

# Thermo Scientific Thermolyne small benchtop muffle furnaces

Fast heatup and outstanding energy efficiency

**Available in two capacities that reach a maximum temperature of 1100°C**

- Digital single setpoint temperature control to 1100°C
- Dual display shows actual temperature and setpoint
- Ceramic fiber insulation designed to permit faster heatup, reducing energy consumption
- Embedded heating elements on top and both sides designed to improve temperature uniformity
- Drop-down door doubles as a shelf for loading and unloading

- Door safety switch stops power to heating elements when door is opened
- Thermocouple break protection cuts power to heating elements, preventing failure runaway condition
- 0.95cm (0.38 in.) diameter port in chamber rear for monitoring temperatures with independent measuring devices

## Temperature controller options

- Control A1
- See page 6 for control details



## Applications

- Heat treatment of small steel parts
- Conducting gravimetric analysis
- Determination of volatile and suspended solids

| Cat. No.      | Capacity            | Temp. Range     | Temp. Stability (Uniformity)               | Interior D x W x H                         | Exterior L x W x H                       | Electrical                        | Shipping Weight     | Plug Type |
|---------------|---------------------|-----------------|--------------------------------------------|--------------------------------------------|------------------------------------------|-----------------------------------|---------------------|-----------|
| FB1315M       | 1.3L (0.04 cu. ft.) | 100° to 1100 °C | ±0.3 °C at 1000 °C<br>(±7.8 °C at 1000 °C) | 13 x 10.3 x 9.8 cm<br>(5 x 4 x 3.8 in)     | 33 x 23 x 36 cm<br>(13 x 9 x 14 in)      | 120 V, 50/60 Hz<br>1060 W, 8.9 A  | 9 kg<br>(20 Lb.)    |           |
| FB1318M       | 1.3L (0.04 cu. ft.) | 100° to 1100 °C | ±0.3 °C at 1000 °C<br>(±7.8 °C at 1000 °C) | 13 x 10.3 x 9.8 cm<br>(5 x 4 x 3.8 in)     | 33 x 23 x 36 cm<br>(13 x 9 x 14 in)      | 208 V, 50/60 Hz<br>1060 W, 5.1 A  | 9 kg<br>(20 Lb.)    |           |
| FB1310M       | 1.3L (0.04 cu. ft.) | 100° to 1100 °C | ±0.3 °C at 1000 °C<br>(±7.8 °C at 1000 °C) | 13 x 10.3 x 9.8 cm<br>(5 x 4 x 3.8 in)     | 33 x 23 x 36 cm<br>(13 x 9 x 14 in)      | 240 V, 50/60 Hz<br>1060 W, 4.4 A  | 9 kg<br>(20 Lb.)    |           |
| FB1314M       | 1.3L (0.04 cu. ft.) | 100° to 1100 °C | ±0.3 °C at 1000 °C<br>(±7.8 °C at 1000 °C) | 13 x 10.3 x 9.8 cm<br>(5 x 4 x 3.8 in)     | 33 x 23 x 36 cm<br>(13 x 9 x 14 in)      | 100 V, 50/60 Hz<br>1060 W, 10.6 A | 9 kg<br>(20 Lb.)    |           |
| FB1310M-33CN  | 1.3L (0.04 cu. ft.) | 100° to 1100 °C | ±0.3 °C at 1000 °C<br>(±7.8 °C at 1000 °C) | 13 x 10.3 x 9.8 cm<br>(5 x 4 x 3.8 in)     | 33 x 23 x 36 cm<br>(13 x 9 x 14 in)      | 240 V, 50/60 Hz<br>1060 W, 4.4 A  | 9 kg<br>(20 Lb.)    | 10 A      |
| FB1310M-33CH  | 1.3L (0.04 cu. ft.) | 100° to 1100 °C | ±0.3 °C at 1000 °C<br>(±7.8 °C at 1000 °C) | 13 x 10.3 x 9.8 cm<br>(5 x 4 x 3.8 in)     | 33 x 23 x 36 cm<br>(13 x 9 x 14 in)      | 240 V, 50/60 Hz<br>1060 W, 4.4 A  | 9 kg<br>(20 Lb.)    |           |
| FB1310M-33UK  | 1.3L (0.04 cu. ft.) | 100° to 1100 °C | ±0.3 °C at 1000 °C<br>(±7.8 °C at 1000 °C) | 13 x 10.3 x 9.8 cm<br>(5 x 4 x 3.8 in)     | 33 x 23 x 36 cm<br>(13 x 9 x 14 in)      | 240 V, 50/60 Hz<br>1060 W, 4.4 A  | 9 kg<br>(20 Lb.)    |           |
| FB1415M       | 2.1L (0.07 cu. ft.) | 100° to 1100 °C | ±0.5 °C at 1000 °C<br>(±5.0 °C at 1000 °C) | 15.2 x 12.7 x 10.8 cm<br>(6 x 5 x 4.25 in) | 40 x 25 x 37 cm<br>(15.8 x 10 x 14.5 in) | 120 V, 50/60 Hz<br>1450 W, 12.0 A | 12.7 kg<br>(28 Lb.) |           |
| FB1418M       | 2.1L (0.07 cu. ft.) | 100° to 1100 °C | ±0.5 °C at 1000 °C<br>(±5.0 °C at 1000 °C) | 15.2 x 12.7 x 10.8 cm<br>(6 x 5 x 4.25 in) | 40 x 25 x 37 cm<br>(15.8 x 10 x 14.5 in) | 208 V, 50/60 Hz<br>1520 W, 7.3 A  | 12.7 kg<br>(28 Lb.) |           |
| FB1410M       | 2.1L (0.07 cu. ft.) | 100° to 1100 °C | ±0.5 °C at 1000 °C<br>(±5.0 °C at 1000 °C) | 15.2 x 12.7 x 10.8 cm<br>(6 x 5 x 4.25 in) | 40 x 25 x 37 cm<br>(15.8 x 10 x 14.5 in) | 240 V, 50/60 Hz<br>1520 W, 6.3 A  | 12.7 kg<br>(28 Lb.) |           |
| FB1410M-33    | 2.1L (0.07 cu. ft.) | 100° to 1100 °C | ±0.5 °C at 1000 °C<br>(±5.0 °C at 1000 °C) | 15.2 x 12.7 x 10.8 cm<br>(6 x 5 x 4.25 in) | 40 x 25 x 37 cm<br>(15.8 x 10 x 14.5 in) | 240 V, 50/60 Hz<br>1520 W, 6.3 A  | 12.7 kg<br>(28 Lb.) |           |
| FB1410M-33CN  | 2.1L (0.07 cu. ft.) | 100° to 1100 °C | ±0.5 °C at 1000 °C<br>(±5.0 °C at 1000 °C) | 15.2 x 12.7 x 10.8 cm<br>(6 x 5 x 4.25 in) | 40 x 25 x 37 cm<br>(15.8 x 10 x 14.5 in) | 240 V, 50/60 Hz<br>1520 W, 6.3 A  | 12.7 kg<br>(28 Lb.) | 10 A      |
| FB1410M-33-CH | 2.1L (0.07 cu. ft.) | 100° to 1100 °C | ±0.5 °C at 1000 °C<br>(±5.0 °C at 1000 °C) | 15.2 x 12.7 x 10.8 cm<br>(6 x 5 x 4.25 in) | 40 x 25 x 37 cm<br>(15.8 x 10 x 14.5 in) | 240 V, 50/60 Hz<br>1520 W, 6.3 A  | 12.7 kg<br>(28 Lb.) |           |
| FB1410M-33-UK | 2.1L (0.07 cu. ft.) | 100° to 1100 °C | ±0.5 °C at 1000 °C<br>(±5.0 °C at 1000 °C) | 15.2 x 12.7 x 10.8 cm<br>(6 x 5 x 4.25 in) | 40 x 25 x 37 cm<br>(15.8 x 10 x 14.5 in) | 240 V, 50/60 Hz<br>1520 W, 6.3 A  | 12.7 kg<br>(28 Lb.) |           |
| FB1414M       | 2.1L (0.07 cu. ft.) | 100° to 1100 °C | ±0.5 °C at 1000 °C<br>(±5.0 °C at 1000 °C) | 15.2 x 12.7 x 10.8 cm<br>(6 x 5 x 4.25 in) | 40 x 25 x 37 cm<br>(15.8 x 10 x 14.5 in) | 100 V, 50/60 Hz<br>1450 W, 14.5 A | 12.7 kg<br>(28 Lb.) |           |

## Hearth plates

| Cat. No. | For Use With                |
|----------|-----------------------------|
| PH44X1   | FB1300 small muffle furnace |
| PH48X1   | FB1400 small muffle furnace |

**Ordering Information:** Replacement heating elements and thermocouples available separately

**Includes:** Thermocouple, line cord, and hearth plate to protect bottom of unit

**Warranty:** 1 year (parts and labor)

**Certifications:** -33 units are CE marked, all other units are CSA approved

# Thermo Scientific Thermolyne industrial benchtop muffle furnaces

Rugged design with multiple safety features and choice of two temperature control options

- Thermo Scientific Thermolyne Industrial Benchtop Muffle Furnaces
- Reaches 1200°C maximum temperature
- Heavy-duty firebrick insulation designed to surround the opening for added durability
- Adjustable alarm or over-temperature protection (OTP) setting can be used to protect the furnace or loaded chamber from excessive heat
- Thermocouple break protection cuts power to the heating elements, preventing a thermocouple failure runaway condition
- Counter-weighted door swings upward, directing heat away from operator
- Four individual embedded elements in special refractory cement permit excellent heat distribution in the chamber
- Door safety switch protects operator by removing power to the heating elements upon opening the door
- Rear-mounted 0.38in. (0.95cm) diameter port for monitoring chamber temperatures with independent measuring devices
- LED display simultaneously shows both setpoint and actual furnace temperatures in either °C or °F

## Temperature controller options

- Control B1, C1
- See page 6 for control details



## Applications

- Heat treatment
- Melting
- Gravimetric analysis

| Cat. No.   | Capacity             | Temp. Range     | Interior D x W x H                     | Exterior L x W x H                        | Control | Electrical                      | Shipping Weight  | Plug Type                                                                                   |
|------------|----------------------|-----------------|----------------------------------------|-------------------------------------------|---------|---------------------------------|------------------|---------------------------------------------------------------------------------------------|
| FD1535M    | 2.2 L (0.08 cu. ft.) | 100° to 1200 °C | 22.8 x 10.1 x 9.5 cm (9 x 4 x 3.75 in) | 45.7 x 27.9 x 41.9 cm (18 x 11 x 16.5 in) | B1      | 120 V, 50/60 Hz, 18.6 A, 2230 W | 23.5 kg (52 Lb.) | No plug, no cable, requires hardwiring                                                      |
| FD1530MCN  | 2.2 L (0.08 cu. ft.) | 100° to 1200 °C | 22.8 x 10.1 x 9.5 cm (9 x 4 x 3.75 in) | 45.7 x 27.9 x 41.9 cm (18 x 11 x 16.5 in) | B1      | 240 V, 50/60 Hz, 9.3 A, 2230 W  | 23.5 kg (52 Lb.) |  16 A, |
| FD1530M    | 2.2 L (0.08 cu. ft.) | 100° to 1200 °C | 22.8 x 10.1 x 9.5 cm (9 x 4 x 3.75 in) | 45.7 x 27.9 x 41.9 cm (18 x 11 x 16.5 in) | B1      | 240 V, 50/60 Hz, 9.3 A, 2230 W  | 23.5 kg (52 Lb.) |        |
| FD1530M-33 | 2.2 L (0.08 cu. ft.) | 100° to 1200 °C | 22.8 x 10.1 x 9.5 cm (9 x 4 x 3.75 in) | 45.7 x 27.9 x 41.9 cm (18 x 11 x 16.5 in) | B1      | 240 V, 50/60 Hz, 6.5 A, 1560 W  | 23.5 kg (52 Lb.) |        |
| FD1545M    | 2.2 L (0.08 cu. ft.) | 100° to 1200 °C | 22.8 x 10.1 x 9.5 cm (9 x 4 x 3.75 in) | 45.7 x 27.9 x 41.9 cm (18 x 11 x 16.5 in) | C1      | 120 V, 50/60 Hz, 18.6 A, 2230 W | 23.5 kg (52 Lb.) | No plug, no cable, requires hardwiring                                                      |
| FD1540M*   | 2.2 L (0.08 cu. ft.) | 100° to 1200 °C | 22.8 x 10.1 x 9.5 cm (9 x 4 x 3.75 in) | 45.7 x 27.9 x 41.9 cm (18 x 11 x 16.5 in) | C1      | 240 V, 50/60 Hz, 9.3 A, 2230 W  | 23.5 kg (52 Lb.) |        |
| FD1540M-33 | 2.2 L (0.08 cu. ft.) | 100° to 1200 °C | 22.8 x 10.1 x 9.5 cm (9 x 4 x 3.75 in) | 45.7 x 27.9 x 41.9 cm (18 x 11 x 16.5 in) | C1      | 240 V, 50/60 Hz, 6.5 A, 1560 W  | 12.7 kg (28 Lb.) |        |

## Hearth plates

| Cat. No. | For Use With                              |
|----------|-------------------------------------------|
| PHX1     | 8.2 x 10.1 x 1.27 cm (3.25 x 4 x 0.5 in.) |
| PHX2     | 20.3 x 9.6 x 1.9 cm (8 x 3.8 x 0.75 in.)  |

**Includes:** Furnace, Platinel® II thermocouple and a ceramic hearth tray (Cat No. PHX2) to protect the bottom heating element

**Warranty:** 1 year (parts and labor)

**Certifications:** All units cUL, UL listed

| Cat. No.                  | Capacity               | Temp. Range                          | Interior D x W, x H                 | Exterior L x W, x H                          | Control | Electrical                       | Shipping Weight     | Plug Type                                                                                |
|---------------------------|------------------------|--------------------------------------|-------------------------------------|----------------------------------------------|---------|----------------------------------|---------------------|------------------------------------------------------------------------------------------|
| F47910 <sup>i</sup>       | 2 L<br>(0.07 cu. ft.)  | 100° to 1200 °C<br>(212° to 2192 °F) | 15 x 13.7 x 10 cm<br>(6 x 5 x 4 in) | 39 x 28.5 x 47 cm<br>(15.5 x 11.3 x 18.5 in) | A1      | 240 V, 50/60 Hz<br>1000 W, 4.2 A | 18.5 kg<br>(41 Lb.) |       |
| F47910-33 <sup>i</sup>    | 2 L<br>(0.07 cu. ft.)  | 100° to 1200 °C<br>(212° to 2192 °F) | 15 x 13.7 x 10 cm<br>(6 x 5 x 4 in) | 39 x 28.5 x 47 cm<br>(15.5 x 11.3 x 18.5 in) | A1      | 240 V, 50/60 Hz<br>1000 W, 4.2 A | 18.5 kg<br>(41 Lb.) |       |
| F47910-33CN <sup>i</sup>  | 2 L<br>(0.07 cu. ft.)  | 100° to 1200 °C<br>(212° to 2192 °F) | 15 x 13.7 x 10 cm<br>(6 x 5 x 4 in) | 39 x 28.5 x 47 cm<br>(15.5 x 11.3 x 18.5 in) | A1      | 240 V, 50/60 Hz<br>1000 W, 4.2 A | 18.5 kg<br>(41 Lb.) |  10 A |
| F47910-33-CH <sup>i</sup> | 2 L<br>(0.07 cu. ft.)  | 100° to 1200 °C<br>(212° to 2192 °F) | 15 x 13.7 x 10 cm<br>(6 x 5 x 4 in) | 39 x 28.5 x 47 cm<br>(15.5 x 11.3 x 18.5 in) | A1      | 240 V, 50/60 Hz<br>1000 W, 4.2 A | 18.5 kg<br>(41 Lb.) |       |
| F47910-33-UK <sup>i</sup> | 2 L<br>(0.07 cu. ft.)  | 100° to 1200 °C<br>(212° to 2192 °F) | 15 x 13.7 x 10 cm<br>(6 x 5 x 4 in) | 39 x 28.5 x 47 cm<br>(15.5 x 11.3 x 18.5 in) | A1      | 240 V, 50/60 Hz<br>1000 W, 4.2 A | 18.5 kg<br>(41 Lb.) |       |
| F47914                    | 2 L<br>(0.07 cu. ft.)  | 100° to 1200 °C<br>(212° to 2192 °F) | 15 x 13.7 x 10 cm<br>(6 x 5 x 4 in) | 39 x 28.5 x 47 cm<br>(15.5 x 11.3 x 18.5 in) | A1      | 100 V, 50/60 Hz<br>750 W, 7.5 A  | 18.5 kg<br>(41 Lb.) |       |
| F47915 <sup>i</sup>       | 2 L<br>(0.07 cu. ft.)  | 100° to 1200 °C<br>(212° to 2192 °F) | 15 x 13.7 x 10 cm<br>(6 x 5 x 4 in) | 39 x 28.5 x 47 cm<br>(15.5 x 11.3 x 18.5 in) | A1      | 120 V, 50/60 Hz<br>1000 W, 8.3 A | 18.5 kg<br>(41 Lb.) |       |
| F47920 <sup>i</sup>       | 2 L<br>(0.07 cu. ft.)  | 100° to 1200 °C<br>(212° to 2192 °F) | 15 x 13.7 x 10 cm<br>(6 x 5 x 4 in) | 39 x 28.5 x 47 cm<br>(15.5 x 11.3 x 18.5 in) | B1      | 240 V, 50/60 Hz<br>1000 W, 4.2 A | 18.5 kg<br>(41 Lb.) |       |
| F47920-33 <sup>i</sup>    | 2 L<br>(0.07 cu. ft.)  | 100° to 1200 °C<br>(212° to 2192 °F) | 15 x 13.7 x 10 cm<br>(6 x 5 x 4 in) | 39 x 28.5 x 47 cm<br>(15.5 x 11.3 x 18.5 in) | B1      | 240 V, 50/60 Hz<br>1000 W, 4.2 A | 18.5 kg<br>(41 Lb.) |       |
| F47920-33CN <sup>i</sup>  | 2 L<br>(0.07 cu. ft.)  | 100° to 1200 °C<br>(212° to 2192 °F) | 15 x 13.7 x 10 cm<br>(6 x 5 x 4 in) | 39 x 28.5 x 47 cm<br>(15.5 x 11.3 x 18.5 in) | B1      | 240 V, 50/60 Hz<br>1000 W, 4.2 A | 18.5 kg<br>(41 Lb.) |  10 A |
| F47920-33-CH <sup>i</sup> | 2 L<br>(0.07 cu. ft.)  | 100° to 1200 °C<br>(212° to 2192 °F) | 15 x 13.7 x 10 cm<br>(6 x 5 x 4 in) | 39 x 28.5 x 47 cm<br>(15.5 x 11.3 x 18.5 in) | B1      | 240 V, 50/60 Hz<br>1000 W, 4.2 A | 18.5 kg<br>(41 Lb.) |       |
| F47920-33-UK <sup>i</sup> | 2 L<br>(0.07 cu. ft.)  | 100° to 1200 °C<br>(212° to 2192 °F) | 15 x 13.7 x 10 cm<br>(6 x 5 x 4 in) | 39 x 28.5 x 47 cm<br>(15.5 x 11.3 x 18.5 in) | B1      | 240 V, 50/60 Hz<br>1000 W, 4.2 A | 18.5 kg<br>(41 Lb.) |       |
| F47924                    | 2 L<br>(0.07 cu. ft.)  | 100° to 1200 °C<br>(212° to 2192 °F) | 15 x 13.7 x 10 cm<br>(6 x 5 x 4 in) | 39 x 28.5 x 47 cm<br>(15.5 x 11.3 x 18.5 in) | B1      | 100 V, 50/60 Hz<br>750 W, 7.5 A  | 18.5 kg<br>(41 Lb.) |       |
| F47925                    | 2 L<br>(0.07 cu. ft.)  | 100° to 1200 °C<br>(212° to 2192 °F) | 15 x 13.7 x 10 cm<br>(6 x 5 x 4 in) | 39 x 28.5 x 47 cm<br>(15.5 x 11.3 x 18.5 in) | B1      | 120 V, 50/60 Hz<br>1000 W, 8.3 A | 18.5 kg<br>(41 Lb.) |       |
| F47920-80                 | 2 L<br>(0.07 cu. ft.)  | 100° to 1200 °C<br>(212° to 2192 °F) | 15 x 13.7 x 10 cm<br>(6 x 5 x 4 in) | 39 x 28.5 x 47 cm<br>(15.5 x 11.3 x 18.5 in) | C1      | 240 V, 50/60 Hz<br>1000 W, 4.2 A | 18.5 kg<br>(41 Lb.) |       |
| F47920-33-80 <sup>i</sup> | 2 L<br>(0.07 cu. ft.)  | 100° to 1200 °C<br>(212° to 2192 °F) | 15 x 13.7 x 10 cm<br>(6 x 5 x 4 in) | 39 x 28.5 x 47 cm<br>(15.5 x 11.3 x 18.5 in) | C1      | 240 V, 50/60 Hz<br>1000 W, 4.2 A | 18.5 kg<br>(41 Lb.) |      |
| F47920-33-80CN            | 2 L<br>(0.07 cu. ft.)  | 100° to 1200 °C<br>(212° to 2192 °F) | 15 x 13.7 x 10 cm<br>(6 x 5 x 4 in) | 39 x 28.5 x 47 cm<br>(15.5 x 11.3 x 18.5 in) | C1      | 240 V, 50/60 Hz<br>1000 W, 4.2 A | 18.5 kg<br>(41 Lb.) |     |
| F47920-33-80-CH           | 2 L<br>(0.07 cu. ft.)  | 100° to 1200 °C<br>(212° to 2192 °F) | 15 x 13.7 x 10 cm<br>(6 x 5 x 4 in) | 39 x 28.5 x 47 cm<br>(15.5 x 11.3 x 18.5 in) | C1      | 240 V, 50/60 Hz<br>1000 W, 4.2 A | 18.5 kg<br>(41 Lb.) |     |
| F47920-33-80-UK           | 2 L<br>(0.07 cu. ft.)  | 100° to 1200 °C<br>(212° to 2192 °F) | 15 x 13.7 x 10 cm<br>(6 x 5 x 4 in) | 39 x 28.5 x 47 cm<br>(15.5 x 11.3 x 18.5 in) | C1      | 240 V, 50/60 Hz<br>1000 W, 4.2 A | 18.5 kg<br>(41 Lb.) |     |
| F47924-80                 | 2 L<br>(0.07 cu. ft.)  | 100° to 1200 °C<br>(212° to 2192 °F) | 15 x 13.7 x 10 cm<br>(6 x 5 x 4 in) | 39 x 28.5 x 47 cm<br>(15.5 x 11.3 x 18.5 in) | C1      | 100 V, 50/60 Hz<br>750 W, 7.5 A  | 18.5 kg<br>(41 Lb.) |     |
| F47925-80                 | 2 L<br>(0.07 cu. ft.)  | 100° to 1200 °C<br>(212° to 2192 °F) | 15 x 13.7 x 10 cm<br>(6 x 5 x 4 in) | 39 x 28.5 x 47 cm<br>(15.5 x 11.3 x 18.5 in) | C1      | 120 V, 50/60 Hz<br>1000 W, 8.3 A | 18.5 kg<br>(41 Lb.) |     |
| F47950 <sup>i</sup>       | 2 L<br>(0.07 cu. ft.)  | 100° to 1200 °C<br>(212° to 2192 °F) | 15 x 13.7 x 10 cm<br>(6 x 5 x 4 in) | 39 x 28.5 x 47 cm<br>(15.5 x 11.3 x 18.5 in) | D1      | 240 V, 50/60 Hz<br>1000 W, 4.2 A | 18.5 kg<br>(41 Lb.) |     |
| F47950-33 <sup>i</sup>    | 2 L<br>(0.07 cu. ft.)  | 100° to 1200 °C<br>(212° to 2192 °F) | 15 x 13.7 x 10 cm<br>(6 x 5 x 4 in) | 39 x 28.5 x 47 cm<br>(15.5 x 11.3 x 18.5 in) | D1      | 240 V, 50/60 Hz<br>1000 W, 4.2 A | 18.5 kg<br>(41 Lb.) |     |
| F47950-33CN               | 2 L<br>(0.07 cu. ft.)  | 100° to 1200 °C<br>(212° to 2192 °F) | 15 x 13.7 x 10 cm<br>(6 x 5 x 4 in) | 39 x 28.5 x 47 cm<br>(15.5 x 11.3 x 18.5 in) | D1      | 240 V, 50/60 Hz<br>1000 W, 4.2 A | 18.5 kg<br>(41 Lb.) |     |
| F47950-33-CH              | 2 L<br>(0.07 cu. ft.)  | 100° to 1200 °C<br>(212° to 2192 °F) | 15 x 13.7 x 10 cm<br>(6 x 5 x 4 in) | 39 x 28.5 x 47 cm<br>(15.5 x 11.3 x 18.5 in) | D1      | 240 V, 50/60 Hz<br>1000 W, 4.2 A | 18.5 kg<br>(41 Lb.) |     |
| F47950-33-UK              | 2 L<br>(0.07 cu. ft.)  | 100° to 1200 °C<br>(212° to 2192 °F) | 15 x 13.7 x 10 cm<br>(6 x 5 x 4 in) | 39 x 28.5 x 47 cm<br>(15.5 x 11.3 x 18.5 in) | D1      | 240 V, 50/60 Hz<br>1000 W, 4.2 A | 18.5 kg<br>(41 Lb.) |     |
| F47954                    | 2 L<br>(0.07 cu. ft.)  | 100° to 1200 °C<br>(212° to 2192 °F) | 15 x 13.7 x 10 cm<br>(6 x 5 x 4 in) | 39 x 28.5 x 47 cm<br>(15.5 x 11.3 x 18.5 in) | D1      | 100 V, 50/60 Hz<br>750 W, 7.5 A  | 18.5 kg<br>(41 Lb.) |     |
| F47955                    | 2 L<br>(0.07 cu. ft.)  | 100° to 1200 °C<br>(212° to 2192 °F) | 15 x 13.7 x 10 cm<br>(6 x 5 x 4 in) | 39 x 28.5 x 47 cm<br>(15.5 x 11.3 x 18.5 in) | D1      | 120 V, 50/60 Hz<br>1000 W, 8.3 A | 18.5 kg<br>(41 Lb.) |     |
| F48010 <sup>i</sup>       | 5.8 L<br>(0.2 cu. ft.) | 100° to 1200 °C<br>(212° to 2192 °F) | 25 x 18 x 13 cm<br>(10 x 7 x 5 in)  | 50 x 34 x 19 cm<br>(19.5 x 13.3 x 19 in)     | A1      | 240 V, 50/60 Hz<br>1800 W, 7.5 A | 27.2 kg<br>(60 Lb.) |     |
| F48010-33 <sup>i</sup>    | 5.8 L<br>(0.2 cu. ft.) | 100° to 1200 °C<br>(212° to 2192 °F) | 25 x 18 x 13 cm<br>(10 x 7 x 5 in)  | 50 x 34 x 19 cm<br>(19.5 x 13.3 x 19 in)     | A1      | 240 V, 50/60 Hz<br>1560 W, 6.5 A | 27.2 kg<br>(60 Lb.) |     |

| Cat. No.                  | Capacity               | Temp. Range                          | Interior D x W, x H                | Exterior L x W, x H                        | Control | Electrical                        | Shipping Weight     | Plug Type                                                                             |
|---------------------------|------------------------|--------------------------------------|------------------------------------|--------------------------------------------|---------|-----------------------------------|---------------------|---------------------------------------------------------------------------------------|
| F48010-33CN <sup>†</sup>  | 5.8 L<br>(0.2 cu. ft.) | 100° to 1200 °C<br>(212° to 2192 °F) | 25 x 18 x 13 cm<br>(10 x 7 x 5 in) | 50 x 34 x 19 cm<br>(19.5 x 13.3 x 19 in)   | A1      | 240 V, 50/60 Hz<br>1560 W, 6.5 A  | 27.2 kg<br>(60 Lb.) |    |
| F48010-33-CH <sup>†</sup> | 5.8 L<br>(0.2 cu. ft.) | 100° to 1200 °C<br>(212° to 2192 °F) | 25 x 18 x 13 cm<br>(10 x 7 x 5 in) | 50 x 34 x 19 cm<br>(19.5 x 13.3 x 19 in)   | A1      | 240 V, 50/60 Hz<br>1560 W, 6.5 A  | 27.2 kg<br>(60 Lb.) |    |
| F48010-33-UK <sup>†</sup> | 5.8 L<br>(0.2 cu. ft.) | 100° to 1200 °C<br>(212° to 2192 °F) | 25 x 18 x 13 cm<br>(10 x 7 x 5 in) | 50 x 34 x 19 cm<br>(19.5 x 13.3 x 19 in)   | A1      | 240 V, 50/60 Hz<br>1560 W, 6.5 A  | 27.2 kg<br>(60 Lb.) |    |
| F48015-60 <sup>‡</sup>    | 5.8 L<br>(0.2 cu. ft.) | 100° to 1200 °C<br>(212° to 2192 °F) | 25 x 18 x 13 cm<br>(10 x 7 x 5 in) | 50 x 34 x 19 cm<br>(19.5 x 13.3 x 19 in)   | A1      | 120 V, 50/60 Hz<br>1800 W, 15 A   | 27.2 kg<br>(60 Lb.) |    |
| F48018 <sup>‡</sup>       | 5.8 L<br>(0.2 cu. ft.) | 100° to 1200 °C<br>(212° to 2192 °F) | 25 x 18 x 13 cm<br>(10 x 7 x 5 in) | 50 x 34 x 19 cm<br>(19.5 x 13.3 x 19 in)   | A1      | 208 V, 50/60 Hz<br>1560 W, 7.5 A  | 27.2 kg<br>(60 Lb.) |    |
| F48020 -DB <sup>‡</sup>   | 5.8 L<br>(0.2 cu. ft.) | 100° to 1200 °C<br>(212° to 2192 °F) | 25 x 18 x 13 cm<br>(10 x 7 x 5 in) | 50 x 34 x 19 cm<br>(19.5 x 13.3 x 19 in)   | B1      | 240 V, 50/60 Hz<br>1800 W, 7.5 A  | 18.5 kg<br>(41 Lb.) |    |
| F48020-33 <sup>‡</sup>    | 5.8 L<br>(0.2 cu. ft.) | 100° to 1200 °C<br>(212° to 2192 °F) | 25 x 18 x 13 cm<br>(10 x 7 x 5 in) | 50 x 34 x 19 cm<br>(19.5 x 13.3 x 19 in)   | B1      | 240 V, 50/60 Hz<br>1560 W, 6.5 A  | 27.2 kg<br>(60 Lb.) |    |
| F48020-33-80CN            | 5.8 L<br>(0.2 cu. ft.) | 100° to 1200 °C<br>(212° to 2192 °F) | 25 x 18 x 13 cm<br>(10 x 7 x 5 in) | 50 x 34 x 19 cm<br>(19.5 x 13.3 x 19 in)   | B1      | 240 V, 50/60 Hz<br>1560 W, 6.5 A  | 27.2 kg<br>(60 Lb.) |    |
| F48020-33CN <sup>†</sup>  | 5.8 L<br>(0.2 cu. ft.) | 100° to 1200 °C<br>(212° to 2192 °F) | 25 x 18 x 13 cm<br>(10 x 7 x 5 in) | 50 x 34 x 19 cm<br>(19.5 x 13.3 x 19 in)   | B1      | 240 V, 50/60 Hz<br>1560 W, 6.5 A  | 27.2 kg<br>(60 Lb.) |    |
| F48020-33-CH <sup>†</sup> | 5.8 L<br>(0.2 cu. ft.) | 100° to 1200 °C<br>(212° to 2192 °F) | 25 x 18 x 13 cm<br>(10 x 7 x 5 in) | 50 x 34 x 19 cm<br>(19.5 x 13.3 x 19 in)   | B1      | 240 V, 50/60 Hz<br>1560 W, 6.5 A  | 27.2 kg<br>(60 Lb.) |    |
| F48020-33-UK <sup>†</sup> | 5.8 L<br>(0.2 cu. ft.) | 100° to 1200 °C<br>(212° to 2192 °F) | 25 x 18 x 13 cm<br>(10 x 7 x 5 in) | 50 x 34 x 19 cm<br>(19.5 x 13.3 x 19 in)   | B1      | 240 V, 50/60 Hz<br>1560 W, 6.5 A  | 27.2 kg<br>(60 Lb.) |    |
| F48028 <sup>‡</sup>       | 5.8 L<br>(0.2 cu. ft.) | 100° to 1200 °C<br>(212° to 2192 °F) | 25 x 18 x 13 cm<br>(10 x 7 x 5 in) | 50 x 34 x 19 cm<br>(19.5 x 13.3 x 19 in)   | B1      | 208 V, 50/60 Hz<br>1560 W, 7.5 A  | 27.2 kg<br>(60 Lb.) |    |
| F48025-60 <sup>‡</sup>    | 5.8 L<br>(0.2 cu. ft.) | 100° to 1200 °C<br>(212° to 2192 °F) | 25 x 18 x 13 cm<br>(10 x 7 x 5 in) | 50 x 34 x 19 cm<br>(19.5 x 13.3 x 19 in)   | B1      | 120 V, 50/60 Hz<br>1800 W, 15.0 A | 27.2 kg<br>(60 Lb.) |   |
| F48020-80                 | 5.8 L<br>(0.2 cu. ft.) | 100° to 1200 °C<br>(212° to 2192 °F) | 25 x 18 x 13 cm<br>(10 x 7 x 5 in) | 50 x 34 x 48.3 cm<br>(19.5 x 13.3 x 19 in) | C1      | 240 V, 50/60 Hz<br>1800 W, 7.5 A  | 27.2 kg<br>(60 Lb.) |  |
| F48024-80                 | 5.8 L<br>(0.2 cu. ft.) | 100° to 1200 °C<br>(212° to 2192 °F) | 25 x 18 x 13 cm<br>(10 x 7 x 5 in) | 50 x 34 x 48.3 cm<br>(19.5 x 13.3 x 19 in) | C1      | 100 V, 50/60 Hz<br>1450 W, 14.5 A | 18.5 kg<br>(41 Lb.) |  |
| F48020-33-80 <sup>‡</sup> | 5.8 L<br>(0.2 cu. ft.) | 100° to 1200 °C<br>(212° to 2192 °F) | 25 x 18 x 13 cm<br>(10 x 7 x 5 in) | 50 x 34 x 48.3 cm<br>(19.5 x 13.3 x 19 in) | C1      | 240 V, 50/60 Hz<br>1800 W, 6.5 A  | 27.2 kg<br>(60 Lb.) |  |
| F48020-33-80CN            | 5.8 L<br>(0.2 cu. ft.) | 100° to 1200 °C<br>(212° to 2192 °F) | 25 x 18 x 13 cm<br>(10 x 7 x 5 in) | 50 x 34 x 48.3 cm<br>(19.5 x 13.3 x 19 in) | C1      | 240 V, 50/60 Hz<br>1800 W, 6.5 A  | 27.2 kg<br>(60 Lb.) |  |
| F48020-33-80-CH           | 5.8 L<br>(0.2 cu. ft.) | 100° to 1200 °C<br>(212° to 2192 °F) | 25 x 18 x 13 cm<br>(10 x 7 x 5 in) | 50 x 34 x 48.3 cm<br>(19.5 x 13.3 x 19 in) | C1      | 240 V, 50/60 Hz<br>1800 W, 6.5 A  | 27.2 kg<br>(60 Lb.) |  |
| F48020-33-80-UK           | 5.8 L<br>(0.2 cu. ft.) | 100° to 1200 °C<br>(212° to 2192 °F) | 25 x 18 x 13 cm<br>(10 x 7 x 5 in) | 50 x 34 x 48.3 cm<br>(19.5 x 13.3 x 19 in) | C1      | 240 V, 50/60 Hz<br>1800 W, 6.5 A  | 27.2 kg<br>(60 Lb.) |  |
| F48025-60-80 <sup>‡</sup> | 5.8 L<br>(0.2 cu. ft.) | 100° to 1200 °C<br>(212° to 2192 °F) | 25 x 18 x 13 cm<br>(10 x 7 x 5 in) | 50 x 34 x 48.3 cm<br>(19.5 x 13.3 x 19 in) | C1      | 120 V, 50/60 Hz<br>1800 W, 15.0 A | 27.2 kg<br>(60 Lb.) |  |
| F48028-80                 | 5.8 L<br>(0.2 cu. ft.) | 100° to 1200 °C<br>(212° to 2192 °F) | 25 x 18 x 13 cm<br>(10 x 7 x 5 in) | 50 x 34 x 48.3 cm<br>(19.5 x 13.3 x 19 in) | C1      | 208 V, 50/60 Hz<br>1560 W, 7.5 A  | 27.2 kg<br>(60 Lb.) |  |
| F48050-33 <sup>‡</sup>    | 5.8 L<br>(0.2 cu. ft.) | 100° to 1200 °C<br>(212° to 2192 °F) | 25 x 18 x 13 cm<br>(10 x 7 x 5 in) | 50 x 34 x 48.3 cm<br>(19.5 x 13.3 x 19 in) | D1      | 240 V, 50/60 Hz<br>1800 W, 6.5 A  | 27.2 kg<br>(60 Lb.) |  |
| F48050-33CN               | 5.8 L<br>(0.2 cu. ft.) | 100° to 1200 °C<br>(212° to 2192 °F) | 25 x 18 x 13 cm<br>(10 x 7 x 5 in) | 50 x 34 x 48.3 cm<br>(19.5 x 13.3 x 19 in) | D1      | 240 V, 50/60 Hz<br>1800 W, 6.5 A  | 27.2 kg<br>(60 Lb.) |  |
| F48050-33-CH              | 5.8 L<br>(0.2 cu. ft.) | 100° to 1200 °C<br>(212° to 2192 °F) | 25 x 18 x 13 cm<br>(10 x 7 x 5 in) | 50 x 34 x 48.3 cm<br>(19.5 x 13.3 x 19 in) | D1      | 240 V, 50/60 Hz<br>1800 W, 6.5 A  | 27.2 kg<br>(60 Lb.) |  |
| F48050-33-UK              | 5.8 L<br>(0.2 cu. ft.) | 100° to 1200 °C<br>(212° to 2192 °F) | 25 x 18 x 13 cm<br>(10 x 7 x 5 in) | 50 x 34 x 48.3 cm<br>(19.5 x 13.3 x 19 in) | D1      | 240 V, 50/60 Hz<br>1800 W, 6.5 A  | 27.2 kg<br>(60 Lb.) |  |
| F48050 <sup>‡</sup>       | 5.8 L<br>(0.2 cu. ft.) | 100° to 1200 °C<br>(212° to 2192 °F) | 25 x 18 x 13 cm<br>(10 x 7 x 5 in) | 50 x 34 x 48.3 cm<br>(19.5 x 13.3 x 19 in) | D1      | 240 V, 50/60 Hz<br>1800 W, 7.5 A  | 27.2 kg<br>(60 Lb.) |  |
| F48055-60 <sup>‡</sup>    | 5.8 L<br>(0.2 cu. ft.) | 100° to 1200 °C<br>(212° to 2192 °F) | 25 x 18 x 13 cm<br>(10 x 7 x 5 in) | 50 x 34 x 48.3 cm<br>(19.5 x 13.3 x 19 in) | D1      | 120 V, 50/60 Hz<br>1800 W, 15.0 A | 27.2 kg<br>(60 Lb.) |  |
| F48058 <sup>‡</sup>       | 5.8 L<br>(0.2 cu. ft.) | 100° to 1200 °C<br>(212° to 2192 °F) | 25 x 18 x 13 cm<br>(10 x 7 x 5 in) | 50 x 34 x 48.3 cm<br>(19.5 x 13.3 x 19 in) | D1      | 208 V, 50/60 Hz<br>1560 W, 7.5 A  | 27.2 kg<br>(60 Lb.) |  |

<sup>†</sup> CE marked; <sup>‡</sup> CSA listed

# Thermo Scientific Thermolyne premium large muffle furnaces

Robust design and choice of four temperature controllers

- Spacious 14 L (0.5 cu.ft.) capacity that reaches a maximum of 1200 °C
- Four heating elements are located on the chamber top, bottom and sides, designed for enhanced temperature uniformity
- Built-in vent port removes undesirable contaminants and moisture to extend the life of the element and unit
- Rear of the chamber incorporates a 0.312 in. diameter port for monitoring chamber temperatures with independent measuring devices
- Optional stainless-steel shelf doubles load capacity (maximum temperature of 900 °C)
- Door safety switch stops power to heating elements when door opens
- Thermocouple break protection cuts power to the heating elements, preventing a thermocouple failure runaway condition
- Furnaces with B1, C1, and D1 control also use a mechanical over-temperature protection relay

## Temperature controller options

- A1, B1, C1, D1
- See page 6 for control details



## Applications

Ideal for industrial applications including:

- Ashing organic and inorganic samples
- Gravimetric analysis

| Cat. No.     | Capacity          | Temp. Range                       | Temp. Stability/Uniformity at 1000 °C | Interior D x w x H                   | Exterior L x w x H                        | Control | Electrical                    | Shipping Weight   | Plug Type                               |
|--------------|-------------------|-----------------------------------|---------------------------------------|--------------------------------------|-------------------------------------------|---------|-------------------------------|-------------------|-----------------------------------------|
| F6018        | 14 L (0.5 cu.ft.) | 100° to 1200 °C (212° to 2192 °F) | ±0.3 °C ±2.2 °C                       | 25 x 33 x 18 cm (10 x 12.8 x 6.8 in) | 51 x 48.5 x 53.3 cm (20.1 x 19.1 x 21 in) | A1      | 208V, 50/60 Hz 11.2 A, 2325 W | 60.8 kg (134 Lb.) |                                         |
| F6010        | 14 L (0.5 cu.ft.) | 100° to 1200 °C (212° to 2192 °F) | ±0.3 °C ±2.2 °C                       | 25 x 33 x 18 cm (10 x 12.8 x 6.8 in) | 51 x 48.5 x 53.3 cm (20.1 x 19.1 x 21 in) | A1      | 240V, 50/60 Hz 12.9 A, 3095 W | 60.8 kg (134 Lb.) |                                         |
| F6010CN      | 14 L (0.5 cu.ft.) | 100° to 1200 °C (212° to 2192 °F) | ±0.3 °C ±2.2 °C                       | 25 x 33 x 18 cm (10 x 12.8 x 6.8 in) | 51 x 48.5 x 53.3 cm (20.1 x 19.1 x 21 in) | A1      | 240V, 50/60 Hz 12.9 A, 3095 W | 60.8 kg (134 Lb.) |                                         |
| F6028C       | 14 L (0.5 cu.ft.) | 100° to 1200 °C (212° to 2192 °F) | ±1.5 °C ±4.5 °C                       | 25 x 33 x 18 cm (10 x 12.8 x 6.8 in) | 51 x 48.5 x 53.3 cm (20.1 x 19.1 x 21 in) | B1      | 208V, 50/60 Hz 19.2 A, 4000 W | 60.8 kg (134 Lb.) | No plug, no cable, requires hard wiring |
| F6020C       | 14 L (0.5 cu.ft.) | 100° to 1200 °C (212° to 2192 °F) | ±1.5 °C ±4.5 °C                       | 25 x 33 x 18 cm (10 x 12.8 x 6.8 in) | 51 x 48.5 x 53.3 cm (20.1 x 19.1 x 21 in) | B1      | 240V, 50/60 Hz 18.3 A, 4400 W | 60.8 kg (134 Lb.) | No plug, no cable, requires hard wiring |
| F6020C-33    | 14 L (0.5 cu.ft.) | 100° to 1200 °C (212° to 2192 °F) | ±1.5 °C ±4.5 °C                       | 25 x 33 x 18 cm (10 x 12.8 x 6.8 in) | 51 x 48.5 x 53.3 cm (20.1 x 19.1 x 21 in) | B1      | 240V, 50/60 Hz 18.3 A, 4400 W | 60.8 kg (134 Lb.) | No plug, no cable, requires hard wiring |
| F6028C-80    | 14 L (0.5 cu.ft.) | 100° to 1200 °C (212° to 2192 °F) | ±1.5 °C ±4.5 °C                       | 25 x 33 x 18 cm (10 x 12.8 x 6.8 in) | 51 x 48.5 x 53.3 cm (20.1 x 19.1 x 21 in) | C1      | 208V, 50/60 Hz 19.2 A, 4000 W | 60.8 kg (134 Lb.) | No plug, no cable, requires hard wiring |
| F6020C-80    | 14 L (0.5 cu.ft.) | 100° to 1200 °C (212° to 2192 °F) | ±1.5 °C ±4.5 °C                       | 25 x 33 x 18 cm (10 x 12.8 x 6.8 in) | 51 x 48.5 x 53.3 cm (20.1 x 19.1 x 21 in) | C1      | 240V, 50/60 Hz 18.3 A, 4400 W | 60.8 kg (134 Lb.) | No plug, no cable, requires hard wiring |
| F6020C-33-80 | 14 L (0.5 cu.ft.) | 100° to 1200 °C (212° to 2192 °F) | ±1.5 °C ±4.5 °C                       | 25 x 33 x 18 cm (10 x 12.8 x 6.8 in) | 51 x 48.5 x 53.3 cm (20.1 x 19.1 x 21 in) | C1      | 240V, 50/60 Hz 18.3 A, 4400 W | 60.8 kg (134 Lb.) | No plug, no cable, requires hard wiring |
| F6038CM      | 14 L (0.5 cu.ft.) | 100° to 1200 °C (212° to 2192 °F) | ±1.5 °C ±4.5 °C                       | 25 x 33 x 18 cm (10 x 12.8 x 6.8 in) | 51 x 48.5 x 53.3 cm (20.1 x 19.1 x 21 in) | D1      | 208V, 50/60 Hz 19.3 A, 4000 W | 60.8 kg (134 Lb.) | No plug, no cable, requires hard wiring |
| F6030CM      | 14 L (0.5 cu.ft.) | 100° to 1200 °C (212° to 2192 °F) | ±1.5 °C ±4.5 °C                       | 25 x 33 x 18 cm (10 x 12.8 x 6.8 in) | 51 x 48.5 x 53.3 cm (20.1 x 19.1 x 21 in) | D1      | 240V, 50/60 Hz 18.3 A, 4400 W | 60.8 kg (134 Lb.) | No plug, no cable, requires hard wiring |
| F6030CM-33   | 14 L (0.5 cu.ft.) | 100° to 1200 °C (212° to 2192 °F) | ±1.5 °C ±4.5 °C                       | 25 x 33 x 18 cm (10 x 12.8 x 6.8 in) | 51 x 48.5 x 53.3 cm (20.1 x 19.1 x 21 in) | D1      | 240V, 50/60 Hz 18.3 A, 4400 W | 60.8 kg (134 Lb.) | No plug, no cable, requires hard wiring |

## Accessories

| Cat. No. | Description                                                                    |
|----------|--------------------------------------------------------------------------------|
| SH408X1  | Stainless-steel Shelf (requires 4 shelf pegs)                                  |
| JSX16    | Shelf Pegs (4 required) for stainless-steel shelf                              |
| PHX1     | Hearth tray, 8.2 x 10.1 x 1.27 cm (up to 9 per chamber floor in 3 x 3 pattern) |

**Includes:** Models F6010 and F6018 include a cord and plug set

**Required Accessories:** All models except F6010 and F6018 require hardwiring

**Warranty\*:** 1 year (parts and labor)

**Certifications:** All units CSA approved, -33 units also CE marked

# Thermo Scientific Thermolyne largest tabletop muffle furnaces

Large chamber for spacious samples or high sample volumes

- Triple the work area using two supplied accessory refractory shelves with optional hearth tray
- Advanced LED digital-set/digital-display temperature controller is microprocessor-controlled
- LED display simultaneously shows both setpoint and actual furnace temperatures in °C or °F
- User-selectable over-temperature protection
- Open thermocouple protection
- Chamber has five shelf positions, two shelves supplied
- Built-in vent port removes undesirable contaminants and moisture to extend the life of the element and unit
- Rear of chamber incorporates a 0.25 in. diameter port for monitoring chamber temperatures with independent measuring devices
- Critical electronic components and heating elements are protected by a 35A circuit breaker
- Door safety switch stops power to the heating elements when door opens

## Safety and design features

- Heating elements are on chamber top, bottom and sides for enhanced temperature uniformity

## Choice of temperature controllers

- Controls B1, C1, D1
- See page 6 for control details



## Applications

- Gravimetric analysis
- Sintering
- Quantitative analysis
- Heat treatment

| Cat. No.      | Capacity           | Temp. Range     | Temp. Stability and Uniformity | Interior D x W x H                | Exterior L x W x H                            | Control | Electrical                        | Shipping Weight    | Plug Type                              |
|---------------|--------------------|-----------------|--------------------------------|-----------------------------------|-----------------------------------------------|---------|-----------------------------------|--------------------|----------------------------------------|
| F30428C       | 45 L (1.6 cu. ft.) | 100° to 1093 °C | ±1.2 °C at 1000 °C<br>±3.45 °C | 36 x 36 x 36 cm (14 x 14 x 14 in) | 64.7 x 54.6 x 74.9 cm (25.5 x 21.5 x 29.5 in) | B1      | 208 V, 50/60 Hz<br>26.4 A, 5500 W | 117.9 kg (260 Lb.) | No plug, no cable, requires hardwiring |
| F30420C       | 45 L (1.6 cu. ft.) | 100° to 1093 °C | ±1.2 °C at 1000 °C<br>±3.45 °C | 36 x 36 x 36 cm (14 x 14 x 14 in) | 64.7 x 54.6 x 74.9 cm (25.5 x 21.5 x 29.5 in) | B1      | 240 V, 50/60 Hz<br>22.9 A, 5500 W | 117.9 kg (260 Lb.) | No plug, no cable, requires hardwiring |
| F30420C-33    | 45 L (1.6 cu. ft.) | 100° to 1093 °C | ±1.2 °C at 1000 °C<br>±3.45 °C | 36 x 36 x 36 cm (14 x 14 x 14 in) | 64.7 x 54.6 x 74.9 cm (25.5 x 21.5 x 29.5 in) | B1      | 240 V, 50/60 Hz<br>22.9 A, 5500 W | 117.9 kg (260 Lb.) | No plug, no cable, requires hardwiring |
| F30428C-80    | 45 L (1.6 cu. ft.) | 100° to 1093 °C | ±1.2 °C at 1000 °C<br>±3.45 °C | 36 x 36 x 36 cm (14 x 14 x 14 in) | 64.7 x 54.6 x 74.9 cm (25.5 x 21.5 x 29.5 in) | C1      | 208 V, 50/60 Hz<br>26.4 A, 5500 W | 117.9 kg (260 Lb.) | No plug, no cable, requires hardwiring |
| F30420C-80    | 45 L (1.6 cu. ft.) | 100° to 1093 °C | ±1.2 °C at 1000 °C<br>±3.45 °C | 36 x 36 x 36 cm (14 x 14 x 14 in) | 64.7 x 54.6 x 74.9 cm (25.5 x 21.5 x 29.5 in) | C1      | 240 V, 50/60 Hz<br>22.9 A, 5500 W | 117.9 kg (260 Lb.) | No plug, no cable, requires hardwiring |
| F30420C-33-80 | 45 L (1.6 cu. ft.) | 100° to 1093 °C | ±1.2 °C at 1000 °C<br>±3.45 °C | 36 x 36 x 36 cm (14 x 14 x 14 in) | 64.7 x 54.6 x 74.9 cm (25.5 x 21.5 x 29.5 in) | C1      | 240 V, 50/60 Hz<br>22.9 A, 5500 W | 117.9 kg (260 Lb.) | No plug, no cable, requires hardwiring |
| F30438CM      | 45 L (1.6 cu. ft.) | 100° to 1093 °C | ±1.2 °C at 1000 °C<br>±3.45 °C | 36 x 36 x 36 cm (14 x 14 x 14 in) | 64.7 x 54.6 x 74.9 cm (25.5 x 21.5 x 29.5 in) | D1      | 208 V, 50/60 Hz<br>26.4 A, 5500 W | 117.9 kg (260 Lb.) | No plug, no cable, requires hardwiring |
| F30430CM      | 45 L (1.6 cu. ft.) | 100° to 1093 °C | ±1.2 °C at 1000 °C<br>±3.45 °C | 36 x 36 x 36 cm (14 x 14 x 14 in) | 64.7 x 54.6 x 74.9 cm (25.5 x 21.5 x 29.5 in) | D1      | 240 V, 50/60 Hz<br>22.9 A, 5500 W | 117.9 kg (260 Lb.) | No plug, no cable, requires hardwiring |
| F30430CM-33   | 45 L (1.6 cu. ft.) | 100° to 1093 °C | ±1.2 °C at 1000 °C<br>±3.45 °C | 36 x 36 x 36 cm (14 x 14 x 14 in) | 64.7 x 54.6 x 74.9 cm (25.5 x 21.5 x 29.5 in) | D1      | 240 V, 50/60 Hz<br>22.9 A, 5500 W | 117.9 kg (260 Lb.) | No plug, no cable, requires hardwiring |

## Hearth trays

| Cat. No. | Description                         | D x W x H                                    |
|----------|-------------------------------------|----------------------------------------------|
| PH146X1  | Hearth tray                         | 17.1 x 14.9 x 1.9 cm (6.75 x 5.9 x 0.75 in)  |
| SH412X1  | Shelf - max weight 11.3 kg (25 lbs) | 35.2 x 25.4 x 1.27 cm (13.87 x 10 x 0.56 in) |
| AY408X1A | Exhaust tubing kit                  | —                                            |

**Warranty:** 1 year (parts and labor)

**Certifications:** All units CSA approved, -33 units also CE marked

**Includes:** Two accessory refractory shelves; all models require hardwiring

# Thermo Scientific Thermolyne atmosphere controlled ashing furnaces

Ideal for coal and coke ashing procedures

- Thermo Scientific Thermolyne atmosphere controlled ashing furnaces
- Reaches 975 °C with the standard stainless-steel manifold and 1093 °C with the optional inconel manifold
- Adjustable gas flowmeter/valve (0-80 L/min.) on front for easy access when adjusting the airflow rate
- Stainless-steel manifold at rear chamber prewarms incoming gases, provides a maximum temperature gradient of only  $\pm 3$  °C at 750 °C
- Chamber rear has a 0.25 in. diameter port for monitoring chamber temperatures with independent measuring devices
- Includes hose barb (in back of chamber) for inert gas line with tubing 0.64 cm (0.25 in.) I.D. and 0.96 cm (0.375 in.) O.D

## Type F6000

- Includes two dual-purpose stainless-steel trays and one handle. Each tray can accommodate 24 (30 mL) porcelain crucibles or 38 (10 mL) quartz crucibles

## Type F6000-80 programmable models

- Meets ASTM<sup>®</sup> D3174 specifications: 3 to 4 air exchanges per min.
- Typical settings can be programmed: Model F6000 with C1 or C1 control meets ASTM D3174 specifications: 3 to 4 air exchanges per minute - Heating rate of 8 °C/minute to 500 °C, 6 °C/minute, from 500° to 750 °C, Hold at 750 °C for two hours, then turn off automatically



## Choice of temperature controllers

- Controls B1, C1, D1
- See page 6 for control details

## Applications

- Coal and coke ashing procedures

| Cat. No.                     | Capacity          | Max. Temp. | Holds                                               | Interior D x W x H                   | Exterior L x W x H                     | Control | Electrical           | Plug Type                              |
|------------------------------|-------------------|------------|-----------------------------------------------------|--------------------------------------|----------------------------------------|---------|----------------------|----------------------------------------|
| F6020C-33-60 <sup>†</sup>    | 14 L (0.5 cu.ft.) | 975 °C     | 24 (30 mL) porcelain or 38 (10 mL) quartz crucibles | 25 x 33 x 18 cm (10 x 12.8 x 6.8 in) | 51 x 49 x 53 cm (20 x 19.1 x 21 in)    | B1      | 240 V, 18.3 A 4400 W | No plug, no cable, requires hardwiring |
| F6028C-60 <sup>†</sup>       | 14 L (0.5 cu.ft.) | 975 °C     | 24 (30 mL) porcelain or 38 (10 mL) quartz crucibles | 25 x 33 x 18 cm (10 x 12.8 x 6.8 in) | 51 x 49 x 53 cm (20 x 19.1 x 21 in)    | B1      | 208 V, 19.2 A 4000 W | No plug, no cable, requires hardwiring |
| F6020C-33-60-80 <sup>†</sup> | 14 L (0.5 cu.ft.) | 975 °C     | 24 (30 mL) porcelain or 38 (10 mL) quartz crucibles | 25 x 33 x 18 cm (10 x 12.8 x 6.8 in) | 51 x 49 x 53 cm (20 x 19.1 x 21 in)    | C1      | 240 V, 18.3 A 4400 W | No plug, no cable, requires hardwiring |
| F6028C-60-80                 | 14 L (0.5 cu.ft.) | 975 °C     | 24 (30 mL) porcelain or 38 (10 mL) quartz crucibles | 25 x 33 x 18 cm (10 x 12.8 x 6.8 in) | 51 x 49 x 53 cm (20 x 19.1 x 21 in)    | C1      | 208 V, 19.2 A 4000 W | No plug, no cable, requires hardwiring |
| F6030CM-33-60 <sup>†</sup>   | 14 L (0.5 cu.ft.) | 975 °C     | 24 (30 mL) porcelain or 38 (10 mL) quartz crucibles | 25 x 33 x 18 cm (10 x 12.8 x 6.8 in) | 51 x 49 x 53 cm (20 x 19.1 x 21 in)    | D1      | 240 V, 18.3 A 4400 W | No plug, no cable, requires hardwiring |
| F30420C-60-80 <sup>†</sup>   | 45 L (1.6 cu.ft.) | 975 °C     | 24 (30 mL) porcelain or 38 (10 mL) quartz crucibles | 36 x 36 x 36 cm (14 x 14 x 14 in)    | 65 x 55 x 75 cm (25.5x 21.5 x 29.5 in) | C1      | 240 V, 22.9 A 5500 W | No plug, no cable, requires hardwiring |
| F30420-33-60-80 <sup>†</sup> | 45 L (1.6 cu.ft.) | 975 °C     | 24 (30 mL) porcelain or 38 (10 mL) quartz crucibles | 36 x 36 x 36 cm (14 x 14 x 14 in)    | 65 x 55 x 75 cm (25.5x 21.5 x 29.5 in) | C1      | 240 V, 22.9 A 5500 W | No plug, no cable, requires hardwiring |
| F30428C-60-80 <sup>†</sup>   | 45 L (1.6 cu.ft.) | 975 °C     | 24 (30 mL) porcelain or 38 (10 mL) quartz crucibles | 36 x 36 x 36 cm (14 x 14 x 14 in)    | 65 x 55 x 75 cm (25.5x 21.5 x 29.5 in) | C1      | 208 V, 23.4 A 5500 W | No plug, no cable, requires hardwiring |
| F30430CM-60 <sup>†</sup>     | 45 L (1.6 cu.ft.) | 975 °C     | 24 (30 mL) porcelain or 38 (10 mL) quartz crucibles | 36 x 36 x 36 cm (14 x 14 x 14 in)    | 65 x 55 x 75 cm (25.5x 21.5 x 29.5 in) | D1      | 240 V, 22.9 A 5500 W | No plug, no cable, requires hardwiring |
| F30430CM-33-60 <sup>†</sup>  | 45 L (1.6 cu.ft.) | 975 °C     | 24 (30 mL) porcelain or 38 (10 mL) quartz crucibles | 36 x 36 x 36 cm (14 x 14 x 14 in)    | 65 x 55 x 75 cm (25.5x 21.5 x 29.5 in) | D1      | 240 V, 22.9 A 5500 W | No plug, no cable, requires hardwiring |
| F30438CM-60 <sup>†</sup>     | 45 L (1.6 cu.ft.) | 975 °C     | 24 (30 mL) porcelain or 38 (10 mL) quartz crucibles | 36 x 36 x 36 cm (14 x 14 x 14 in)    | 65 x 55 x 75 cm (25.5x 21.5 x 29.5 in) | D1      | 208 V, 23.4 A 5500 W | No plug, no cable, requires hardwiring |

<sup>†</sup>CSA listed. <sup>†</sup>CE marked.

## Hearth trays

| Cat. No.   | Description                    | For Use with                                                                 |
|------------|--------------------------------|------------------------------------------------------------------------------|
| TY408X2A   | Crucible trays                 | Atmosphere controlled ashing furnace                                         |
| SH408X1    | Stainless-steel shelf          | F6000-60 atmosphere controlled ashing furnace; premium large muffle furnaces |
| HN408X2A S | Shelf handle                   | Atmosphere controlled ashing furnaces                                        |
| SH412X1    | Refractory shelf for F30400-60 | F30400-60 atmosphere controlled ashing furnaces                              |
| AY408X1    | Inconel manifold               | F6000 furnace                                                                |
| AY408X1A   | Exhaust tubing kit             | Atmosphere controlled ashing and muffle furnaces                             |
| AY718X1    | Inconel manifold               | F30400 furnace                                                               |

**Warranty\*:** 1 year (parts and labor)

**Certifications:** CSA certified, CE marked as indicated  
Required power cord and hardwiring not included.

# Thermo Scientific Lindberg/Blue M moldatherm box furnaces

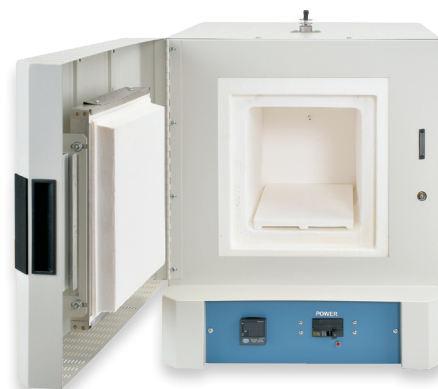
Versatile selection of chamber box furnaces in several popular chamber sizes to meet a variety of demanding industrial and laboratory applications

- Unique insulation and heating element composites minimize outer surface temperatures while maintaining uniform heat distribution within the chamber
- Advanced engineering and specialized construction techniques include variable density insulation, double shell cabinets, long-life heating elements and horizontal side swing doors
- Selectable self-tuning feature sets control parameters for the thermal process
- PID control prevents temperature overshoot
- Main power ON/OFF switch on control panel
- Controlled heat-up rate eliminates thermal shock to materials
- Quick heat-up and cool-down rates

- Adjustable high-limit over-temperature protection
- Simultaneous LED display of actual temperature vs. setpoint (°C or °F)

## Advanced construction

- Advanced double wall minimizes exterior surface temperatures for operator safety and energy efficiency
- Side-hinge door for convenient operation and full chamber access
- Long-life Type K thermocouple
- Air vent (1 in. dia., top) and air inlet (0.375 in. dia., rear) for inert atmosphere exchange; (Note: door is not gas-tight)
- Removable and replaceable Moldatherm hearth plate supports load and prevents damage due to spillage



Model BF51794C-1 with standard left hand door

- Energy efficient Moldatherm insulation with embedded heating elements
- Safety door switch to interrupt power to heating element when door is opened; protects heating element and minimizes exposure to end-user

## Controller choices, all with over-temperature protection

- A, B temperature control
- See page 7 for control details

| Cat. No.       | Capacity              | Temp. Range     | Interior (D x W x H)                    | Exterior (L x W x H)                      | Control | Electrical                            | Shipping Weight | Plug Type                              |
|----------------|-----------------------|-----------------|-----------------------------------------|-------------------------------------------|---------|---------------------------------------|-----------------|----------------------------------------|
| BF51748 A-1    | 1.99 L (0.07 cu. ft.) | 100° to 1100 °C | 20.3 x 10.2 x 10.2 cm (4 x 8 x 4 in)    | 50.8 x 38.1 x 44.4 cm (20 x 15 x 17.5 in) | A/OTP   | 120 V, 50/60 Hz<br>1800 W, 15 A       | 25 kg (55 Lb.)  | ⏻                                      |
| BF51748C-1**   | 1.99 L (0.07 cu. ft.) | 100° to 1100 °C | 20.3 x 10.2 x 10.2 cm (4 x 8 x 4 in)    | 50.8 x 38.1 x 44.4 cm (20 x 15 x 17.5 in) | A/OTP   | 208/240 V, 50/60 Hz<br>1800 W, 7.5 A  | 25 kg (55 Lb.)  | ⏻                                      |
| BF51848 A-1    | 1.99 L (0.07 cu. ft.) | 100° to 1100 °C | 20.3 x 10.2 x 10.2 cm (4 x 8 x 4 in)    | 50.8 x 38.1 x 44.4 cm (20 x 15 x 17.5 in) | B/OTP   | 120 V, 50/60 Hz<br>1800 W, 15 A       | 25 kg (55 Lb.)  | ⏻                                      |
| BF51848C-1     | 1.99 L (0.07 cu. ft.) | 100° to 1100 °C | 20.3 x 10.2 x 10.2 cm (4 x 8 x 4 in)    | 50.8 x 38.1 x 44.4 cm (20 x 15 x 17.5 in) | B/OTP   | 208/240 V, 50/60 Hz<br>1800 W, 7.5 A  | 25 kg (55 Lb.)  | ⏻                                      |
| BF51848KC-1**  | 1.99 L (0.07 cu. ft.) | 100° to 1100 °C | 20.3 x 10.2 x 10.2 cm (4 x 8 x 4 in)    | 50.8 x 38.1 x 44.4 cm (20 x 15 x 17.5 in) | B/OTP   | 208/240 V, 50/60 Hz<br>1800 W, 7.5 A  | 25 kg (55 Lb.)  | ⏻                                      |
| BF51766 A-1    | 5.3 L (0.19 cu. ft.)  | 100° to 1100 °C | 22.9 x 15.2 x 15.2 cm (9 x 6 x 6 in)    | 53.3 x 43.1 x 54.6 cm (21 x 17 x 21.5 in) | A/OTP   | 120 V, 50/60 Hz<br>1800 W, 15 A       | 50 kg (110 Lb.) | ⏻                                      |
| BF51766C-1**   | 5.3 L (0.19 cu. ft.)  | 100° to 1100 °C | 22.9 x 15.2 x 15.2 cm (9 x 6 x 6 in)    | 53.3 x 43.1 x 54.6 cm (21 x 17 x 21.5 in) | A/OTP   | 208/240 V, 50/60 Hz<br>1800 W, 7.5 A  | 50 kg (110 Lb.) | ⏻                                      |
| BF51766KC-1**  | 5.3 L (0.19 cu. ft.)  | 100° to 1100 °C | 22.9 x 15.2 x 15.2 cm (9 x 6 x 6 in)    | 53.3 x 43.1 x 54.6 cm (21 x 17 x 21.5 in) | A/OTP   | 208/240 V, 50/60 Hz<br>1800 W, 7.5 A  | 50 kg (110 Lb.) | ⏻                                      |
| BF51866 A-1    | 5.3 L (0.19 cu. ft.)  | 100° to 1100 °C | 22.9 x 15.2 x 15.2 cm (9 x 6 x 6 in)    | 53.3 x 43.1 x 54.6 cm (21 x 17 x 21.5 in) | B/OTP   | 120 V, 50/60 Hz<br>1800 W, 15 A       | 50 kg (110 Lb.) | ⏻                                      |
| BF51866C-1     | 5.3 L (0.19 cu. ft.)  | 100° to 1100 °C | 22.9 x 15.2 x 15.2 cm (9 x 6 x 6 in)    | 53.3 x 43.1 x 54.6 cm (21 x 17 x 21.5 in) | B/OTP   | 208/240 V, 50/60 Hz<br>1800 W, 7.5 A  | 50 kg (110 Lb.) | ⏻                                      |
| BF51866KC-1**  | 5.3 L (0.19 cu. ft.)  | 100° to 1100 °C | 22.9 x 15.2 x 15.2 cm (9 x 6 x 6 in)    | 53.3 x 43.1 x 54.6 cm (21 x 17 x 21.5 in) | B/OTP   | 208/240 V, 50/60 Hz<br>1800 W, 7.5 A  | 50 kg (110 Lb.) | ⏻                                      |
| BF51794C-1**   | 18.4 L (0.65 cu. ft.) | 100° to 1100 °C | 35.6 x 22.9 x 22.9 cm (14 x 9 x 9 in)   | 65.4 x 53.3 x 66 cm (25.75 x 21 x 26 in.) | A/OTP   | 208/240 V, 50/60 Hz<br>3500 W, 14.6 A | 59 kg (130 Lb.) | ⏻                                      |
| BF51894C-1     | 18.4 L (0.65 cu. ft.) | 100° to 1100 °C | 35.6 x 22.9 x 22.9 cm (14 x 9 x 9 in)   | 65.4 x 53.3 x 66 cm (25.75 x 21 x 26 in)  | B/OTP   | 208/240 V, 50/60 Hz<br>3500 W, 14.6 A | 59 kg (130 Lb.) | ⏻                                      |
| BF51728C-1**   | 42.5 L (1.5 cu. ft.)  | 100° to 1100 °C | 45.7 x 30.5 x 30.5 cm (18 x 12 x 12 in) | 76.2 x 60.9 x 71.1 cm (30 x 24 x 28 in)   | A/OTP   | 208/240 V, 50/60 Hz<br>5600 W, 23.3 A | 84 kg (185 Lb.) | No plug, no cable, requires hardwiring |
| BF51728RHDC-1* | 42.5 L (1.5 cu. ft.)  | 100° to 1100 °C | 45.7 x 30.5 x 30.5 cm (18 x 12 x 12 in) | 76.2 x 60.9 x 71.1 cm (30 x 24 x 28 in)   | A/OTP   | 208/240 V, 50/60 Hz<br>5600 W, 23.3 A | 84 kg (185 Lb.) | No plug, no cable, requires hardwiring |
| BF51828C-1     | 42.5 L (1.5 cu. ft.)  | 100° to 1100 °C | 45.7 x 30.5 x 30.5 cm (18 x 12 x 12 in) | 76.2 x 60.9 x 71.1 cm (30 x 24 x 28 in)   | B/OTP   | 208/240 V, 50/60 Hz, 23.3 A           | 84 kg (185 Lb.) | No plug, no cable, requires hardwiring |
| BF51828RHDC-1* | 42.5 L (1.5 cu. ft.)  | 100° to 1100 °C | 45.7 x 30.5 x 30.5 cm (18 x 12 x 12 in) | 76.2 x 60.9 x 71.1 cm (30 x 24 x 28 in)   | B/OTP   | 208/240 V, 50/60 Hz, 23.3 A           | 84 kg (185 Lb.) | No plug, no cable, requires hardwiring |

To add RS-485 digital communications port to furnace model, add "COM" to model number before last letter in Cat. No. – e.g., BF51748COMA-1

\*"RHD" designates right hand door - compared to regular model with left hand door

\*\*No digital communications port option available

**Warranty\*:** 1 year (parts and labor)

**Certifications:** UL

| Cat. No.                          | Capacity                | Temp. Range        | Interior (D x W x H)                       | Exterior (L x W x H)                       | Control  | Electrical                             | Shipping Weight | Plug Type                                    |
|-----------------------------------|-------------------------|--------------------|--------------------------------------------|--------------------------------------------|----------|----------------------------------------|-----------------|----------------------------------------------|
| <b>Vertical Lift Door</b>         |                         |                    |                                            |                                            |          |                                        |                 |                                              |
| BF51731C-1                        | 16.4 L<br>(0.6 cu. ft.) | 100° to<br>1200 °C | 27.9 x 33.0 x 17.8 cm<br>(11 x 12 x 11 in) | 58.4 x 61 x 68.6 cm<br>(23 x 24 x 27 in)   | A        | 208/240 V, 50/60 Hz<br>4500 W, 16-19 A | 75 kg           | No plug, no<br>cable, requires<br>hardwiring |
| BF51731BC-1**                     | 16.4 L<br>(0.6 cu. ft.) | 100° to<br>1200 °C | 27.9 x 33.0 x 17.8 cm<br>(11 x 12 x 11 in) | 58.4 x 61 x 68.6 cm<br>(23 x 24 x 27 in)   | A/OTC    | 208/240 V, 50/60 Hz<br>4500 W, 16-19 A | 75 kg           | No plug, no<br>cable, requires<br>hardwiring |
| BF51732C-1                        | 16.4 L<br>(0.6 cu. ft.) | 100° to<br>1200 °C | 27.9 x 33.0 x 17.8 cm<br>(11 x 12 x 11 in) | 58.4 x 61 x 68.6 cm<br>(23 x 24 x 27 in)   | B        | 208/240 V, 50/60 Hz<br>4500 W, 16-19 A | 75 kg           | No plug, no<br>cable, requires<br>hardwiring |
| BF51732BC-1                       | 16.4 L<br>(0.6 cu. ft.) | 100° to<br>1200 °C | 27.9 x 33.0 x 17.8 cm<br>(11 x 12 x 11 in) | 58.4 x 61 x 68.6 cm<br>(23 x 24 x 27 in)   | B/OTC    | 208/240 V, 50/60 Hz<br>4500 W, 16-19 A | 75 kg           | No plug, no<br>cable, requires<br>hardwiring |
| BF51732PC-1**                     | 16.4 L<br>(0.6 cu. ft.) | 100° to<br>1200 °C | 27.9 x 33.0 x 17.8 cm<br>(11 x 12 x 11 in) | 58.4 x 61 x 68.6 cm<br>(23 x 24 x 27 in)   | C        | 208/240 V, 50/60 Hz<br>4500 W, 16-19 A | 75 kg           | No plug, no<br>cable, requires<br>hardwiring |
| BF51732PBC-1**                    | 16.4 L<br>(0.6 cu. ft.) | 100° to<br>1200 °C | 27.9 x 33.0 x 17.8 cm<br>(11 x 12 x 11 in) | 58.4 x 61 x 68.6 cm<br>(23 x 24 x 27 in)   | C/OTC    | 208/240 V, 50/60 Hz<br>4500 W, 16-19 A | 75 kg           | No plug, no<br>cable, requires<br>hardwiring |
| BF51732PFMC-1                     | 16.4 L<br>(0.6 cu. ft.) | 100° to<br>1200 °C | 27.9 x 33.0 x 17.8 cm<br>(11 x 12 x 11 in) | 58.4 x 61 x 68.6 cm<br>(23 x 24 x 27 in)   | C/FM     | 208/240 V, 50/60 Hz<br>4500 W, 16-19 A | 75 kg           | No plug, no<br>cable, requires<br>hardwiring |
| BF51732PBFMC-1                    | 16.4 L<br>(0.6 cu. ft.) | 100° to<br>1200 °C | 27.9 x 33.0 x 17.8 cm<br>(11 x 12 x 11 in) | 58.4 x 61 x 68.6 cm<br>(23 x 24 x 27 in)   | C/OTC/FM | 208/240 V, 50/60 Hz<br>4500 W, 16-19 A | 75 kg           | No plug, no<br>cable, requires<br>hardwiring |
| BF51732PBFCOMC-1*                 | 16.4 L<br>(0.6 cu. ft.) | 100° to<br>1200 °C | 27.9 x 33.0 x 17.8 cm<br>(11 x 12 x 11 in) | 58.4 x 61 x 68.6 cm<br>(23 x 24 x 27 in)   | C/OTC/FM | 208/240 V, 50/60 Hz<br>4500 W, 16-19 A | 75 kg           | No plug, no<br>cable, requires<br>hardwiring |
| <b>Horizontal Side Swing Door</b> |                         |                    |                                            |                                            |          |                                        |                 |                                              |
| BF51841C-1**                      | 55.3 L<br>(2.0 cu. ft.) | 100° to<br>1200 °C | 38.1 x 38.1 x 38.1 cm<br>(15 x 15 x 15 in) | 71.1 x 73.7 x 83.8 cm<br>(28 x 29 x 33 in) | A        | 208/240 V, 50/60 Hz<br>5800 W, 25 A    | 127 kg          | No plug, no<br>cable, requires<br>hardwiring |
| BF51841BC-1**                     | 55.3 L<br>(2.0 cu. ft.) | 100° to<br>1200 °C | 38.1 x 38.1 x 38.1 cm<br>(15 x 15 x 15 in) | 71.1 x 73.7 x 83.8 cm<br>(28 x 29 x 33 in) | A/OTC    | 208/240 V, 50/60 Hz<br>5800 W, 25 A    | 127 kg          | No plug, no<br>cable, requires<br>hardwiring |
| BF51842C-1                        | 55.3 L<br>(2.0 cu. ft.) | 100° to<br>1200 °C | 38.1 x 38.1 x 38.1 cm<br>(15 x 15 x 15 in) | 71.1 x 73.7 x 83.8 cm<br>(28 x 29 x 33 in) | B        | 208/240 V, 50/60 Hz<br>5800 W, 25 A    | 127 kg          | No plug, no<br>cable, requires<br>hardwiring |
| BF51842BC-1**                     | 55.3 L<br>(2.0 cu. ft.) | 100° to<br>1200 °C | 38.1 x 38.1 x 38.1 cm<br>(15 x 15 x 15 in) | 71.1 x 73.7 x 83.8 cm<br>(28 x 29 x 33 in) | B/OTC    | 208/240 V, 50/60 Hz<br>5800 W, 25 A    | 127 kg          | No plug, no<br>cable, requires<br>hardwiring |
| BF51842PC-1                       | 55.3 L<br>(2.0 cu. ft.) | 100° to<br>1200 °C | 38.1 x 38.1 x 38.1 cm<br>(15 x 15 x 15 in) | 71.1 x 73.7 x 83.8 cm<br>(28 x 29 x 33 in) | C        | 208/240 V, 50/60 Hz<br>5800 W, 25 A    | 127 kg          | No plug, no<br>cable, requires<br>hardwiring |
| BF51842PBC-1                      | 55.3 L<br>(2.0 cu. ft.) | 100° to<br>1200 °C | 38.1 x 38.1 x 38.1 cm<br>(15 x 15 x 15 in) | 71.1 x 73.7 x 83.8 cm<br>(28 x 29 x 33 in) | C/OTC    | 208/240 V, 50/60 Hz<br>5800 W, 25 A    | 127 kg          | No plug, no<br>cable, requires<br>hardwiring |
| BF51842PFMC-1                     | 55.3 L<br>(2.0 cu. ft.) | 100° to<br>1200 °C | 38.1 x 38.1 x 38.1 cm<br>(15 x 15 x 15 in) | 71.1 x 73.7 x 83.8 cm<br>(28 x 29 x 33 in) | C/FM     | 208/240 V, 50/60 Hz<br>5800 W, 25 A    | 127 kg          | No plug, no<br>cable, requires<br>hardwiring |
| BF51842PBFMC-1                    | 55.3 L<br>(2.0 cu. ft.) | 100° to<br>1200 °C | 38.1 x 38.1 x 38.1 cm<br>(15 x 15 x 15 in) | 71.1 x 73.7 x 83.8 cm<br>(28 x 29 x 33 in) | C/OTC/FM | 208/240 V, 50/60 Hz<br>5800 W, 25 A    | 127 kg          | No plug, no<br>cable, requires<br>hardwiring |
| BF51842PBFCOMC1*                  | 55.3 L<br>(2.0 cu. ft.) | 100° to<br>1200 °C | 38.1 x 38.1 x 38.1 cm<br>(15 x 15 x 15 in) | 71.1 x 73.7 x 83.8 cm<br>(28 x 29 x 33 in) | C/OTC/FM | 208/240 V, 50/60 Hz<br>5800 W, 25 A    | 127 kg          | No plug, no<br>cable, requires<br>hardwiring |

\*Contains flowmeter option and RS485 communications port

\*\*No digital communications port option available

A, B, C: see details of control options, previous page

OTC: Over-temperature Control

FM: Flowmeter option

To add RS-485 Digital Communications Port to furnace model, add "COM" to model number before last letter in Cat. No. - e.g., BF51731COMC-1

**Ordering Information:** Required power cord and hardwiring not included

**Includes:** One two-part shelf (0.6 cu. ft. models have one shelf position at center position; 2.0 cu. ft. models have three shelf positions)

**Warranty\*:** 1 year (parts and labor)

# Thermo Scientific Lindberg/Blue M heavy-duty 1200 °C box furnaces

Unique internal construction and outer shell design that reduces external surface temperatures without compromising interior temperature uniformity

- Features individual heating elements at chamber top, bottom and sides for uniform heat distribution
- Unique Moldatherm ceramic fiber insulation to allow rapid heatup, recovery and cooldown rates. Swing-down door provides convenient loading platform
- Helically coiled, high-temperature alloy wire elements for extended service life
- High-temperature insulation in vestibule and floating plug door to minimize heat loss and improve temperature control
- Spring-loaded door holds door securely shut; door rests in horizontal position when open
- Sight glass for convenient observation of heated load during operation
- Refractory plate heating unit
- Long-life Platinel II thermocouple with 10 ft. compensated lead wire and polarized plug
- Rugged, heavy-duty Inconel® hearth plate supports load and protects the furnace from damage due to spillage (Model BF51542C)
- Heating element imbedded in Moldatherm insulation (Model BF51542C)

## Control consoles for 1200°C box furnace:

- Control choices: A, B, choice of over temperature control (OTC) on select models – see page 6-7 for details
- Control console is fully wired and includes a solid-state power module, ON/OFF circuit breaker and thermocouple input jack



- Designed for operation on 208, or 240V 50/60 Hz, single-phase line
- Required power cord, hardwiring and interconnecting wiring are not included

## Applications

- Ashing
- Fusion
- Ignitions
- Alloying
- Sintering
- Heat-treatment

| Cat. No. | Capacity            | Temp. Range     | Interior (D x W x H)                         | Exterior (L x W x H)                      | Description                                  | Electrical                      | Shipping Weight  | Plug Type                              |
|----------|---------------------|-----------------|----------------------------------------------|-------------------------------------------|----------------------------------------------|---------------------------------|------------------|----------------------------------------|
| BF51442C | 9 L (0.32 cu. ft.)  | 100° to 1200 °C | 35.6 x 19.5 x 13.3 cm (14 x 7.5 x 5.25 in)   | 50.8 x 50.8 x 62.2 cm (20 x 20 x 24.5 in) | With refractory plate heating element        | 208/240 V, 50/60 Hz 4800 W, 21A | 66 kg (145 Lb.)  | No plug, no cable, requires hardwiring |
| BF51542C | 23 L (0.81 cu. ft.) | 100° to 1200 °C | 36.8 x 26.7 x 24.1 cm (14.5 x 10.5 x 9.5 in) | 78.7 x 71.1 x 72.4 cm (31 x 28 x 28.5 in) | With Moldatherm heating element (four sides) | 208/240 V, 50/60 Hz 6200 W, 26A | 152 kg (335 Lb.) | No plug, no cable, requires hardwiring |

**Ordering information:** Choice of controllers available, including 1200°C digital single-program/multiple-segment programmable controller and over-temperature control

**Required accessories:** Independent control console CC58114C. Required power cord and hardwiring not included

**Warranty\*:** 1 year (parts and labor)

See page 7 for details on controllers

| Cat. No.       | Control | Electrical                |
|----------------|---------|---------------------------|
| CC58114C-1     | A       | 208/240 V, 50/60 Hz, 30 A |
| CC58114PC-1    | B       | 208/240 V, 50/60 Hz, 30 A |
| CC58114BC-1*   | A, OTC  | 208/240 V, 50/60 Hz, 30 A |
| CC58114PBC-1** | B, OTC  | 208/240 V, 50/60 Hz, 30 A |

\*Please note: connected furnace requires 2<sup>nd</sup> thermocouple for OTC (installed when ordered together)

\*\*No digital communications port option available

To add RS-485 digital communications port to furnace model, add "COM" to model number before last letter in Cat. No. – e.g., CC58114COMC-1

**Ordering Information:** Required power cord and hardwiring not included



# Thermo Scientific Lindberg/Blue M multipurpose 1500 °C box furnaces

Multipurpose furnaces feature integral control to 1500 °C

- Double-wall construction with Moldatherm insulation for rapid heatup and cooldown, energy efficiency and cooler exterior surface temperatures
- Adjustable high-limit over-temperature protection
- Microprocessor-based PID control
- Choice of two controllers: single program with multiple segments for ramp (up and down) and dwell (timed hold) temperature control or multiple program with up to 300 segments
- Optional adjustable digital over-temperature control (OTC) protects furnace and load in the event of primary control circuit failure
- Simultaneous LED display of actual and setpoint temperatures in either °C or °F
- Silicon carbide heating elements for long-life, safety and reliable service with maximum energy savings
- Safety door switch interrupts power to heating elements when door is opened; protects elements and minimizes exposure to operator
- Moldatherm hearth plate supports load and protects interior from spillage and mishandling
- Type "R" thermocouple is integrated into chamber back wall
- 6 L models with vertical lift door, 25 L models with side swing door

## Control choices

- B,C choice of over-temperature protection on select models
- See page 7 for details on controllers



**BF51422PBC Box furnace with vertical lift door**

## Applications

- Annealing
- Melting
- Heat treatment
- Brazing
- Alloying

| Cat. No.                          | Capacity            | Temperature Range | Controller                           | Interior (D x W x H)                     | Exterior (L x W x H)                    | Electrical                         | Plug Type                              |
|-----------------------------------|---------------------|-------------------|--------------------------------------|------------------------------------------|-----------------------------------------|------------------------------------|----------------------------------------|
| <b>Vertical Lift Door</b>         |                     |                   |                                      |                                          |                                         |                                    |                                        |
| BF51433C-1                        | 6 L (0.21 cu. ft.)  | 500° to 1500 °C   | B                                    | 30.5 x 15.2 x 12.7 cm (12 x 6 x 5 in)    | 73.7 x 63.5 x 66 cm (29 x 25 x 26 in)   | 208/240 V, 50/60 Hz, 6400 W, 27 A  | No plug, no cable, requires hardwiring |
| BF51433BC-1                       | 6 L (0.21 cu. ft.)  | 500° to 1500 °C   | B, with OTC                          | 30.5 x 15.2 x 12.7 cm (12 x 6 x 5 in)    | 73.7 x 63.5 x 66 cm (29 x 25 x 26 in)   | 208/240 V, 50/60 Hz, 6400 W, 27 A  | No plug, no cable, requires hardwiring |
| BF51433PC-1                       | 6 L (0.21 cu. ft.)  | 500° to 1500 °C   | C                                    | 30.5 x 15.2 x 12.7 cm (12 x 6 x 5 in)    | 73.7 x 63.5 x 66 cm (29 x 25 x 26 in)   | 208/240 V, 50/60 Hz, 6400 W, 27 A  | No plug, no cable, requires hardwiring |
| BF51433PBC-1                      | 6 L (0.21 cu. ft.)  | 500° to 1500 °C   | C, with OTC                          | 30.5 x 15.2 x 12.7 cm (12 x 6 x 5 in)    | 73.7 x 63.5 x 66 cm (29 x 25 x 26 in)   | 208/240 V, 50/60 Hz, 6400 W, 27 A  | No plug, no cable, requires hardwiring |
| BF51433COMC-1                     | 6 L (0.21 cu. ft.)  | 500° to 1500 °C   | B, with RS485 data interface         | 30.5 x 15.2 x 12.7 cm (12 x 6 x 5 in)    | 73.7 x 63.5 x 66 cm (29 x 25 x 26 in)   | 208/240 V, 50/60 Hz, 6400 W, 27 A  | No plug, no cable, requires hardwiring |
| BF51433PBCOMC-1                   | 6 L (0.21 cu. ft.)  | 500° to 1500 °C   | C, with OTC and RS485 data interface | 30.5 x 15.2 x 12.7 cm (12 x 6 x 5 in)    | 73.7 x 63.5 x 66 cm (29 x 25 x 26 in)   | 208/240 V, 50/60 Hz, 6400 W, 27 A  | No plug, no cable, requires hardwiring |
| <b>Horizontal Side Swing Door</b> |                     |                   |                                      |                                          |                                         |                                    |                                        |
| BF51643C-1                        | 25 L (0.88 cu. ft.) | 500° to 1500 °C   | C                                    | 39.4 x 27.9 x 22.9 cm (15.5 x 11 x 9 in) | 76.2 x 71.1 x 78.7 cm (30 x 28 x 31 in) | 208/240 V, 50/60 Hz, 14800 W, 62 A | No plug, no cable, requires hardwiring |
| BF51643BC-1                       | 25 L (0.88 cu. ft.) | 500° to 1500 °C   | C, with OTC                          | 39.4 x 27.9 x 22.9 cm (15.5 x 11 x 9 in) | 76.2 x 71.1 x 78.7 cm (30 x 28 x 31 in) | 208/240 V, 50/60 Hz, 14800 W, 62 A | No plug, no cable, requires hardwiring |

**Ordering information:** Required power cord and hardwiring are not included

**Warranty\*:** 1 year (parts and labor)

# Thermo Scientific Lindberg/Blue M 1700 °C box furnaces, large chamber, integral control

Designed for efficient, high-temperature use with minimal maintenance

- Fast heatup to high temperatures, unique door design and control sophistication ranging from solid-state, single setpoint to more versatile microprocessor-based systems with programming and communications options
- Designed for efficient high-temperature use with minimal maintenance
- Choice of single setpoint or programmable control
- Side swing door provides full and easy access to chamber, protects user from heat surge
- Atmosphere port, 0.375 in. diameter, for fresh air or inert gas inlet (located at back wall, bottom; door is not gas-tight)
- Solid-state power module with ammeter, circuit breaker, transformer and front panel indicator lights for "Ready Element" and "Main Power Applied"
- Safety power disconnect switch cuts power to heating elements when door is opened
- Moldatherm high-temperature ceramic fiber insulation with advanced graded design for fast heat-up and resistance to thermal shock
- Moldatherm hearth plate supports load and protects chamber from spills or mishandling
- High-volume cooling fans move air between inner and outer chamber to reduce exterior shell temperatures and improve energy efficiency and operator safety
- Long-life type "B" thermocouples for accurate high-temperature measurement
- Removable panels for easy access to replaceable heating elements and thermocouples

## Smart heating elements

- Molybdenum disilicide elements with unique right-angle bend and sidewall mounting reduce maintenance usually associated with element termination and mounting



## Applications

- Ashing
- Fusion
- Ignitions
- Alloying
- Sintering
- Designed for easy replacement without matching resistance values
- Fast heat-up and recovery with excellent uniformity and energy efficiency
- Increased resistance to thermal shock, ideal for rapid cycling over extended periods

## Control choices

- A, C, choice of over-temperature protection on select models
- See page 7 for details

| Cat. No.       | Capacity             | Temp. Range     | Interior (D x W x H)                     | Exterior (L x W x H)                    | Controller              | Electrical                       | Shipping Weight  | Plug Type                              |
|----------------|----------------------|-----------------|------------------------------------------|-----------------------------------------|-------------------------|----------------------------------|------------------|----------------------------------------|
| BF51634PC-1    | 17 L (0.6 cu. ft.)   | 500° to 1700 °C | 26.7 x 27.9 x 22.9 cm (10.5 x 11 x 9 in) | 61 x 71.1 x 78.7 cm (24 x 28 x 31 in)   | C                       | 208/240 V, 50/60 Hz 5900 W, 23 A | 159 kg (350 Lb.) | No plug, no cable, requires hardwiring |
| BF51634PCOMC-1 | 17 L (0.6 cu. ft.)   | 500° to 1700 °C | 26.7 x 27.9 x 22.9 cm (10.5 x 11 x 9 in) | 61 x 71.1 x 78.7 cm (24 x 28 x 31 in)   | C, with RS845 interface | 208/240 V, 50/60 Hz 5900 W, 23 A | 159 kg (350 Lb.) | No plug, no cable, requires hardwiring |
| BF51664C-1     | 25.5 L (0.9 cu. ft.) | 500° to 1700 °C | 39.4 x 27.9 x 22.9 cm (15.5 x 11 x 9 in) | 76.2 x 71.1 x 78.7 cm (30 x 28 x 31 in) | A                       | 208/240 V, 50/60 Hz 7100 W, 30 A | 168 kg (370 Lb.) | No plug, no cable, requires hardwiring |
| BF51664PC-1    | 25.5 L (0.9 cu. ft.) | 500° to 1700 °C | 39.4 x 27.9 x 22.9 cm (15.5 x 11 x 9 in) | 76.2 x 71.1 x 78.7 cm (30 x 28 x 31 in) | C                       | 208/240 V, 50/60 Hz 7100 W, 30 A | 168 kg (370 Lb.) | No plug, no cable, requires hardwiring |
| BF51664PCOMC-1 | 25.5 L (0.9 cu. ft.) | 500° to 1700 °C | 39.4 x 27.9 x 22.9 cm (15.5 x 11 x 9 in) | 76.2 x 71.1 x 78.7 cm (30 x 28 x 31 in) | C, with RS845 interface | 208/240 V, 50/60 Hz 7100 W, 30 A | 168 kg (370 Lb.) | No plug, no cable, requires hardwiring |

For OTC specify option B before last letter in Cat. No. when ordering, e.g., BF51634PBC-1, or BF51634PBCOMC-1

**Ordering Information:** Required power cord and hardwiring not included

**Warranty\*:** 1 year (parts and labor)

# Thermo Scientific Lindberg/Blue M

## 1700 °C box furnaces

### independent control

Designed for applications which require extremely rapid heat-up rates, with 3500 watt models reaching 1700 °C in as little as 15 minutes

- Available in two popular chamber sizes (see chart)
- Double shell design for lower external cabinet temperature with energy savings
- Moldatherm high temperature ceramic fiber insulation with advanced graded design for fast heat-up and resistance to thermal shock
- Removable panels for easy access to replaceable heating elements and thermocouples
- Moldatherm hearthplate supports load and protects chamber from spills or mishandling
- High volume cooling fans move air between inner and outer chamber to reduce exterior shell temperatures and improve energy efficiency and operator safety

- Long-life type “B” thermocouples with 10’ compensated lead wire and polarized plug for accurate high temperature measurement

#### Smart heating elements

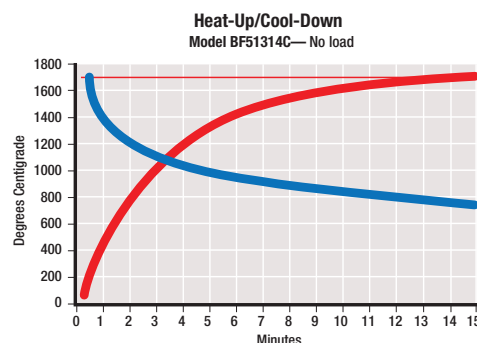
- Molybdenum disilicide elements with unique right angle bend and sidewall mounting reduce maintenance usually associated with element termination and mounting
- Designed for easy replacement without matching resistance values – fast heat-up and recovery with excellent uniformity and energy efficiency
- Increased resistance to thermal shock, ideal for rapid cycling over extended periods

■ Heat-Up ■ Cool-Down  
42% holding power @ 1700 °C  
Chamber uniformity @1700°C ±3% °C nominal.  
Model BF51314C Heat-Up/Cool-Down, No Load.



#### Applications

- Sintering
- Ashing
- Bonding
- Melting
- Metals and ceramic composites



| Cat. No. | Capacity            | Temp. Range     | Control                              | Interior (D x W x H)                      | Exterior (L x W x H)                        | Electrical                          | Shipping Weight | Plug Type                              |
|----------|---------------------|-----------------|--------------------------------------|-------------------------------------------|---------------------------------------------|-------------------------------------|-----------------|----------------------------------------|
| BF51314C | 2.5 L (0.09 cu. ft) | 500° to 1700 °C | Independent, choose from table below | 12.7 x 15.2 x 12.7 cm (5 x 6 x 5 in)      | 40.6 x 40.6 x 35.6 cm (16 x 16 x 14 in)     | 208/540 V, 50/60 Hz, 3500 W, 14.6 A | 39 kg (85 lbs)  | No plug, no cable, requires hardwiring |
| BF51524C | 9 L (0.3 cu. ft)    | 500° to 1700 °C | Independent, choose from table below | 25.4 x 21.6 x 16.5 cm (10 x 8.5 x 6.5 in) | 49.5 x 49.5 x 40 cm (19.5 x 19.5 x 15.8 in) | 208/540 V, 50/60 Hz, 5000 W, 50 A   | 115 kg (53 lbs) | No plug, no cable, requires hardwiring |

**Ordering information:** Control ordered separately for this product. See below and page 7 for details on controllers.

| Cat. No.         | Controller                                      | For Use with | Exterior (L x W x H)                    | Electrical                |
|------------------|-------------------------------------------------|--------------|-----------------------------------------|---------------------------|
| CC59246PCOMC-1   | C, with RS-485 digital communications port      | BF51314C     | 38.1 x 53.3 x 25.4 cm (15 x 21 x 10 in) | 208/240 V, 50/60 Hz, 30 A |
| CC59246PBCOMC-1* | C, OTC with RS-485 digital communications port  | BF51314C     |                                         |                           |
| CC59256PCOMC-1   | C, with RS-485 digital communications port      | BF51524C     |                                         |                           |
| CC59256PBCOMC-1* | C, OTC, with RS-485 digital communications port | BF51524C     |                                         |                           |

\*Please note: Connected furnace requires 2<sup>nd</sup> thermocouple for OTC (installed when ordered together)

**Ordering Information:** Required power cord and hardwiring not included

# Thermo Scientific Lindberg/Blue M mini-mite tube furnaces

Compact, single tube furnace insulated with Moldatherm for quick heatup and cooldown

- Microprocessor-based self-tuning PID control provides optimal thermal processes without overshoot
- Single segment, single setpoint, one ramp to setpoint
- Adjustable high-limit over-temperature protection
- Simultaneous LED display of temperature and setpoint in °C or °F
- Split-hinge design simplifies loading and unloading
- Safety switch disconnects power when furnace is opened
- Type K long-life thermocouple

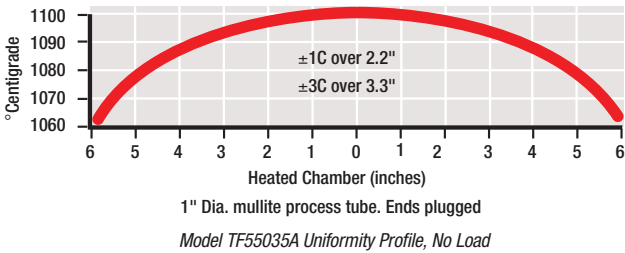
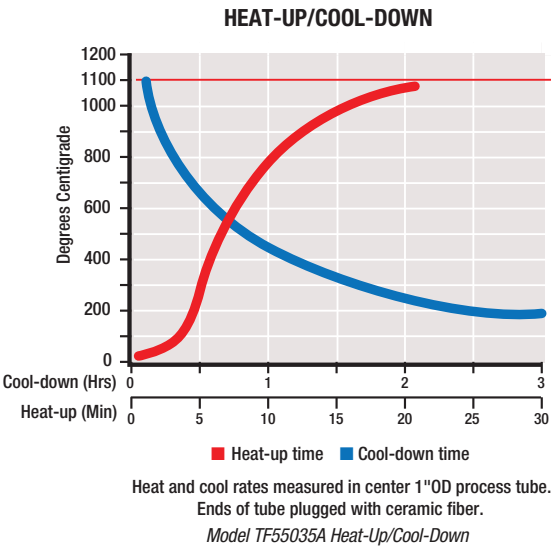
### Control options

- A, B, all models include adjustable high limit over-temperature protection
- See page 7 for details



### Applications

- Pyrolysis
- Thermal Expansion
- Calibration
- Sintering
- Viscosity testing



Actual performance may vary depending on load, chamber size, sample placement, ambient temperature and environmental conditions.

| Cat. No.    | Temperature Range | Heating Zone    | Outside Dia. (Tube) | Overall L x W x H                 | Control | Electrical                          | Shipping Weight | Plug Type |
|-------------|-------------------|-----------------|---------------------|-----------------------------------|---------|-------------------------------------|-----------------|-----------|
| TF55030 A-1 | 100° to 1100 °C   | 30.5 cm (12 in) | 25.4 cm (1 in)      | 28 x 41 x 38 cm (11 x 16 x 15 in) | A, OTC  | 120 V, 50/60 Hz<br>800 W, 6.8 A     | 16 kg (35 Lb.)  |           |
| TF55030C-1  | 100° to 1100 °C   | 30.5 cm (12 in) | 25.4 cm (1 in)      | 28 x 41 x 38 cm (11 x 16 x 15 in) | A, OTC  | 208/240 V, 50/60 Hz<br>800 W, 3.3 A | 16 kg (35 Lb.)  |           |
| TF55035 A-1 | 100° to 1100 °C   | 30.5 cm (12 in) | 25.4 cm (1 in)      | 28 x 41 x 38 cm (11 x 16 x 15 in) | B, OTC  | 120 V, 50/60 Hz<br>800 W, 6.8 A     | 16 kg (35 Lb.)  |           |
| TF55035C-1  | 100° to 1100 °C   | 30.5 cm (12 in) | 25.4 cm (1 in)      | 28 x 41 x 38 cm (11 x 16 x 15 in) | B, OTC  | 208/240 V, 50/60 Hz<br>800 W, 3.3 A | 16 kg (35 Lb.)  |           |

To add RS-485 digital communications port to furnace model, add "COM" before last letter in Cat. No. - e.g., TF55030COMA-1  
208-240V units are available with cord and plug for China: Please add "K" before last letter in Cat. No. - e.g., TF55030KC-1 (Note: No RS-485 port available for this version)

**Ordering information:** Process tubes not included and required. Purchase separately. 1 set of two tube adapters 1" included.  
**Includes:** 9ft. (3m) power cord  
**Warranty\*:** 1 year (parts and labor)

# Thermo Scientific Lindberg/Blue M

## 1100 °C tube furnaces

Three-zone 1100 °C tube furnaces feature Moldatherm ceramic fiber insulation with optimum power consumption

- Ideal for a variety of process tubes including alumina, mullite, quartz and metallic
- Double-shell construction and variable density insulation combine to enhance performance over conventional furnaces
- Durable, high-strength hardware and a variety of control systems offer both convenience and versatility over a range of sophistication

### Performance features

- Three-zone control allows independent temperature control of each zone with programmability\*
- Excellent temperature uniformity
- Fast heat-up and cool-down and quick recovery

### Design features

- Flexible design – can be used for a variety of applications
- Innovative use of venting and insulating air spaces create lower exterior surface temperatures
- Long-life Type K thermocouple
- Accepts an array of tube adapters; largest specified tube size supplied (set of two)
- RS485 digital communications port available as an option; allows controller to be connected to a PC for remote monitoring and control

### Control details

- B – three programmable controllers, one for each zone
- See page 7 for details



### Applications

- Gravimetric analysis
- Sintering
- Quantitative analysis
- Heat treatment

\* Note that maximum temperature difference between center zone and two end zones is +/-50°C

| Cat. No.    | Temperature Range                    | Heated Length   | Heated Zone                      | Process Tube Diameter   | Exterior L x W x H                         | Power Consumption                      | Shipping Weight     | Plug Type                              |
|-------------|--------------------------------------|-----------------|----------------------------------|-------------------------|--------------------------------------------|----------------------------------------|---------------------|----------------------------------------|
| STF55346C-1 | 100° to 1100 °C<br>(212° to 2012 °F) | 61 cm (24 in)   | 15.2/30.4/15.2 cm<br>(6/12/6 in) | 2.5-7.5 cm<br>(1-3 in)  | 43.2 x 88.9 x 53.3 cm<br>(17 x 35 x 21 in) | 208/240 V, 50/60 Hz,<br>3800 W, 16 A   | 102 kg<br>(225 Lb.) | No plug, no cable, requires hardwiring |
| STF55666C-1 | 100° to 1100 °C<br>(212° to 2012 °F) | 91.4 cm (36 in) | 22.3/45.7/22.3 cm<br>(9/18/9 in) | 7.5-15.2 cm<br>(3-6 in) | 55.9 x 137.2 x 66 cm<br>(22 x 54 x 16 in)  | 208/240 V, 50/60 Hz,<br>11,000 W, 46 A | 115 kg<br>(255 Lb.) | No plug, no cable, requires hardwiring |

### Tube adapters

| Cat. No. | Description           | For Use With              |
|----------|-----------------------|---------------------------|
| 59541TA  | 1 in adapter          | STF55346C -1 tube furnace |
| 59543    | 2 in adapter          | STF55346C -1 tube furnace |
| 59545    | 3 in adapter          | STF55346C -1 tube furnace |
| 59555    | 3 in adapter          | STF55666C -1 tube furnace |
| 59556    | 4 in adapter          | STF55666C -1 tube furnace |
| 59557    | 5 in adapter          | STF55666C -1 tube furnace |
| 59558TA  | 6 in adapter          | STF55666C -1 tube furnace |
| 59549    | Blank (solid) adapter | STF55346C -1 tube furnace |
| 59559TA  | Blank (solid) adapter | STF55666C -1 tube furnace |

To add RS-485 digital communications port to furnace model, add "COM" before last letter in Cat. No. - e.g., STF55346COMC-1

**Ordering information:** Required process tube not included. For information on process tubes contact your process tube supplier.

**Includes one set of two tube adapters:** 59545 (STF55346C-2), 59558TA (STF55666C-1)

**Required accessories:** Power cord and hardwiring

**Warranty\*:** 1 year (parts and labor)

# Thermo Scientific Lindberg/Blue M 1200 °C split-hinge tube furnaces and controllers

For ease of observation and operation and configurable for horizontal or vertical use

- Moldatherm LGO heating element modules for excellent radial and linear temperature uniformity and fast heatup and cooldown
- Long-life, energy-efficient elements require little or no maintenance
- Unique cabinet design achieves lower exterior surface temperature
- Heat-reflecting element support assembly creates two highly effective insulating air spaces
- Compact cabinet with high temperature-resistant painted finish
- Accepts interchangeable Moldatherm tube adapters
- Long-life Platinel II thermocouple(s) with 10ft. compensated lead wire and polarized plug

## Three zone models

- Three independent power circuits (zones) with independent thermocouples for control references
- Full adjustment of each zone over entire operating range to 1200 °C
- Center zone uniformity achieved and operating length maximized through adjustable profiling of end zones by independent controller
- Temperature uniformity achieved with independent setpoint of end zones higher or lower than center



## Control consoles

- Fully wired, control choices: A, B, select models with adjustable over-temperature control and/or RS485 data port
- See page 32 for details

## Applications

- Annealing
- Crystal growing
- Calibration
- Heat treatment

| Cat. No.           | Controller<br>(Please order separately) | Temperature Range | Heated Zone     | Exterior L x W x H                       | Tube O.D.                     | Electrical                        | Shipping Weight  | Plug Type                              |
|--------------------|-----------------------------------------|-------------------|-----------------|------------------------------------------|-------------------------------|-----------------------------------|------------------|----------------------------------------|
| <b>Single Zone</b> |                                         |                   |                 |                                          |                               |                                   |                  |                                        |
| HTF55122A          | Independent CC58114A                    | 100° to 1200 °C   | 30.5 cm (12 in) | 33.0 x 53.3 x 30.5 cm (13 x 21 x 12 in)  | 1.9 to 2.54 cm (0.75 to 1 in) | 120 V, 50/60 Hz 1300 W, 11 A      | 28 kg (60 Lb.)   | No plug, no cable, requires hardwiring |
| HTF55322A          | Independent CC58114A                    | 100° to 1200 °C   | 30.5 cm (12 in) | 43.2 x 58.4 x 40.6 cm (17 x 23 x 16 in)  | 2.54 to 7.62 cm (1 to 3 in)   | 120 V, 50/60 Hz 2670 W, 23 A      | 55 kg (120 Lb.)  | No plug, no cable, requires hardwiring |
| HTF55322C          | Independent CC58114C                    | 100° to 1200 °C   | 30.5 cm (12 in) | 43.2 x 58.4 x 40.6 cm (17 x 23 x 16 in)  | 2.54 to 7.62 cm (1 to 3 in)   | 208/240 V, 50/60 Hz 2670 W, 12 A  | 55 kg (120 Lb.)  | No plug, no cable, requires hardwiring |
| HTF55342C          | Independent CC58114C                    | 100° to 1200 °C   | 61.0 cm (24 in) | 43.2 x 88.9 x 40.6 cm (17 x 35 x 16 in)  | 2.54 to 7.62 cm (1 to 3 in)   | 208/240 V, 50/60 Hz 5400 W, 23 A  | 80 kg (175 Lb.)  | No plug, no cable, requires hardwiring |
| <b>Three Zone</b>  |                                         |                   |                 |                                          |                               |                                   |                  |                                        |
| HTF55347C          | Independent CC58434C                    | 100° to 1200 °C   | 61.0 cm (24 in) | 43.2 x 88.9 x 40.6 cm (17 x 35 x 16 in)  | 2.54 to 7.62 cm (1 to 3 in)   | 208/240 V, 50/60 Hz 5100 W, 22 A  | 89 kg (195 Lb.)  | No plug, no cable, requires hardwiring |
| HTF55667C          | Independent CC58434C                    | 100° to 1200 °C   | 91.4 cm (36 in) | 53.3 x 124.5 x 50.8 cm (21 x 49 x 20 in) | 76.2 to 15.24 cm (3 to 6 in)  | 208/240 V, 50/60 Hz 11200 W, 47 A | 141 kg (310 Lb.) | No plug, no cable, requires hardwiring |

## Accessories

| Cat. No. | Description           | For Use with                                                                       |
|----------|-----------------------|------------------------------------------------------------------------------------|
| 59510    | 0.75 in adapter       | HTF55122 tube furnace                                                              |
| 59511    | 1 in adapter          | HTF55122 tube furnace                                                              |
| 59521    | 1 in adapter          | HTF55322, HTF55342, HTF55347 tube furnaces                                         |
| 59522    | 1.5 in adapter        | HTF55322, HTF55342, HTF55347 tube furnaces                                         |
| 59523    | 2 in adapter          | HTF55322, HTF55342, HTF55347 tube furnaces                                         |
| 59524    | 2.5 in adapter        | HTF55322, HTF55342, HTF55347 tube furnaces                                         |
| 59525    | 3 in adapter          | HTF55322, HTF55342, HTF55347 tube furnaces                                         |
| 59535TA  | 3 in adapter          | HTF55667 tube furnace                                                              |
| 59536TA  | 4 in adapter          | HTF55667 tube furnace                                                              |
| 59537TA  | 5 in adapter          | HTF55667 tube furnace                                                              |
| 59538TA  | 6 in adapter          | HTF55667 tube furnace                                                              |
| 59539TA  | Blank (solid) adapter | HTF55667 tube furnace                                                              |
| 59519    | Blank (solid) adapter | HTF55122 tube furnace                                                              |
| 59529    | Blank (solid) adapter | HTF55322, HTF55342, HTF55347 tube furnaces                                         |
| VFS551   | floor stand, vertical | HTF55112A -1 tube furnace                                                          |
| VFS553   | floor stand, vertical | HTF55322A -1, HTF55322C, HTF55342C -1, HTF55667C -1 and HTF55347C -1 tube furnaces |
| VFS556   | floor stand, vertical | HTF55667C -1 tube furnace                                                          |

Tube adapters prevent heat loss and improve temperature uniformity within the furnace chamber by insulating the end vestibules.

### One set of (2) included with furnace:

- Model HTF55122A, (2) 1" dia. adapters; Models HTF55322A/C, (2) 2" dia. adapters
- Model HTF55342C, (2) 3" dia. adapters
- Model HTF55347C, (2) 3" dia. adapters
- Model HTF55667C, (2) 3" dia. adapters

Required process tube not included.

For information on process tubes contact your process tube supplier.

**Ordering information:** Independent digital temperature control module (ordered separately) is available in standard or programmable options (see next page).

**Warranty:** 1 year (parts and labor)

# Thermo Scientific controllers for Lindberg/Blue M 1200 °C tube Furnaces

Temperature accuracy and options for over-temperature control and multiple segment configuration

## Control console

- Fully wired with advanced microprocessor based digital control, solid state power module, ON/OFF circuit breaker and thermocouple input jacks for each zone
- 3 x programmable, single program, multiple segment
- center zone programmable and end zones single setpoint, which mimic the programmed profile of the center zone controller but allow an offset up to 100°C (±50 °C). Offset is digitally displayed

## Control options

- A,B
- For three zone control, there is a choice of:
  - 3 x single setpoint
- See page 7 for details



| Cat. No.      | Description                                                                                                                       | For Use with           | Electrical                |
|---------------|-----------------------------------------------------------------------------------------------------------------------------------|------------------------|---------------------------|
| CC58114A-1    | Single zone, A                                                                                                                    | HTF55122A<br>HTF55322A | 120 V, 50/60 Hz, 30 A     |
| CC58114C-1*   | Single zone, A                                                                                                                    | HTF55122C<br>HTF55342C | 208/240 V, 50/60 Hz, 30 A |
| CC58114BA-1*  | Single zone, A, OTC                                                                                                               | HTF55122A<br>HTF55322A | 120 V, 50/60 Hz, 30 A     |
| CC58114PA-1   | Single zone, B                                                                                                                    | HTF55122A<br>HTF55322A | 120 V, 50/60 Hz, 30 A     |
| CC58114PBA-1  | Single zone, B, OTC                                                                                                               | HTF55122A<br>HTF55322A | 120 V, 50/60 Hz, 30 A     |
| CC58114BC-1*  | Single zone, A, OTC                                                                                                               | HTF55122C<br>HTF55342C | 208/240 V, 50/60 Hz, 30 A |
| CC58114PBC-1  | Single zone, B, OTC                                                                                                               | HTF55122C<br>HTF55342C | 208/240 V, 50/60 Hz, 30 A |
| CC58114PC-1   | Single zone, B                                                                                                                    | HTF55122C<br>HTF55342C | 208/240 V, 50/60 Hz, 30 A |
| CC58434C-1    | Three-zone, center zone: A, end zones: A                                                                                          | HTF55347C<br>HTF55667C | 208/240 V, 50/60 Hz, 70 A |
| CC58434BC-1   | Three-zone, center zone: A, end zones: A, OTC                                                                                     | HTF55347C<br>HTF55667C | 208/240 V, 50/60 Hz, 70 A |
| CC58434PC-1   | Three-zone, center zone: B, end zones: A mimic programmed profile from center zone, but allow offset of up to 100°C (+/-50°C)     | HTF55347C<br>HTF55667C | 208/240 V, 50/60 Hz, 70 A |
| CC58434PBC-1  | Three-zone, Center zone: B, end zones: A mimic programmed profile from center zone, but allow offset of up to 100°C (±50 °C), OTC | HTF55347C<br>HTF55667C | 208/240 V, 50/60 Hz, 70 A |
| CC584343PBC-1 | Three-zone, center zone: B, end zones: B, OTC                                                                                     | HTF55347C<br>HTF55667C | 208/240 V, 50/60 Hz, 70 A |
| CC584343PC-1  | Three-zone, center zone: B, end zones: B                                                                                          | HTF55347C<br>HTF55667C | 208/240 V, 50/60 Hz, 70 A |

\*Not available with RS-585 port

To add RS-485 Digital Communications Port to Furnace model, add "COM" before last letter in Cat. No. – e.g., CC58114COMA-1

**Ordering information:** Required power cord, hardwiring and interconnecting wiring are not included. For information on process tubes contact your process tube supplier.

**Warranty\*:** 1 year (parts and labor)

# Thermo Scientific Lindberg/Blue M 1500 °C general-purpose tube furnaces

Integral temperature control designed for a range of applications which require processing flexibility with fast heatup and recovery

- Energy-efficient Moldatherm insulation increases temperature uniformity, improves energy efficiency and helps to maintain low exterior cabinet temperatures during operation
  - Accommodate 1in., 2in. and 3in. O.D. process tubes (customer supplied)
  - Silicon carbide heating elements positioned above and below tube works with Type "R" thermocouple to stabilize temperature
  - Integral microprocessor-based PID programmable control (proportional, integral, derivative) prevents overshoot
  - Adjustable high limit over-temperature protection
  - Simultaneous LED display of actual temperature vs. setpoint
  - Temperature display in °C or °F
- Control options**
- B, C
  - Optional Over Temperature Control (OTC) available on Multi Program/ Multi Segment model (C)
  - See page 7 for details



## Applications

- Heat treatment
- Sintering
- Annealing
- Atmosphere processing
- Melting
- Fusing

| Cat. No.      | Control | Temperature Range | Heated Zone     | Exterior L x W x H                      | Tube O.D.                   | Electrical                        | Shipping Weight  | Plug Type                              |
|---------------|---------|-------------------|-----------------|-----------------------------------------|-----------------------------|-----------------------------------|------------------|----------------------------------------|
| STF55433C-1   | B       | 500° to 1500 °C   | 30.5 cm (12 in) | 48.3 x 58.4 x 43.2 cm (19 x 23 x 17 in) | 2.54 to 7.62 cm (1 to 3 in) | 208/240 V, 50/60 Hz, 6000 W, 25 A | 123 kg (270 Lb.) | No plug, no cable, requires hardwiring |
| STF55433PC-1  | C       | 500° to 1500 °C   | 30.5 cm (12 in) | 48.3 x 58.4 x 43.2 cm (19 x 23 x 17 in) | 2.54 to 7.62 cm (1 to 3 in) | 208/240 V, 50/60 Hz, 6000 W, 25 A | 123 kg (270 Lb.) | No plug, no cable, requires hardwiring |
| STF55433PBC-1 | C, OTC  | 500° to 1500 °C   | 30.5 cm (12 in) | 48.3 x 58.4 x 43.2 cm (19x23x17 in)     | 2.54 to 7.62 cm (1 to 3 in) | 208/240 V, 50/60 Hz, 6000 W, 25 A | 123 kg (270 Lb.) | No plug, no cable, requires hardwiring |

To add RS-485 digital communications port to furnace model, add "COM" before last letter in Cat. No. – e.g., STF55433COMC-1

## Accessories - Tube adapters

| Cat. No.      | Description   | For Use with                             |
|---------------|---------------|------------------------------------------|
| 7100-2444-070 | 2.5 cm (1 in) | STF55433C-1, STF55433PC-1, STF55433PBC-1 |
| 7100-2444-068 | 5 cm (2 in)   | STF55433C-1, STF55433PC-1, STF55433PBC-1 |
| 7100-2444-069 | 7.6 cm (3 in) | STF55433C-1, STF55433PC-1, STF55433PBC-1 |

Note: Tube adapters sold individually (not as sets).

**Ordering information:** Required power cord, hardwiring and interconnecting wiring are not included. For information on process tubes contact your process tube supplier.

**Includes:** 1 set of two 2" tube adapters

**Warranty:** 1 year (parts and labor)

# Thermo Scientific Lindberg/Blue M 1700 °C tube furnaces

Rapid heat-up, recovery and cooldown

High temperature tube furnaces achieve excellent temperature uniformity at 1700 °C with rapid heat-up, recovery and cool-down. The independent digital temperature control (ordered separately) has multiple programmable segments useful for a wide range of applications.

- Feature heating elements with unique right-angle bend and sidewall mounting to deliver exceptional energy release, reduced thermal process cycle time, and cost savings through quicker throughput and energy efficiency
- Moldatherm graduated-density insulation provides safety, performance and outstanding radial and linear temperature uniformity with resistance to thermal shock
- Heating elements tolerate rapid cycling over extended periods; elements are easily replaceable without the need to match resistance values
- Type “B” thermocouples assure accurate temperature measurement and long thermocouple life; 10 ft. compensated lead wire with polarized plug included
- Moldatherm graduated density insulation adds to safety and performance by forming enhanced insulation protection between the high-temperature chamber and exterior cabinet surface
- Double shell construction and convection cooling design reduces exterior surface temperature
- Removable louvered panels provide easier access to heating elements and thermocouple
- Temperature range: 500 °C to 1700 °C



## Control options

- C: Order independent control separately, (see below)
- Adjustable over-temperature control and/or RS845 data port available on select models
- See page 7 for details on controllers

## Applications

- Heat treatment
- Sintering
- Annealing
- Atmosphere processing
- Crystal growing

| Cat. No.  | Temp. Range and Control     | Heated Zone    | Exterior L x W x H                      | Tube O.D.     | Electrical                              | Shipping Weight | Plug Type                              |
|-----------|-----------------------------|----------------|-----------------------------------------|---------------|-----------------------------------------|-----------------|----------------------------------------|
| STF54434C | 500° to 1700 °C Independent | 30.5cm (12 in) | 40.6 x 55.9 x 48.3 cm (16 x 22 x 19 in) | 7.6 cm (3 in) | 208/240 V, 50/60 Hz<br>5000 W, 50 A     | 43 kg (95 Lb.)  | No plug, no cable, requires hardwiring |
| STF54454C | 500° to 1700 °C Independent | 61.0cm (24 in) | 40.6 x 86.4 x 48.3 cm (16 x 34 x 19 in) | 7.6 cm (3 in) | 208/240 V, 50/60 Hz<br>10,000 W, 41.7 A | 75 kg (165 Lb.) | No plug, no cable, requires hardwiring |

| Cat. No.         | Control (please order separately) | Electrical              | For Use with |
|------------------|-----------------------------------|-------------------------|--------------|
| CC59256PCOMC-1   | C, RS485 data port                | 208/240V 50/60 Hz; 30 A | STF54434C    |
| CC59256PBCOMC-1  | C, OTC, RS485 data port           | 208/240V 50/60 Hz; 30 A | STF54434C    |
| CC59256PCM2CTC-1 | C, RS485 data port                | 208/240V 50/60 Hz; 60 A | STF54454C    |

Required power cord, hardwiring and interconnecting wiring are not included.

**Warranty\*:** 1 year (parts and labor)

## Accessories - vestibules/sleeves

| Cat. No.      | Description    | For Use with           |
|---------------|----------------|------------------------|
| 7219-2134-001 | 1 in sleeve    | STF54434C tube furnace |
| 7219-2134-002 | 2 in sleeve    | STF54434C tube furnace |
| 7219-2134-003 | 3 in sleeve    | STF54434C tube furnace |
| 7219-2134-011 | 3 in sleeve    | STF54454C tube furnace |
| 7219-2134-012 | 2 in sleeve    | STF54454C tube furnace |
| 7219-2134-013 | 1 in sleeve    | STF54454C tube furnace |
| 7219-2147-001 | 1 in vestibule | STF54434C tube furnace |
| 7219-2147-002 | 2 in vestibule | STF54434C tube furnace |
| 7219-2147-011 | 3 in vestibule | STF54454C tube furnace |
| 7219-2147-003 | 3 in vestibule | STF54434C tube furnace |
| 7219-2147-012 | 2 in vestibule | STF54454C tube furnace |
| 7219-2147-013 | 1 in vestibule | STF54454C tube furnace |

- Optional Moldatherm vestibules permit operation with 1", 2" and 3" O.D. process tubes for increased versatility. Two vestibules are required for each furnace.
- Tube Sleeves may be placed over customer supplied process tubes to reduce thermal shock to the process tube. All tube sleeves are 3" long

**Includes:** 1 set of two 3" vestibules and sleeves.

**Required Accessories:** Independent digital temperature control module, available separately. Required power cord, hardwiring and interconnecting wiring are not included. For information on process tubes contact your process tube supplier.

**Warranty\*:** 1 year (parts and labor)