃)							
Composition	Time to reach maximum temp. at room temp.	Approx. 60 min		Approx. 70 min		Approx. 80 min			
	Exterior material	Cold rolled steel plate with chemical proofing coating							
	Furnace body	Ceramic fiber							
	Sensors	Dual R-type thermocouple							
	Heater	FeCrAl alloy heating wire							
		1KW	1.5KW	2KW	2.2KW	2.5KW	3KW	3.5KW	4KW
Controllers	Exhaust vent	Inner diameter 20mm, upper part							
	Cooling fan blade	Axial flow fan							
	Temp. control method	PID control (10 segments selectable)							
	Temp. Setting/Display	Digital setting/digital display							
	Overheating protection	Integrated controller							
	Overheat protection setting method	Digital Setting							
	Operation functions	Fixed temp. operation, program operation 6 modes with a total of 90 segments (30 segments×1, 15 segments×2, 10 segments×3), auto start and auto stop operation							
	Additional functions	Deviation correction function, power failure compensation function, key lock function							
	Timer	1 min 99 h 59 min and 100 h~999 h 50 min							
Safety device		Self-diagnostic circuit (temperature sensor abnormality, automatic overheat prevention), overheat preventer, leakage protection circuit breaker for over-current, key lock function							
Specifications	Internal dimensions (W×D×H mm)	100×150×100	100×250×150	200×250×150	200×300×150	300×250×150	250×350×200	270×350×250	300×400×250
	External dimensions (W×D×H mm)	346×405×516	346×505×566	446×505×566	446×555×566	506×505×626	506×605×676	506×605×726	506×655×726
	Internal capacity	1.5L	3.75 L	7.5 L	9 L	11.3 L	17.5 L	23.6 L	30 L
	Power supply (50/60Hz) rated current	AC220V 5A	AC220V 7.5A	AC220V 9.5A	AC220V 10.5A	AC220V 12A	AC220V 14A	AC220V 16.5A	AC220V 18.5A
	Weight	Approx. 24kg	Approx. 30kg	Approx. 37kg	Approx. 38kg	Approx. 44kg	Approx. 52kg	Approx. 58kg	Approx. 62kg
Accessories		Exhaust vent cover 1 pcs							
Options	Stand	ON30C			ON61C				
	Others	Setter plate, exhaust unit (AC220V), sample box, N_2 introduction device (with flow meter), mini printer, data logger, combination warning light (standby/operation/failure), external communication function (RS485), temperature output terminal (4~20mA), external alarm output terminal, time-up output terminal, central monitoring software							

Automatic Overheating Preventer | Overheat Preventer | Self-diagnostic Function | Key lock Function | Power Failure Compensation Function | Overcurrent Leakage Circuit Breaker | CE Certification

Control panel

Temperature rise characteristic curve (FO311C type)



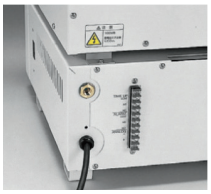
Exhaust device unit (optional)

Able to quickly exhaust gases generated by rising temperature inside the chamber.
Piping: flexible pipe, aluminum
Length 1.5m
Diameter 50mm
Exhaust unit power:
Single phase AC220V 0.15A

Internal chamber

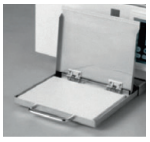
Improved thermal insulation features and temperature distribution accuracy by adopting a reasonable thermal insulation structure.

External temp. output terminal (optional)



- Time-up output
  Output at auto stop and program end
- Measured temperature transmission output
  For recording and monitoring internal chamber temperature.
  Temperature output: 4~20mA

Sample tray (optional)



Dimension diagram (mm)

Sterilizers 1
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Ovens 4
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Muffle Furnaces | Built-in Heating Wires

FP111C/311C/511C

Operating temp. range	100~1150℃

Temp. adjusting accuracy	±1.5℃

Internal capacity	1.5L	7.5L	11.3L

High-function muffle furnace with built-in heater.

Features

- High-quality ceramic furnace body, built-in heater, not contaminated by samples. Program operation is available.
- Simple operation with up/down key settings, equipped with a high-operability controller for precise temperature control.
- Temperature, time and indicated values can be digitally displayed.
- Use a controller with integrated digital settings and overheat protection. Support self-diagnosis functions, overcurrent leakage protection switch, and other safety controls in case of anomalies.
- Use R-type thermocouple for long life.
- Equipped with exhaust vent.
- Optional features available, such as exhaust unit, sample trays, nitrogen gas introduction device (with flow meter), temperature output terminal and so on.

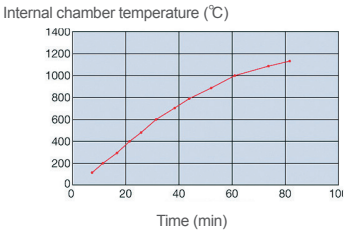
Specifications

Model		FP111C	FP311C	FP511C
Performance	Operating temp. range	100~1150℃		
	Temp. adjusting accuracy	±1.5℃ (at 1150℃)		
	Time to reach maximum temp. at room temp.	Approx. 80 min		
Composition	Exterior material	Cold rolled steel plate with chemical proofing coating		
	Furnace body	Ceramic fiber		
	Sensors	Dual R-type thermocouple		
	Heater	FeCrAl alloy heating wire		
		1.1KW	2.4KW	3.5KW
	Exhaust vent	Inner diameter 20mm, upper part		
	Cooling fan blade	Axial flow fan		
Controllers	Temp. control method	PID control (10 segments selectable)		
	Temp. Setting/Display	Digital setting/digital display		
	Overheating protection	Integrated controller		
	Overheat protection setting method	Digital setting		
	Operation functions	Fixed temp. operation, program operation 6 modes with a total of 90 segments (30 segments×1, 15 segments×2, 10 segments×3) , auto start and auto stop operation		
	Additional functions	Deviation correction function, power failure compensation function, key lock function		
	Timer	1 min 99 h 59 min and 100 h~999 h 50 min		
Safety device		Self-diagnostic circuit (temperature sensor abnormality, automatic overheat prevention), overheat preventer, leakage protection circuit breaker for overcurrent, key lock function		
Specifications	Internal dimensions (W×D×H mm)	100×150×100	200×250×150	300×250×150
	External dimensions (W×D×H mm)	376×405×516	446×505×566	507×505×626
	Internal capacity	1.5L	7.5 L	11.3L
	Power supply (50/60Hz) rated current	AC220V 5.5A	AC220V 11A	AC220V 16A
	Weight	Approx. 24kg	Approx. 42kg	Approx. 48kg
Accessories		Exhaust vent cover 1 pcs		
Options	Stand	ON30C		ON61C
	Others	Setter plate, exhaust unit (AC220V), sample box, N_2 introduction device (with flow meter), mini printer, data logger, combination warning light (standby/operation/failure), external communication function (RS485), temperature output terminal (4~20mA), external alarm output terminal, time-up output terminal, central monitoring software		

Automatic Overheating Preventer | Overheat Preventer | Self-diagnostic Function | Key Lock Function | Power Failure Compensation Function | Overcurrent Leakage Circuit Breaker

Control panel

Temperature rise curve (FP311C)



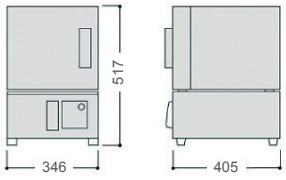
Exhaust unit (optional)

Able to quickly exhaust gases generated by rising temperature inside the chamber.
Piping: flexible pipe, aluminum
Length 1.5m
Diameter 50mm
Exhaust unit power:
Single phase AC220V 0.15A

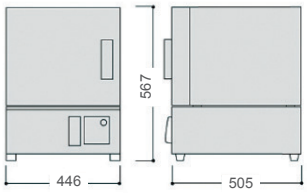
Internal chamber

Heater not exposed, improved thermal insulation features and temperature distribution accuracy by adopting a reasonable thermal insulation structure.

Dimension diagram (mm)



[FP111C]



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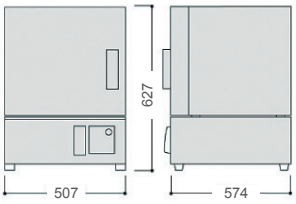

[FP511C]

Sterilizers 1
Granulation and Spray Dryers 2
Muffle Furnaces 3
Ovens 4
Incubators 5
Plasma Equipment 6
Water Purification Systems 7
Water Baths 8
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15 Options

Muffle Furnaces | 1700℃

FQ310C

Operating temp. range	700 ~1700℃	Temp. adjusting accuracy	±4℃	Internal capacity	10L

Ultra-high temperature muffle furnace with higher control precision and program operation function

Features

- 7-inch touch screen for easy operation with three operation modes, including fixed temp. operation, program operation, time start/stop. standard 3-level authorization login.
- 100 programs, each program maximum 30 stages. Standard data storage function, data storage capacity of approx. 6 years. Temperature rise curve tracking function, program operation mode, able to visually display set temperature and actual temperature curve, providing reference for users to set reasonable temperature rise curve.
- The temperature sensor uses a long-life B-type thermocouple.
- Equipped with an exhaust vent.
- Optional features include an exhaust unit, argon gas introduction device (with flow meter) and temperature output terminal.

Safety

- Safety features include self-diagnostic circuit (temperature sensor abnormality, heater disconnection, automatic overheating prevention, SCR short circuit), snap-action temperature switch (outside the furnace body), leakage protection circuit breaker to prevent overcurrent and 3-level authorization login function.

Specifications

Model		FQ310C
Performance	Operating temp. range	700~1700℃
	Temp. adjusting accuracy	±4℃ (at 1200℃)
	Time to reach maximum temp. at room temp.	Approx. 75 min to 1600℃, approx.95 min to 1700℃
Composition	Exterior material	Cold rolled steel plate with chemical proofing coating
	Furnace body	Ceramic fiber
	Sensors	B-type thermocouple
	Heater	Silicon-molybdenum rod
		6KW
	Exhaust vent	Inner diameter 20mm, upper part
	Cooling fan blade	Axial flow fan
Controllers	Temp. control method	PID control (10 segments selectable)
	Temp. Setting/Display	Settings using a 7-inch color touch screen
	Overheating protection	Snap-action temperature switch (outside the furnace body)
	Operation functions	Fixed temp. operation, program operation, auto start/stop
	Additional functions	Temperature history curve, alarm history records, operation log, data export function, language switching (Chinese, Japanese, English), calibration function, power outage compensation function, screen brightness adjustment, three-level authorization function, micro printer (optional)
	Timer	1 min~99 h 59 min
Safety device		Ceiling plate inspection switch, temperature overheating protection (thermostat), snap-action temperature switch (external of furnace), heater overcurrent protection, heater disconnection alarm, sensor disconnection, SCR or temperature controller communication interruption, SCR core temperature extra overheat
Specifications	Internal dimensions (W×D×H mm)	200×250×200
	External dimensions (W×D×H mm)	650×703×1425
	Internal capacity	10L
	Power supply (50/60Hz) rated current	AC220V 29A
	Weight	Approx. 130kg
Accessories		Exhaust Vent cover 1 piece, support plate, instruction manual, warranty
Options	Others	Exhaust unit (AC220V), argon gas introduction device (with flow meter), mini printer, data logger, combination warning light (standby/operation/failure), external communication function (network port), temperature output terminal (4~20mA), external alarm output terminal, time-up output terminal

*For long-term operation, keep the temperature 100℃ below the maximum working temperature.

*A chemical reaction between the heating element and zirconia may cause the zirconia sample to discolor. We can provide process guidance or replace with other models of heating elements. Please consult us for details.

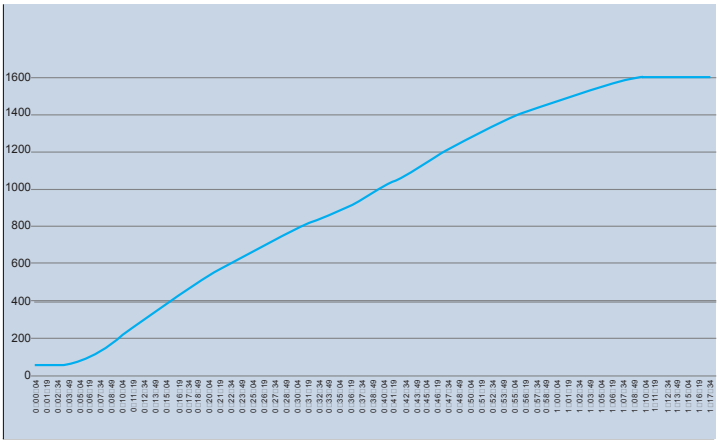
Automatic Overheating Preventer | Overheat Preventer | Self-diagnostic Function | Key Lock Function | Power Failure Compensation Function | Overcurrent Leakage Circuit Breaker

Exhaust device unit (optional)

Able to quickly exhaust gases generated by rising temperature inside the chamber.
Piping: flexible pipe, aluminum
Length 1.5m
Diameter 50mm
Exhaust unit power:
Single phase AC220V 0.15A

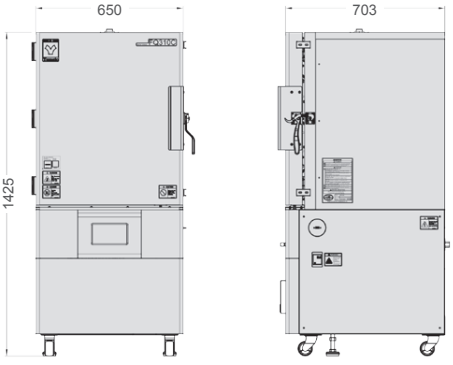
Control panel

Temperature rise characteristic curve (FQ310C)



Internal chamber

Dimension diagram (mm)



[FQ310C]

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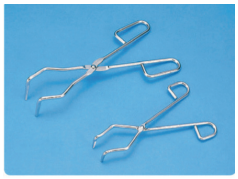
Related products Crucible

Crucible

Product name	Specifications/quantity	Dimensions
Crucible	SSA-H B1/1 pcs	Outer Diameter 46×Height 36 (mm)
	SSA-H B2/1 pcs	Outer Diameter 54×Height 43 (mm)
	SSA-H B3/1 pcs	Outer Diameter 66×Height 54 (mm)
	SSA-H B4/1 pcs	Outer Diameter 73×Height 59 (mm)
	SSA-H B5/1 pcs	Outer Diameter 88×Height 72 (mm)
Crucible Lid	SSA-H/1 pcs	For B1
	SSA-H/1 pcs	For B2
	SSA-H/1 pcs	For B3
	SSA-H/1 pcs	For B4
	SSA-H/1 pcs	For B5
Crucible Tongs	1 pcs	180mm
	1 pcs	210mm
	1 pcs	240mm
	1 pcs	300mm
	1 pcs	360mm
	1 pcs	450mm
	1 pcs	500mm
	1 pcs	600mm

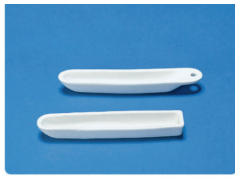
Crucible/Crucible Lid



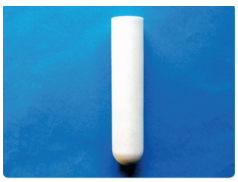
Crucible Tongs

Combustion boat/damar resin tube

Product name	Specifications/quantity	Dimensions
Combustion Boat	#01/50 pcs	Width 6×Height 4×Length 30 (mm)
	#10/10 pcs	Width 14×Height 12×Length 140 (mm)
	#8/50 pcs	Width 15×Height 13×Length 90 (mm)
Damar Resin Tube	ACE-T2/1 pcs	Outer Diameter 15×Inner Diameter 12×Length 100 (mm)
	ACE-T3/1 pcs	Outer Diameter 21×Inner Diameter 17×Length 100 (mm)
	ACE-T4/1 pcs	Outer Diameter 25×Inner Diameter 20×Length 120 (mm)
	ACE-T5/1 pcs	Outer Diameter 30×Inner Diameter 24×Length 150 (mm)
	ACE-T6/1 pcs	Outer Diameter 40×Inner Diameter 34×Length 150 (mm)
	ACE-T7/1 pcs	Outer Diameter 50×Inner Diameter 40×Length 150 (mm)
	ACE-T8/1 pcs	Outer Diameter 60×Inner Diameter 50×Length 180 (mm)



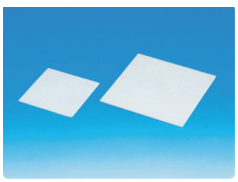
Combustion Boat



Damar Resin Tube

Furnace Plate/Heat-resistant Gloves

Product name	Specifications/quantity	Dimensions
Furnace Bed Plate	SSA-S/1 piece	Length 50×Width 50×Thickness 2.5 (mm)
	SSA-S/1 piece	Length 100×Width 100×Thickness 2.5 (mm)
	SSA-S/1 piece	Length 150×Width 150×Thickness 2.5 (mm)
Heat-resistant Gloves	EGM48/1 pair	2-finger, Length 350mm, Heat-resistant Temperature 1000℃
	EGT27/1 pair	3-finger, Length 350mm, Heat-resistant Temperature 1000℃
	EGT47/1 pair	5-finger, Length 350mm, Heat-resistant Temperature 1000℃



Furnace Plate Corner Plate

Setter Plate

Product name	Specifications/quantity	Dimensions
Setter Plate	FP111C_01_02-01(140×90×t8)/1 pcs	Length 140×Width 90×Thickness T8 (mm)
	FO210C_01_02-20(240×90×t8)/1 pcs	Length 240×Width 90×Thickness T8 (mm)
	FO310C_01_02-17(240×190×t8)/1 pcs	Length 240×Width 190×Thickness T8 (mm)
	FO410C_01_02-07(290×190×t8)/1 pcs	Length 290×Width 190×Thickness T8 (mm)
	FO510C_01_02-07(290×240×t8)/1 pcs	Length 290×Width 240×Thickness T8 (mm)
	FO610C_01_02-06(340×240×t9)/1 pcs	Length 340×Width 240×Thickness T9 (mm)
	FO710C_01_02-07(340×260×T9)/1 pcs	Length 340×Width 260×Thickness T9 (mm)
	FO810COP01_01-02(360×290×t9)/1 pcs	Length 360×Width 290×Thickness T9 (mm)

Heat-resistant Gloves