

High Temperature Bottom Loading Furnace - BLF

General Information

BLF bottom loading furnaces use an electrically operated elevator hearth, which as it rises into the furnace chamber, lifts the load into the heated zone.

This furnace provides the following advantages: easy loading of samples and uniform heating achieved by locating elements in all six side walls of the chamber.

The 1600 °C is ideal for sintering of zirconia dental crowns and frameworks. The silicon carbide heating elements will not cause discolouration of the zirconia.



Standard features

- 1600°C, 1700°C & 1800°C maximum operating temperature
- 3 to 21 litre capacities
- Programmable 3216P1 controller
- Ideal for: sintering high performance ceramics, melting glass under high temperature or working with modified atmospheres
- Rapid heating & cooling cycles can be achieved through raising & lowering the hearth
- Electrically operated elevator hearth protects operator from the chamber's radiant heat
- Hearth cage with safety interlock
- Excellent temperature uniformity as a result of the hexagonal chamber
- Overtemperature protection to protect load or furnace during unattended operation
- 1600 °C model heated by silicon carbide elements
- 1700 °C & 1800 °C models heated by molybdenum disilicide elements

Options (specify these at time of order)

- A range of sophisticated digital controllers, multi-segment programmers and data loggers is available. These can be fitted with RS232, RS485 or Ethernet communications
- Compatible crucibles
- Modified hearth for the introduction of gases into an inverted crucible (not gas tight)
- Radiation shutter
- Customised options including: adaptation to introduce thermocouple or stirrer through the chamber roof and rotating hearth
- Plasma sprayed alumina protection tube to protect heating elements from sample contamination

Technical Specifications

High Temperature Bottom Loading Furnace - BLF

BLF 16/3

| | |
|--|------------------|
| Max temp (°C) | 1600 |
| Configuration | Bench-top |
| Volume (litres) | 3 |
| Heat-up time (mins) | 80 |
| Dimensions: Internal H x Diameter (mm) | 190 x 150 |
| Dimensions: External H x W x D (mm) | 1025 x 750 x 530 |
| Max power (W) | 6000 |
| Thermocouple type | R |
| Weight (kg) | 155 |

BLF 17/3

| | |
|--|-----------------|
| Max temp (°C) | 1700 |
| Configuration | Bench-top |
| Volume (litres) | 3 |
| Heat-up time (mins) | 80 |
| Dimensions: Internal H x Diameter (mm) | 190 x 150 |
| Dimensions: External H x W x D (mm) | 975 x 750 x 530 |
| Max power (W) | 4125 |
| Thermocouple type | B |
| Weight (kg) | 155 |

BLF 17/8

| | |
|--|-------------------|
| Max temp (°C) | 1700 |
| Configuration | Floor-standing |
| Volume (litres) | 8 |
| Heat-up time (mins) | 80 |
| Dimensions: Internal H x Diameter (mm) | 250 x 200 |
| Dimensions: External H x W x D (mm) | 1950 x 1360 x 800 |
| Max power (W) | 8130 |
| Thermocouple type | B |
| Weight (kg) | 424 |

High Temperature Bottom Loading Furnace - BLF

BLF 17/21

| | |
|--|-------------------|
| Max temp (°C) | 1700 |
| Configuration | Floor-standing |
| Volume (litres) | 21 |
| Heat-up time (mins) | 180 |
| Dimensions: Internal H x Diameter (mm) | 300 x 300 |
| Dimensions: External H x W x D (mm) | 1850 x 1250 x 900 |
| Max power (W) | 12000 |
| Thermocouple type | Pt20%Rh/Pt40%Rh |
| Weight (kg) | 600 |

BLF 18/3

| | |
|--|-----------------|
| Max temp (°C) | 1800 |
| Configuration | Bench-top |
| Volume (litres) | 3 |
| Heat-up time (mins) | 112 |
| Dimensions: Internal H x Diameter (mm) | 190 x 150 |
| Dimensions: External H x W x D (mm) | 975 x 750 x 530 |
| Max power (W) | 4775 |
| Thermocouple type | 2 |
| Weight (kg) | 155 |

BLF 18/8

| | |
|--|-------------------|
| Max temp (°C) | 1800 |
| Configuration | Floor-standing |
| Volume (litres) | 8 |
| Heat-up time (mins) | 110 |
| Dimensions: Internal H x Diameter (mm) | 250 x 200 |
| Dimensions: External H x W x D (mm) | 1950 x 1360 x 800 |
| Max power (W) | 7010 |
| Thermocouple type | Pt20%Rh/Pt40%Rh |
| Weight (kg) | 424 |

High Temperature Bottom Loading Furnace - BLF

BLF 18/21

| | |
|--|-------------------|
| Max temp (°C) | 1800 |
| Configuration | Floor-standing |
| Volume (litres) | 21 |
| Heat-up time (mins) | 220 |
| Dimensions: Internal H x Diameter (mm) | 300 x 300 |
| Dimensions: External H x W x D (mm) | 1850 x 1250 x 900 |
| Max power (W) | 12000 |
| Thermocouple type | Pt20%Rh/Pt40%Rh |
| Weight (kg) | 600 |

Please note:

- Maximum continuous operating temperature is 100°C below maximum temperature
- Heat up rate is measured to 100°C below maximum, using an empty hearth
- For 1700 °C and 1800 °C models, a chemical reaction between the heating elements and zirconia may discolour the zirconia. Processing advice or alternative elements are available; please enquire.