

# DYNARAD

INNOVATIVE ENGINEERING

*Industry's First Choice For  
High Performance Melting Equipment*



# Has Proven Performers ...

## STANDARD FEATURES



**DYNARAD® FURNACES  
ARE THE MOST EFFICIENT  
MELTERS AVAILABLE TODAY!  
PROVEN IN MELT TEST AFTER MELT TEST**

## “THERMOS BOTTLE”

### MULTI-LAYERED LINING

Only Dynarad® furnaces use a *computer optimized, multi-layered lining system* to cut heat losses like a thermos bottle. Old fashioned monolithic refractories have been eliminated to boost furnace efficiency and save energy dollars.

## LONG LIFE HEATING ELEMENTS

Dynarad® has produced more than *ten thousand* high temperature, low watt density heating elements since 1983, *with most still in service today!* The durability and performance of Dynarad® heating elements has never been equaled, an enviable record that enables Dynarad® to back its elements with the industry's best warranty.

## DAMAGE RESISTANT

### ELEMENT WIRING SYSTEM

All heating elements in Dynarad® furnaces are *independently wired and fused* instead of series-connected like conventional arrays. If a Dynarad® element sustains damage, all others remain in operation! This common sense design gives Dynarad® furnaces the highest up-time reliability in the industry.

## COMPACT

Dynarad® furnaces pack a lot of melting power per pound of capacity and require much less expensive floor space than reverberatory or similar type furnaces.

## FLEXIBILITY

Crucibles in Dynarad® furnaces are easily emptied, alloys are quickly changed, and metal temperatures can be rapidly adjusted. The Power Level Selector instantly converts a melter to a superheater to a highly efficient holder and back again.

# To Fit Your Needs ...

## MS SERIES FURNACES

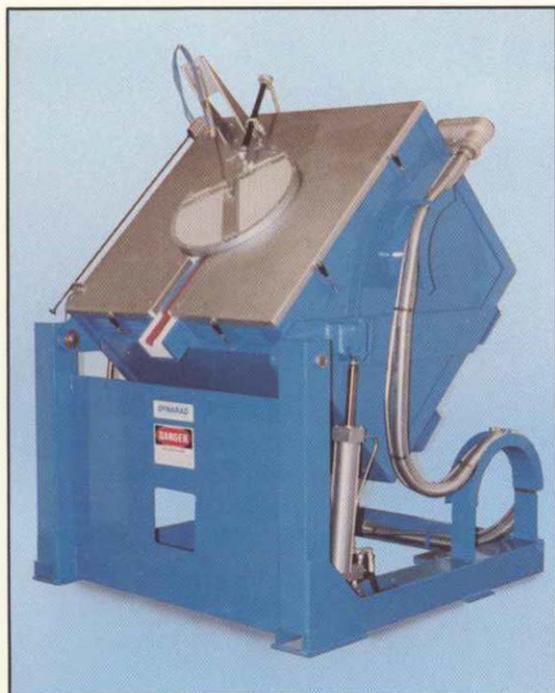
### MS SERIES FURNACES FOR MELTING ALUMINUM

MODEL	MELT RATE*	CAPACITY	WIDTH	HEIGHT
MS-175	175 lbs/hr	325 lbs	43"	41"
MS-260	260 lbs/hr	550 lbs	46"	41"
MS-260W	260 lbs/hr	625 lbs	46"	41"
MS-400	400 lbs/hr	700 lbs	53"	45"
MS-400W	400 lbs/hr	1,000 lbs	53"	45"
MS-500	500 lbs/hr	1,200 lbs	60"	45"
MS-500W	500 lbs/hr	1,700 lbs	60"	45"
MS-600	600 lbs/hr	2,600 lbs	67"	45"

\*Rates are based on continuous melting at full power in a clean, hot crucible at 1300°F with cover closed. Ask about melt rates for magnesium, zinc, lead, and aluminum at other tapping temperatures.



Dynarad® Model MS-600 with pneumatic "Butterfly" lid



Dynarad® Model MT-400 Tilting Furnace

## MT SERIES FURNACES

### RUGGED MT SERIES TILTING FURNACES

Dynarad's MT Series tilting furnaces feature a rugged support base with splatter guard, heavily reinforced furnace frame with full internal support for distortion free tilting to prevent crucible shifting and cracking, and double acting hydraulic cylinders with integral safety valves to prevent uncontrolled return if hydraulic lines or hoses are damaged. Unique "on-demand" hydraulic power package starts and stops automatically, eliminating endless running and oil overheating.

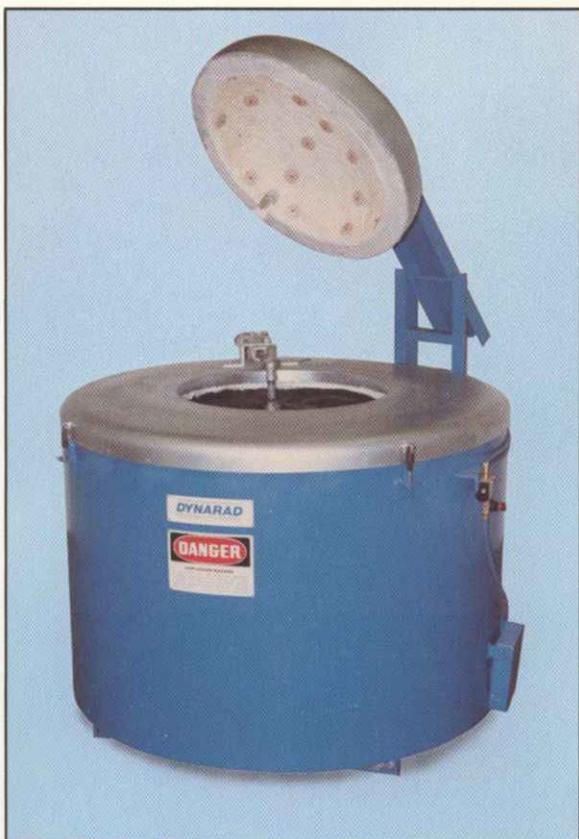
## EASY INTERNAL ACCESS

The crucible and heating elements are easily accessible by removing just the furnace cover. The self supporting elements are installed vertically so side panel access is not required. Thus the furnace can be positioned close to casting equipment or other furnaces or pit mounted without sacrificing internal accessibility.

## RELIABLE POWER CONTROL

Because Dynarad's unique heating element design requires transformers or complicated power supplies, Dynarad's control panel is compact yet rugged and reliable. It is easily installed and serviced by any plant electrician. The tight free integrity of the NEMA 12 enclosure is maintained. Fans or vents are needed to cool panel components.

# To Fit Your Budget...



Pneumatic dished head crucible cover can be closed on protruding charge material in this Model EC-950



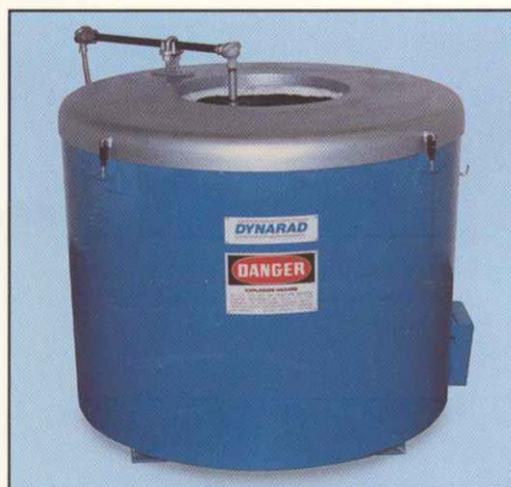
MSI/EC Series Control Panel

## EC SERIES FURNACES

### EC SERIES FURNACES FOR MELTING ALUMINUM

MODEL	MELT RATE*	CAPACITY	WIDTH	HEIGHT
EC-600	250 lbs/hr	600 lbs	46"	42"
EC-700	325 lbs/hr	700 lbs	51"	42"
EC-950	380 lbs/hr	950 lbs	56"	42"
EC-1100	450 lbs/hr	1,100 lbs	63"	42"
EC-1500	475 lbs/hr	1,500 lbs	63"	42"
EC-2400	570 lbs/hr	2,400 lbs	72"	42"

\*Rates are based on continuous melting at full power in a clean, hot crucible at 1300°F with cover closed.



Dynarad® Model EC-700

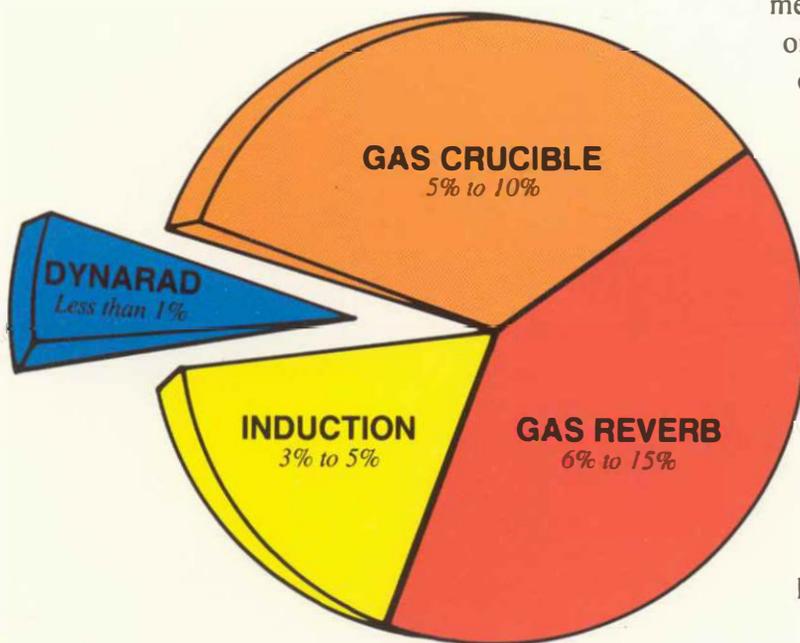
## TRUE LOAD SHEDDING CAPABILITY

The optional four position Power Level Selector is a *true load shedding* demand control system which positively limits KW demand to the power level chosen. More than a simple current limiter, the Power Level Selector reduces utility demand charges, regardless of the type of demand meter used by the utility, and extends heating element life.

# To Significantly Cut Metal Losses ...

The importance of metal quality varies from plant to plant and from one job to the next. Today many methods are used by aluminum casters to improve their metal quality. Possibly the most overlooked yet significant factor in metal quality is the melting equipment used.

Looking back to our high school chemistry, we are reminded that a fossil fuel such as natural gas, burning in an aluminum melting furnace, produces water vapor - one of several combustion by-products - creating highly adverse conditions for maintaining good metal quality.



We know from experience that molten aluminum and water don't mix, but react with each other explosively. Thus, we shouldn't find it surprising that this same reaction takes place continuously with the same intensity, though on a much smaller scale, whenever water vapor and molten aluminum contact each other to form aluminum oxide (dross) and free, gaseous hydrogen.

Conversion to Dynarad® electric melting eliminates these adverse melting conditions with many aluminum casters reporting a 75% to 80% melt loss reduction. When this percentage is multiplied by the annual production of a typical casting plant, and by today's aluminum prices, the resulting savings are significant!

**MELT LOSSES ERODE PROFIT DOLLARS**

# To Deliver the Ultimate In Power Supply Reliability ...

*New!*

## PIGGYBACK™

## POWER SUPPLY

Dynarad® combines the best in 100% solid state control with the time proven durability of a rugged contactor backup system.

Dynarad's Piggyback™ Power Supply virtually eliminates power supply downtime: If the solid state power controller requires servicing, it can be completely removed in minutes and the furnace will continue operating indefinitely at all power levels using the backup contactors!

### PIGGYBACK™ SYSTEM includes:

- Reliable SCR power controller
- Set of heavy duty sealed backup contactors
- True load shedding Power Level Selector
- Seven day timer for programmed startup
- High & Low metal temperature alarms
- Ground fault interrupter
- Metal leak detector



*All designs and specifications subject to change without notice.*

## **DYNARAD**

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