2300 SERIES

# HIGH TEMPERATURE INDUSTRIAL BATCH FURNACES TO 1300°C (2372°F)

The CM 2300 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. The electric heating elements are made of either Kanthal A1 or APM ribbon/rod independent of the insulation package. The furnace is designed to operate continuously at 1300°C (2372°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 the ribbon elements requires zero-crossover SSRs or SCRs depending on the overall power rating. The standard control system includes a microprocessor based programmable controller, independent overtemperature control, transformers as required and type "R" thermocouples. The entire package is supplied complete and ready for immediate installation.

The 2300 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
- Sintering
- Annealing
- Firing
- Co-Firing
- Tempering
- Heat Treating

# SPECIFICATIONS

## STANDARD SYSTEM INCLUDES:

- Front Loading Configuration
- Heavy Gauge Welded and Reinforced Steel Frame
- Kanthal A1 or APM Ribbon/Rod Elements
- Block Graded Alumina Fiber Insulation Package
- Exterior Heat Shield Panels
- Microprocessor Based Programmable Temperature Controller
- Zero Cross-over SSR or SSR Power Controller
- Independent Overtemperature Instrumentation
- Type "R" 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 | Kanthal A1 | Air | 1300°C (2372°F) | Inert, Oxidizing or Reducing | 1150°C (2100°F) |
| 20 x 20 x 20 | 508 x 508 x 508 | Alumina Fiber | Kanthal A1 | Air | 1300°C (2372°F) | Inert, Oxidizing or Reducing | 1150°C (2100°F) |
| 24 x 24 x 24 | 609 x 609 x 609 | Alumina Fiber | Kanthal APM | Air | 1300°C (2372°F) | Inert, Oxidizing or Reducing | 1150°C (2100°F) |
| 24 x 24 x 36 | 609 x 609 x 914 | Alumina Fiber | Kanthal APM | Air | 1300°C (2372°F) | Inert, Oxidizing or Reducing | 1150°C (2100°F) |
| 36 x 36 x 36 | 914 x 914 x 914 | Alumina Fiber | Kanthal APM | Air | 1300°C (2372°F) | Inert, Oxidizing or Reducing | 1150°C (2100°F) |
| 36 x 36 x 48 | 914 x 914 x 1219 | Alumina Fiber | Kanthal APM | Air | 1300°C (2372°F) | Inert, Oxidizing or Reducing | 1150°C (2100°F) |
| 48 x 48 x 48 | 1219 x 1219 x 1219 | Alumina Fiber | Kanthal APM | Air | 1300°C (2372°F) | Inert, Oxidizing or Reducing | 1150°C (2100°F) |
| 48 x 48 x 60 | 1219 x 1219 x 1524 | Alumina Fiber | Kanthal APM | Air | 1300°C (2372°F) | Inert, Oxidizing or Reducing | 1150°C (2100°F) |

103 Dewey Street • Bloomfield, NJ 07003 • Tel: 973.338.6500 • Fax: 973.338.1625
www.cmfurnaces.com • email: info@cmfurnaces.com