2800 SERIES

# HIGH TEMPERATURE INDUSTRIAL BATCH FURNACES TO 1550°C (2822°F)

The CM 2800 Series furnaces are built for the industrial environment with rugged floor mount designs and heavy-duty construction. Both front loading and bottom loading configurations are offered. These furnaces utilize lightweight alumina fiber insulation for fast response times and energy efficiency. Silicon carbide heating elements provide rapid heat and cooling rates. The furnace is designed to operate continuously at 1550°C (2822°F) in air.

All CM fiber lined furnaces are constructed for production use. This includes heavy gauge steel for the case material and structural steel for the frame. Hot surfaces are shielded with removable panels for reasonable skin temperatures while allowing quick access for maintenance purposes.

Front loading furnaces contain all controls and power components within the framework of the furnace. A separate power console is provided for the bottom loading units. Proper power control of silicon carbide elements requires a phase angle-fire SCR and step-down transformer. The standard control system includes a microprocessor based programmable controller, independent overtemperature control, transformers as required and type "S" thermocouples. The entire package is supplied complete and ready for immediate installation.

The 2800 Series is available with a metallic retort for applications requiring atmosphere control. CM Furnaces specializes in inert, oxidizing and reducing atmosphere operation. When operating with a retort the maximum continuous operating temperature is limited to 1150°C (2100°F). CM Furnaces' Hydrogen Safety System is used on hydrogen and combustible atmosphere applications.

## USED FOR THESE AND OTHER APPLICATIONS:

- Ceramics
- Glass
- Metals
- Debinding/Delube
- Pre-Sintering
- Sintering
- Annealing
- Firing
- Co-Firing
- Tempering
- Melting
- Heat Treating

# SPECIFICATIONS

## STANDARD SYSTEM INCLUDES:

- Front Loading Configuration
- Heavy Gauge Welded and Reinforced Steel Frame
- Silicon Carbide Heating Elements
- Block Graded Alumina Fiber Insulation Package
- Exterior Heat Shield Panels
- Microprocessor Based Programmable Temperature Controller
- Phase Angle-Fire SCR Power Controller
- Step-Down Transformer
- Independent Overtemperature Instrumentation
- Type "S" Thermocouples

## OPTIONAL FEATURES INCLUDE:

- Bottom Loading Configuration
- Auto Open/Close Exhaust Chimney
- Multiple Zone Control
- Metallic Retort for Inert, Oxidizing or Reducing Atmosphere Control
- Gas Blending Panels
- Data Recording Equipment

*TYPICAL SIZES (FOR REFERENCE ONLY, ADDITIONAL SIZES AVAILABLE)*

| USABLE CHAMBER WXHXD (in) | USABLE CHAMBER WXHXD (mm) | INSULATION | ELEMENTS | STANDARD ATMOSPHERE | MAXIMUM TEMP. IN AIR | ATMOSPHERE WITH RETORT | MAXIMUM TEMP. IN RETORT |
|---|---|---|---|---|---|---|---|
| 15 x 15 x 15 | 381 x 381 x 381 | Alumina Fiber | Silicon Carbide | Air | 1550°C (2822°F) | Inert, Oxidizing or Reducing | 1150°C (2100°F) |
| 20 x 20 x 20 | 508 x 508 x 508 | Alumina Fiber | Silicon Carbide | Air | 1550°C (2822°F) | Inert, Oxidizing or Reducing | 1150°C (2100°F) |
| 24 x 24 x 24 | 609 x 609 x 609 | Alumina Fiber | Silicon Carbide | Air | 1550°C (2822°F) | Inert, Oxidizing or Reducing | 1150°C (2100°F) |
| 24 x 24 x 36 | 609 x 609 x 914 | Alumina Fiber | Silicon Carbide | Air | 1550°C (2822°F) | Inert, Oxidizing or Reducing | 1150°C (2100°F) |
| 36 x 36 x 36 | 914 x 914 x 914 | Alumina Fiber | Silicon Carbide | Air | 1550°C (2822°F) | Inert, Oxidizing or Reducing | 1150°C (2100°F) |
| 36 x 36 x 48 | 914 x 914 x 1219 | Alumina Fiber | Silicon Carbide | Air | 1550°C (2822°F) | Inert, Oxidizing or Reducing | 1150°C (2100°F) |
| 48 x 48 x 48 | 1219 x 1219 x 1219 | Alumina Fiber | Silicon Carbide | Air | 1550°C (2822°F) | Inert, Oxidizing or Reducing | 1150°C (2100°F) |
| 48 x 48 x 60 | 1219 x 1219 x 1524 | Alumina Fiber | Silicon Carbide | Air | 1550°C (2822°F) | Inert, Oxidizing or Reducing | 1150°C (2100°F) |

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