1800 SERIES

RAPID TEMP LAB FURNACES 1800°C (3272°F)

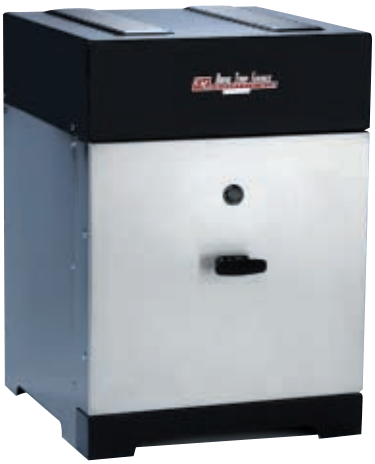
The most reliable and widely used lab furnaces available today, the CM 1800 Series Rapid Temp Lab Furnaces offer rapid heating and cooling rates, uniform temperature control, compactness, and sturdy construction for long term use. Configurations are available for virtually any requirement with four basic configurations including front and bottom loading box furnaces, horizontal and vertical tube furnaces. Gas sealed systems, thermal cycling systems, as well as custom designs and specialized control systems are offered.

The 1800 Series furnaces incorporate a graded insulation package using high purity alumina fiber. Due to the low thermal conductivity and light weight of this insulation fast thermal cycling is possible. These furnaces will not hot spot at high temperatures and are resistant to degradation. The double wall shell construction allows the fan cooling feature to maintain reduced skin temperatures while keeping the element terminals cool.

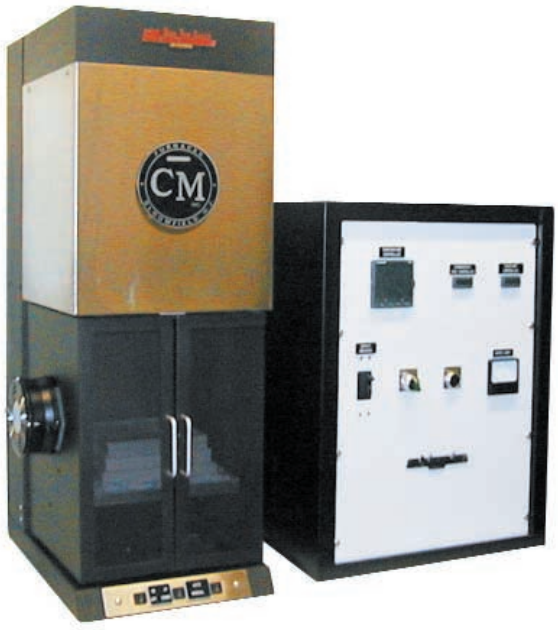
Kanthal Super 1900 molydisilicide heating elements are used, offering fast heat up rates and long life in oxidizing atmospheres. These elements are not subject to normal watt loading limitations and are not affected by thermal shock, therefore heat-up rates are only limited by the capability of the power supply. The electrical resistivity of these elements remains constant over long periods without aging so that individual elements can be replaced without having to match resistance values.

The Rapid Temp Control and Power Supply console includes all components required for immediate installation and operation. Proper control of molydisilicide requires a phase angle-fire SCR, step-down transformer and independent overtemperature instrumentation. Standard control instrumentation includes a multiple segment programmable microprocessor such as Honeywell or Eurotherm used in conjunction with a "Land-Jewell" thermocouple (platinum 40% rhodium versus platinum 20% rhodium).

In addition to offering standard atmosphere options with the tube furnaces, CM also offers a gas-sealed option on our box furnaces for inert atmosphere operation. (The use of inert gas with molydisilicide elements reduces the maximum operating temperature by 100°C.)



Model 1807 Front Loader

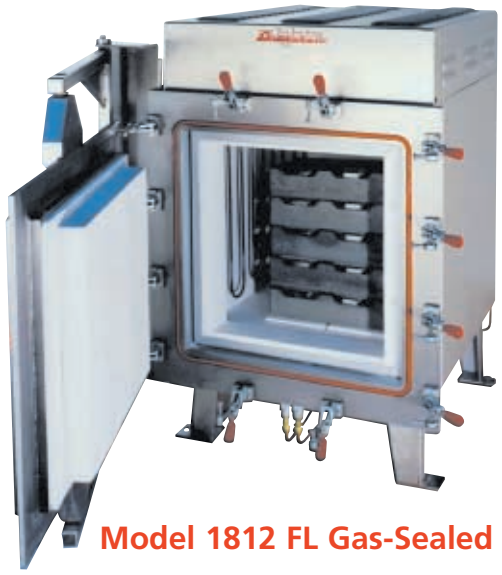


Model 1807 Bottom Loader

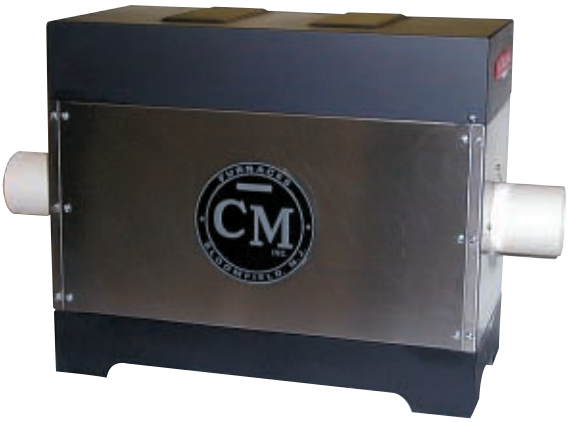
USED FOR THESE AND OTHER APPLICATIONS:

- Ceramics
- Glass
- Powders
- Laboratory Research
- Materials Testing
- Thermal Cycling
- Sintering
- Annealing
- Firing

SPECIFICATIONS



Model 1812 FL Gas-Sealed



Model 1830-12 Horizontal Tube

FULL SYSTEM INCLUDES:

- Double Shell Construction
- High Purity Alumina Fiber Insulation
- Kanthal Super 1900 Molydisilicide Heating Elements
- Cubed Chamber for Best Uniformity
- Fan Cooling of Element Terminals
- Type "Land-Jewell" Thermocouples
- Independent Overtemperature Thermocouple and Instrument
- Programmable Ramp and Soak Control
- Phase Angle-Fire SCR Power Controller
- Step Down Transformer
- Ammeter and Voltmeter
- Separate Controls/Power Supply Console
- 10' Interconnecting Wire and T/C Extension Leads

CONFIGURATIONS:

- Front Loading Box Furnace (FL)
- Bottom Loading Box Furnace (BL)
- Thermal Cycling Box Furnace
- Gas-Sealed Box Furnace (FL)
- Horizontal Tube Furnace (HTF)
- Vertical Tube Furnace (VTF)
- Custom Materials Testing Configurations

MODEL	1807 FL/BL	1812 FL/BL	1830-12 HTF	1830-10 VTF
Chamber WxHxD IDxL	9x8.5x12	13x11x12	3x12	3x10
Door Opening WxH (FL)	6.25x8.5	10.5x10	3 ID	3 ID
Outside Dim. WxHxD (FL)	18x26x24	22.5x29x24	24x27x24	22x26x21
Heatup Rate Minutes	180	180	N/A	N/A
Furnace Weight (LBS)	110	130	105	110
Number of Elements	6	6	8	6
Power Supply Dimensions WxHxD	22.5x29.5x18	22.5x40x18	22.5x29.5x18	22.5x29.5x18
Power Supply Weight (LBS)	175	230	175	175
Power Requirement (Max) KVA	7.5	10	6.5	10
Power Requirement (Nominal) KVA	3.5	4.3	3.9	4.8
Standard Voltage Requirement	208/240 1-Phase	208/240 1-Phase	208/240 1-Phase	208/240 1-Phase
Service Entrance Current Requirement at 208 Volts	60	70	45	60

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