3100 SERIES

HIGH TEMPERATURE INDUSTRIAL BATCH FURNACES TO 1700°C (3100°F)

The CM 3100 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 alumina brick and fiber insulation. Designed for strength and enegry efficiency. Kanthal molydisilicide heating elements provide rapid heat and cooling rates. The furnace is designed to operate continuously at 1700°C (3100°F) in air.

All CM high temperature box 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 temperature 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 molydisilicide 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 land - jewel thermocouples. The entire package is supplied complete and ready for immediate installation.

The 3100 Series is available in a gas-sealed configuration for applications requiring inert atmosphere control. This includes a seam-welded case with a water-cooled atmosphere seal on the door. When operating with molydisilicide elements in an inert atmosphere the maximum continuous operating temperature is limited to 1600°C (2900°F).

USED FOR THESE AND OTHER APPLICATIONS:

- Ceramics
- Glass
- Debinding
- Pre-Sintering
- Sintering
- Annealing
- Firing
- Co-Firing
- Melting

SPECIFICATIONS

STANDARD SYSTEM INCLUDES:

- Front Loading Configuration
- Heavy Gauge Welded and Reinforced Steel Frame
- Kanthal Molydisilicide Heating Elements
- Block Graded Alumina Brick and 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 "B" Thermocouples

OPTIONAL FEATURES INCLUDE:

- Bottom Loading Configuration
- Auto Open/Close Exhaust Chimney
- Multiple Zone Control
- Gas-Sealed Configuration for Inert 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	GAS-SEALED ATMOSPHERE	MAXIMUM TEMP IN. INERT ATMOSPHERE
15 x 15 x 15	381 x 381 x 381	Alumina Fiber	Kanthal Molydisilicide	Air	1700°C (3100°F)	Inert (Nitrogen, Argon, etc.)	1600°C (2900°F)
20 x 20 x 20	508 x 508 x 508	Alumina Fiber	Kanthal Molydisilicide	Air	1700°C (3100°F)	Inert (Nitrogen, Argon, etc.)	1600°C (2900°F)
24 x 24 x 24	609 x 609 x 609	Alumina Fiber	Kanthal Molydisilicide	Air	1700°C (3100°F)	Inert (Nitrogen, Argon, etc.)	1600°C (2900°F)
24 x 24 x 36	609 x 609 x 914	Alumina Fiber	Kanthal Molydisilicide	Air	1700°C (3100°F)	Inert (Nitrogen, Argon, etc.)	1600°C (2900°F)
36 x 36 x 36	914 x 914 x 914	Alumina Fiber	Kanthal Molydisilicide	Air	1700°C (3100°F)	Inert (Nitrogen, Argon, etc.)	1600°C (2900°F)
36 x 36 x 48	914 x 914 x 1219	Alumina Fiber	Kanthal Molydisilicide	Air	1700°C (3100°F)	Inert (Nitrogen, Argon, etc.)	1600°C (2900°F)
48 x 48 x 48	1219 x 1219 x 1219	Alumina Fiber	Kanthal Molydisilicide	Air	1700°C (3100°F)	Inert (Nitrogen, Argon, etc.)	1600°C (2900°F)
48 x 48 x 60	1219 x 1219 x 1524	Alumina Fiber	Kanthal Molydisilicide	Air	1700°C (3100°F)	Inert (Nitrogen, Argon, etc.)	1600°C (2900°F)

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