

# Standard Muffle Furnace

## FO Series

Operating temp. range 100~1150°C

Temp. control accuracy ±2°C (at 1150°C)

Internal capacity 1.5L (FO100CR/110CR) 3.75L (FO200CR/210CR) 7.5L (FO300CR/310CR) 9L (FO410CR) 11.3L (FO510CR) 17.5L (FO610CR) 23.6L (FO710CR) 30L (FO810CR)

- Wide selection of space-saving compact units with maximum inner capacity
- Easy to use controller
- Excellent heat tightness with a firmly sealed chamber door
- High temperature accuracy at ±2.0°C
- Program operation of maximum of 6 patterns: 30 steps x 1 pattern, 15 steps x 2 patterns or 10 steps x 3 patterns
- Safety features include self-diagnostic functions, calibration off-set, lock function, auto-recovery after power failure, earth leakage breaker and automatic overheat prevention device
- Selectable options include exhaust system unit, N<sub>2</sub> gas loading device (with flow meter), temperature output terminal, time up / alarm output terminal and sample tray
- Upgraded with long life R-thermocouple sensors
- Designed with communication port



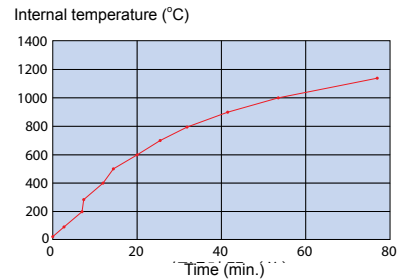
### Specifications

Model	FO100CR/110CR	FO200CR/210CR	FO300CR/310CR	FO410CR	FO510CR	FO610CR	FO710CR	FO810CR
Operating temp. range	100~1150°C							
Temp. control accuracy	±2°C (at 1150°C)							
Max. temp. reaching time	~60min.			~70min.		~80min.		
Exterior material	Cold rolled steel plate with baked-on melamine resin finish							
Interior material	Ceramic fiber							
Sensor	R-thermocouple							
Heater	Iron-chrome wire							
	1kW	1.5kW	2kW	2.2kW	2.5kW	3kW	3.5kW	4kW
Exhaust port	ø20mm (top)							
Cooling Fan Type	Axial fan motor							
Temp. controller	PID control by microprocessor							
Temp. setting/display method	Digital setting by ▲/▼ keys / Digital display							
Operation function	Fixed temperature, quick auto stop, auto stop, auto start, program (maximum 6 patterns: 30 steps x 1 pattern, 15 steps x 2 patterns or 10 steps x 3 patterns)							
Additional function	Calibration offset, power failure compensation, lock, RS485 communication interface							
Timer	1 min. to 99 Hrs. 59 min. and 100 Hrs. to 999 Hrs.							
Safety Device	Self diagnostic (memory error, heater disconnection, sensor error, SSR short circuit), Electric leakage breaker, Overheat prevention device							
Internal dimensions(WxDxHmm)	100×150×100	100×250×150	200×250×150	200×300×150	250×300×150	250×350×200	270×350×250	300×400×250
External dimensions(WxDxHmm)	346×405×517	346×505×567	446×505×567	446×554×567	507×504×627	507×604×677	507×605×727	507×655×727
Internal capacity	1.5L	3.75L	7.5L	9L	11.3L	17.5L	23.6L	30L
Power source (50/60Hz)	AC115V/220V				AC220V single phase			
	10A / 5A	14.5A / 7.5A	19A / 9.5A	10.5A	12A	15A	18A	20A
Weight	~24kg	~30kg	~37kg	~38kg	~44kg	~52kg	~58kg	~62kg
Accessories	Exhaust port cap 1 pc.							

## Control Panel



## Temperature Rising Curve (FO300CR)



## Optional items

Product code	Description
*214096	Exhaust unit, 115V
*214097	Exhaust unit, 220V
*281125	Communication adapter (RS485 / RS232C conversion)
*281301	Time up output terminal
*281303	N <sub>2</sub> gas inlet system with flow meter
281310	Sample tray

\* Please specify when ordering main unit.

## Interior



Adoption of reasonable insulation structure increased thermal insulation characteristics and temperature distribution accuracy

## Sample tray



## Exhaust unit



Gas generated due to the increase of temperature in the furnace will be quickly exhausted.

Power source of exhaust device :  
AC115V 0.27A  
Single phase AC220V 0.15A

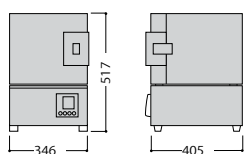
Aluminum flexible duct (*not included*)  
Length 1.5m / Diameter 50mm

## Temperature Output Terminal

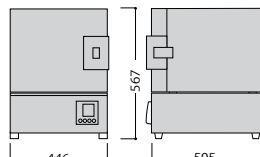


- Record and monitor internal temperature
- Temperature output: 4-20mA
- Time up output

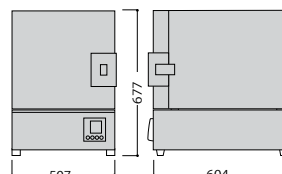
## Dimensions (mm)



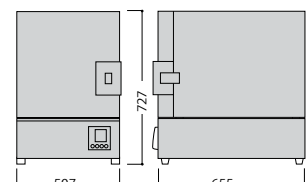
FO100CR/110CR  
(1.5L)



FO300CR/310CR  
(7.5L)



FO610CR  
(17.5L)



FO810CR  
(30L)