

### ◆ **RAF Series Furnace**

Proven reliability in demanding high temperature applications

Despatch RAF furnaces feature horizontal recirculating airflow to ensure exceptional temperature uniformity throughout the furnace. These high-performance furnaces deliver temperatures up to 538°C (1000°F) and are great for such processes as annealing, aging, stress relieving and other process critical applications.

The RAF is available in cabinet and benchtop models. The cabinet furnace is suited for volume production while the benchtop model, with its small footprint, is ideal for high temperature process development in a laboratory.

This furnace is equipped with the Protocol 3™ microprocessor-based temperature and hi-limit controller with large LCD display and real time clock for auto start capability. The LCD display shows temperature readings along with clear, detailed information on oven status. The data-logging functionality enables reporting and analyzing and data files can be exported via the controller's USB port. Modbus RS485 communications are included for easy data access.



#### **FEATURES AT A GLANCE**

- ◆ Temperatures up to 538°C (1000°F)
- ◆ 3 models - 4.2, 19 & 35 cu. ft. (117, 552 & 991 liters) capacity
- ◆ Horizontal recirculating airflow
- ◆ Protocol 3™ control with large LCD display, integrated data logging capabilities and USB port for simple oven set-up and data export
- ◆ RS485 Modbus communication PC interface
- ◆ Audible and visual high-limit alarm
- ◆ 304 stainless steel interior
- ◆ Disconnect switch on main control panel
- ◆ 5 year heater warranty
- ◆ End-of-cycle and high-limit indicators
- ◆ UL/C-UL listed open industrial control panel

#### **OPTIONS**

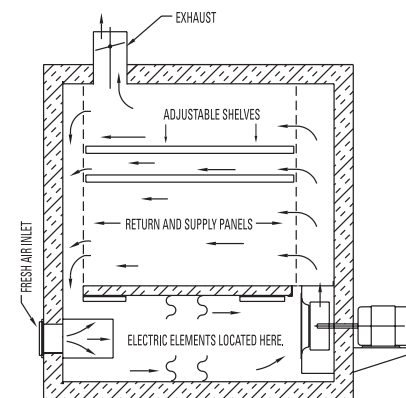
- ◆ Despatch unique adjustable louvers
- ◆ Chart recorder
- ◆ Access ports for test wires
- ◆ CE compliant

RAF	1-42 BENCH	2-19	2-35
<b>PHYSICAL SPECIFICATIONS</b>			
Chamber Size (width x depth x height)	20 x 18 x 20 in 51 x 46 x 51 cm	36.5 x 25 x 37 in 93 x 64 x 94 cm	47.5 x 30 x 42 in 120.7 x 76 x 106.7 cm
Capacity in cubic feet (liters)	4.2 (119)	19.5 (552)	35 (991)
Overall size (width x depth x height)	50 x 31 x 48 in 127 x 79 x 122 cm	78 x 42 x 78 in 198 x 107 x 198 cm	97 x 50 x 83 in 245 x 127 x 211 cm
Electrical (additional options available)	240V, 60 Hz, single phase 63 Amps 12kW	480V, 60 Hz, three phase 40 Amps 30kW	480V, 60 Hz, three phase 66 Amps 50kW
Number of shelves provided	2	2	2
Maximum number of shelves	8 on 2 in (5.1cm) centers	12 on 3 in (7.6cm) centers	14 on 3 in (7.6cm) centers
Exhaust outlet diameter	3 in (7.6 cm)	7 in (17.8cm)	7 in (17.8cm)
Doors	1	1	2
Approximate net weight	770 lbs (349 k)	1,595 lbs (723 kg)	1,870 lbs (848 kg)
Approximate shipping weight	970 (440 kg)	1,770 lbs (803 kg)	2,045 lbs (928kg)
Insulation thickness	5 in (15.2cm)	6 in (15.2cm)	6 in (15.2cm)
<b>FUNCTIONAL SPECIFICATIONS</b>			
Time to temp with no load (40°C to 204°C)	15 minutes	20 minutes	20 minutes
Time to temp with no load (40°C to 538°C)	53 minutes	75 minutes	55 minutes
Temperature Uniformity	±2.3°C at 204°C ±3.9°C at 371°C ±5.6°C at 538°C	±2.3°C at 204°C ±3.9°C at 371°C ±5.6°C at 538°C	±2.3°C at 204°C ±3.9°C at 371°C ±5.6°C at 538°C
Minimum operating temp	40°C (104°F)	40°C (104°F)	40°C (104°F)
Maximum temperature	538°C (1000°F)	538°C (1000°F)	538°C (1000°F)
Control Stability	±0.5°C	±0.5°C	±0.5°C
Repeatability	±0.5°C	±0.5°C	±0.5°C
Maximum load capacity	200 lbs (91 kg)	850 lbs (386 kg)	850 lbs (386 kg)
Maximum shelf capacity	30 lbs (13.6 kg)	100 lbs (45.4 kg)	300 lbs (136 kg)
Exhaust capacity (minimum/maximum)	Adjustable to 12 CFM (5.6 l/s)	Adjustable to 27 CFM (12.7 l/s)	Adjustable to 110 CFM (52 l/s)
Recirculating fan	1/2 HP 550 CFM (260 l/s)	1 HP 1150 CFM (543 l/s)	3 HP 2500 CFM (1180 l/s)

Notes: Uniformity figures are based on a nine-point test conducted in an empty oven after stabilization period. Uniformity can vary slightly depending on unit and operating conditions. Minimum operating temperature and cooling times are based on 20°C ambient temperature measured at the fresh air inlet with the fresh air and exhaust dampers fully open. Specifications are subject to change without notice. If the existing specifications differ from yours, ask about our customizing capabilities.

**RAF models are not to be used with flammable solvents, materials or containers. If your process involves flammable solvents please inquire about our RFF models.**

Δ represents the change in ambient temperature



**RAF front view cross section showing airflow pattern.**



**RFF2-35 with optional pneumatic lift door**

## SERVICE AND TECHNICAL SUPPORT

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