

ELECTRIC RESISTANCE BASIN TILTING FURNACE



IMPROVES THE THERMAL EFFICIENCY OF THE MELTING PROCESS

REDUCES POWER CONSUMPTION

FURNACE DESCRIPTION

The ERBT MK IV offers rugged construction combining a heavy gauge carbon steel outer shell and a high insulating lining package. The lining package is a multi component insulating system that includes microporous insulation. This material has extremely low thermal conductivity and has the effect of minimising heat transfer through the furnace walls. The design and construction of the ERBT MK IV allows excellent melting performances to be achieved at high power efficiencies from lightly loaded elements. The ERBT MK IV comes with a well insulated swing aside cover to reduce radiation losses from the surface of molten metal. Lip axis pouring allows easy loading of transfer equipment such as a Morgan HE Ladle. Hydraulic rams allow the pouring rate to be easily controlled.

HEATER ASSEMBLIES

The melting system for the ERBT MK IV consists of 12 each Morgan ER Panels arranged circular pattern to provide even thermal transfer to the crucible wall. Morgan ER Panels are made from top quality element wire on a high alumina substrate. Each panel extends the full depth of the furnace chamber and is self supporting. A ledge is provided at the top of the panel to protect the element during crucible changing and to allow for easy replacement.

BENEFITS

- Low Energy Costs
- Good Metal Temperature Control
- Very Low Casing Temperature
- Low Noise Level
- Low Holding Costs
- Simple Maintenance

PERFORMANCE DATA

ELECTRIC RESISTANCE TILTING SERIES		ALUMINIUM TO 720°C*				
ERBT Furnace Reference		500	700	1300	1800	2000
Working Capacity	Lbs	500	700	1300	1850	2050
	kg	225	315	585	840	922
Maximum Power Ratings	kW	60	90	120	120	120
Power Consumption kWh/HOUR, Holding	Covered	6.5	7.5	10	10	10
	Uncovered	12	13	20	20	20
Melting Time Minutes	First Heat	180	180	240	360	390
	Subsequent Heat	150	155	205	300	335
Maximum Melt Rate kg/hour	Covered	145	200	250	250	250

Above data based on optimum foundry conditions. For normal foundry operations a performance of 90% of these ratings is typical.

For additional information on Morgan MMS' products & services or to find a location nearest to you, please visit: www.morganmms.com

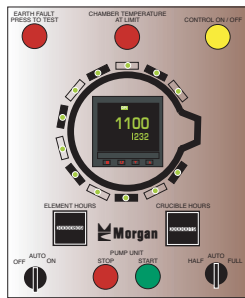


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KEY FEATURES

CONTROL PANEL

- Circuit breaker for isolation and protection
- Earth leakage detection for operational safety and personnel protection
- Continuous individual element monitoring
- Chamber temperature control for element protection and regulation of power
- Metal temperature control by pyrometer and digital (proportional integral derivative) controller
- Furnace is depicted on a mimic diagram on the control cabinet. An LED illuminates when the respective panel is drawing the required current. The LEDs are of the ultra bright green type housed in chromed lensed holders to give optimum intensity.



*shown with optional mimic display

OUTPUT LIMITED

THERMOCOUPLE FAILURE PROTECTION

If the thermocouple sensor fails, this feature provides a programmed level of output power. Typically set to 10–30%, the time proportioning power control provides sufficient heat output power to maintain an aluminium charge within an acceptable temperature range.

IMPROVED TOP COVER INSULATION

The addition of a microporous insulation with exceptional insulating properties to the furnace cover reduces surface temperature, thereby improving working conditions, heat loss and safety.

POLICEMAN CONTROL

The furnace is equipped with a "policeman" control. This feature is designed to prevent overheating of the furnace refractories and radiant panels, thus avoiding reduction of their lifespan.

TEMPERATURE DEPRESSION

This energy conservation feature enables a lower holding temperature to be automatically selected during periods of non use. A dedicated real-time/date clock can be programmed to select reduced temperature and to return to operational temperature when required. Similarly, the real-time clock can be programmed to start up and shut down the furnace at preset times and dates.

PYROMETRY

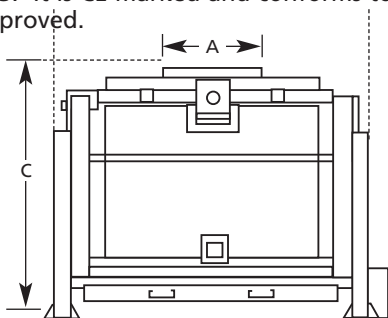
A variety of metal temperature pyrometry can be specified. This includes floating or fixed immersion types and thermocouples housed within the crucible for holding applications.

OPTIONS AVAILABLE

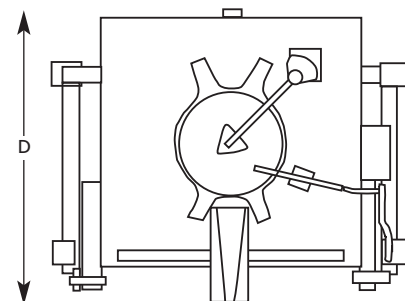
Spilt metal detection, low metal temperature alarm, in-range indicating beacons, thyristor power control, metal temperature overshoot control and kilowatt hour meter

SAFETY STANDARDS

The electrical specification is to the highest available safety standards and includes earth leakage protection using residual current circuit breakers with 30mA sensitivity conforming with BSS4293. It is CE marked and conforms to EN746/1 and is CSA approved.

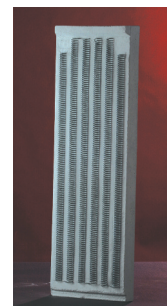


Front Elevation



Plan View

Electric resistance radiant panel.



SPECIFICATIONS

ERBT		500	700	1300	1800	2000
CRUCIBLE		TPX387E	TPX412E	TPX587E	TPX851E	available on request
Stand		XRX500E	XRX412E	XRX587E	XRX2474E	available on request
FURNACE DIMENSION (mm)	A	457	457	535	535	available on request
	B	1980	1980	1980	1980	
	C	1480	1650	1710	1710	
	D	1680	1735	1825	1825	
SHIPPING SPECIFICATIONSs (approx)						
NET WEIGHT	kg	3040	3380	4300	4300	available on request
GROSS WEIGHT	kg	3430	3815	4850	4850	
VOLUME	m³	7.50	8.00	10.00	10.00	

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