



# Yamato Standard Muffle Furnace

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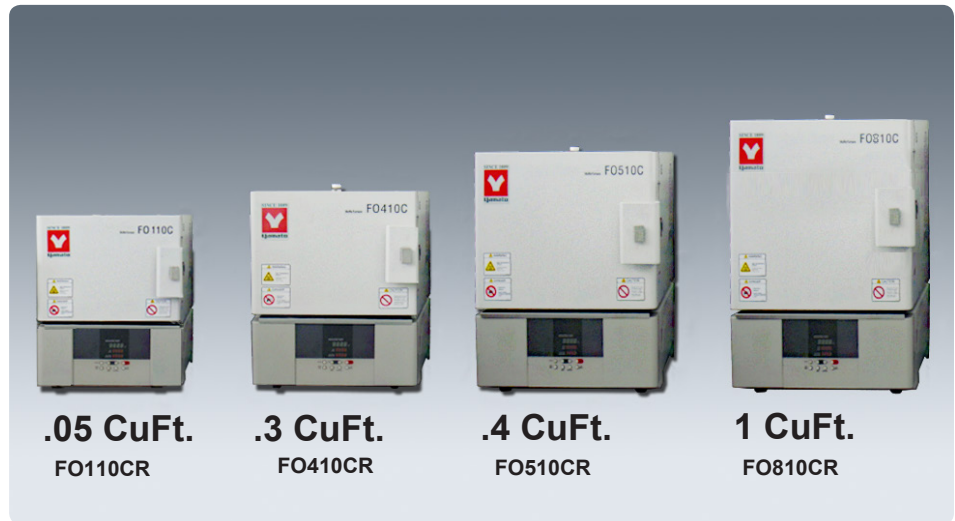
## Muffle Furnace FO Series

Operating temp. range 100~1150°C

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

Internal capacity .05 CuFt. .3 CuFt. .4 CuFt. .3 CuFt. 04 CuFt. 06 CuFt. .83 CuFt. 1 CuFt.  
 FO110CR/110CR FO200CR/210CR FO300CR/310C FO410CR FO510CR FO610CR FO710CR 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



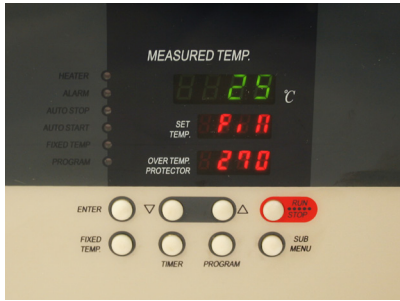
Contact Us For Discounted Prices

### Yamato Muffle Furnace Specs:

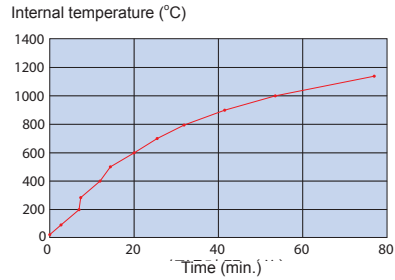
Model	FO100CR/110CR	FO200CR/210CR	FO300CR/310CR	FO410CR	FO510CR	FO610CR	FO710CR	FO810CR
Operating temp. range	100~1150°C							
Temp. control accuracy	±2°C (at 1150°C)							
Max. temp. reaching time	~60min.		~70min.		~80min.			
Exterior material	Cold rolled steel plate with baked-on melamine resin finish							
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	.7" (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(WxDxH)	3.9" x 5.9" x 3.9"	3.9" x 9.8" x 5.9"	7.8" x 9.8" x 5.9"	7.8" x 11.8" x 5.9"	11.8" x 9.8" x 5.9"	9.8" x 13.7" x 7.8"	10.6" x 13.7" x 9.8"	11.8" x 15.7" x 9.8"
External dimensions(WxDxH)	13.6" x 15.9" x 20.3"	13.6" x 19.9" x 22.3"	17.5" x 19.9" x 22.3"	17.5" x 21.8" x 22.3"	20" x 19.8" x 24.6"	20" x 23.7" x 26.6"	20" x 23.8" x 28.6"	20" x 25.7" x 28.6"
Internal capacity	.05 Cubic Ft.	.13 Cubic Ft.	.26 Cubic Ft.	.3 Cubic Ft.	.4 Cubic Ft.	.6 Cubic Ft.	.83 Cubic Ft.	1 Cubic Ft.
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	53 Lbs	66 Lbs	82 Lbs	84 Lbs	97 Lbs	115 Lbs	128 Lbs	137 Lbs
Accessories	Exhaust port cap 1 pc.							

\*All models do not come with a plug (round terminal) except for FO100CR

### 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

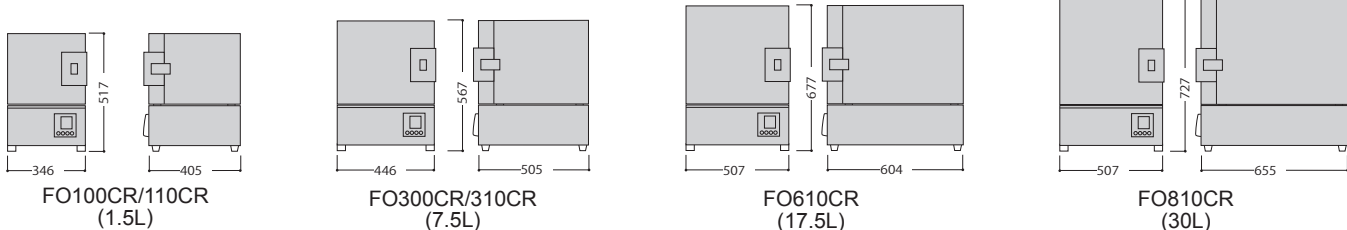
Aluminum flexible duct (*not included*)  
Length 1.5m / Diameter 50mm

### Temperature Output Terminal



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

### Dimensions (mm)



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