

## 500 SERIES

# CONTINUOUS ATMOSPHERE FURNACES TO 1200°C (2200°F) AND 1550°C (2822°F)

The CM 500 Series include two distinct types of continuous furnaces designed for specific applications. The "humpback" is a belt furnace specially designed for low dew point and bright firing applications. This system has the heated section of the furnace raised higher than the entrance and exit ends and is designed exclusively for a reducing atmosphere. The 500 Series also includes pusher furnaces that are ideal for phosphor processing among other applications. The pushers are typically automated systems and are available in single or double configurations depending on throughput requirements. These furnaces can be used for either inert or inert/reducing atmosphere applications.

The furnaces are constructed of heavy gauge steel that is welded and reinforced. All power components and controls are located on the main frame assembly. Both types of furnaces in the 500 Series utilize silicon carbide rod elements above and below the work flow. A combination high alumina

fiber and brick insulation package provides for efficient operation. Complete atmosphere controls and safety systems are incorporated.

Controls include a microprocessor based temperature controller, a phase angle-fire SCR power controller, and independent overtemperature instrumentation. Thermocouple type depends on process requirements.

The CM 500 Series "humpback" belt furnaces employ nitrogen end curtains with hydrogen burn-offs on either end of the furnace. A nickel alloy muffle is used in the heated section. The belt drive system utilizes variable speed solid state SCR power control. Rollers and drive components are designed to minimize friction and maintain belt alignment.

The continuous pusher furnaces typically include atmosphere doors, entrance section, heated section and a cooling section. When automated, the pusher plates (carrier trays) form a train and are pushed through the furnace by an external stoker.

### USED FOR THESE AND OTHER APPLICATIONS:

- Lighting (Phosphor processing)
- Powder Metals
- Refractory Metals
- Bright Firing
- Annealing
- Brazing
- Sintering
- Heat Treating

Photo to Come

# SPECIFICATIONS

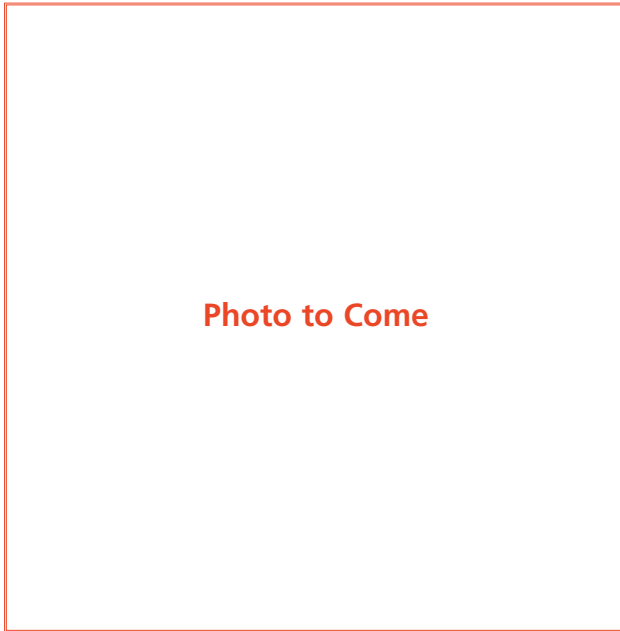


Photo to Come

## FULL SYSTEMS INCLUDE:

- Total system packaged in common frame including power and control components
- Heavy Gauge Welded and Reinforced Steel Frame
- Silicon Carbide Heating Elements
- Combination Fiber and Brick Insulation Package
- Water-Jacketed Cooling Section
- Microprocessor Based Set Point Temperature Control
- Phase Angle-Fire SCR Power Controller
- Independent Overtemperature Instrumentation
- Atmosphere Control and Safety System

## OPTIONAL FEATURES:

- Turn-key Automation (pusher)
- Multiple Zone Control
- Data Recording Equipment

### TYPICAL SIZES (FOR REFERENCE ONLY)

MODEL NUMBER	FURNACE TYPE	HEATED OPENING H x W	HEATED LENGTH	NUMBER OF ZONES	MAXIMUM TEMPERATURE	ATMOSPHERES
537-36-3Z	Humpback Belt	3" x 7"	36"	3	1200°C (2200°F)	Reducing
546-48-3Z	Humpback Belt	4" x 6"	48"	3	1200°C (2200°F)	Reducing
568-60-3Z	Humpback Belt	6" x 8"	60"	3	1200°C (2200°F)	Reducing
5612-72-3Z	Humpback Belt	6" x 12"	72"	3	1200°C (2200°F)	Reducing
51212-144-4Z	Pusher	12" x 12"	144"	4	1550°C (2822°F)	Reducing
51212-240-6Z	Pusher	12" x 12"	240"	6	1550°C (2822°F)	Inert Reducing
51230-240-6Z	Double Track Pusher	12" x 30"	240"	6	1550°C (2822°F)	Inert Reducing
51230-360-9Z	Double Track Pusher	12" x 30"	360"	9	1550°C (2822°F)	Inert Reducing

Notes: Other configurations available upon request. Round muffles are also offered in addition to the D-Shaped cross-sections listed.