

MORGAN MKV ELECTRIC RESISTANCE BALE OUT FURNACE

FURNACE DESCRIPTION

The MK V Electric Resistance Bale Out Furnace suitable for metal temperatures up to 850°C, has been designed to have a high level of thermal efficiency, hence keeping energy costs low.

Radiation losses from the metal are minimised through the use of a well insulated, swing aside cover that can cover the crucible when no baling is needed.

The superb insulation provides excellent melting performance from the semi-embedded heater panels.

The advanced insulation materials used in the furnace lining also result in low casing temperatures, providing comfortable working conditions.

HEATER ASSEMBLIES

Twelve high alumina electric resistance heater panels surround the crucible and generally extend to the full depth of the furnace chamber. The self-supporting and interlocking design provides easy removal, should a panel require changing.



- Energy Efficient
- Good Crucible Life
- Silent Operation
- Environmentally Friendly



HIGH EFFICIENCY

The combination of semi-embedded heater panels optimising radiant heat transfer and the use of advanced insulating materials, provide a melting and holding furnace of high efficiency with comfortable working conditions.

SIZE RANGE

The MK V Electric Resistance Bale Out is available in the size range 85kg - 1327kg aluminium. Other crucible patterns than those shown in the table are available to provide the capacity span indicated for each size reference.

Also Available:
Zinc applications. H.T. versions up to size 3, for brass, to 1000°C.

ELECTRIC SUPPLY

400/415/480v
3 Phase 50/60hz.

MKV ERBO BO 01/12. MMP reserve the right to change specs. at any time and are not responsible for typographical errors

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KEY FEATURES

HEATER PANELS

The furnace has twelve, semi-embedded, FeCrAl wire heaters surrounding the crucible. Designed with low surface watt loadings and freely radiating coils the heaters give excellent life. Should a panel fail, it can easily be changed and, if absolutely necessary, in a hot condition without metal removal.

CONTROL PANEL

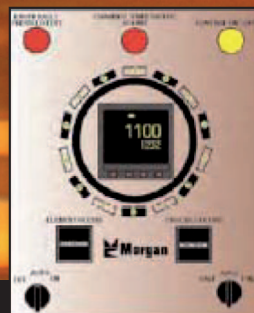
A modern high quality control panel provides the following features:

- Protective circuit breaker, door interlocked
- Heavy duty contactors or Thyristor power control*
- Programmable time clock.
- Fully proportional digital temperature controller
- Policeman lining protection pyrometry
- Crucible and heater operational hour meters
- Heater operation LED mimic display
- Temperature depression selection switch

* Optional at extra cost

OPTIONAL FEATURES AVAILABLE

- 'In range' temperature beacons
- Low temperature alarm
- Spilt metal detector
- Pneumatic crucible cover
- Kwh. meter
- Thyristor power control
- Communications
- Metal temperature overshoot control

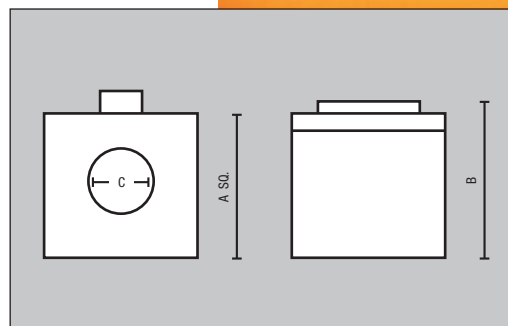


Control and Mimic Display

Data based on optimum foundry conditions and practices.

For typical foundry operations a performance factor of 90% of performance ratings should be assumed.

Data for zinc alloys available on request.



ADVANCED DESIGN

The MK V Electric Resistance Bale Out furnace is compact, of robust design and with the exception of the control panel, has no separate stand alone components. High reliability is obtained by the use of high quality components and well proven semi-embedded heater panel technology.

TEMPERATURE DEPRESSION

This energy saving and safety feature enables a lower holding temperature to be automatically selected during periods of non-use.

The control panel's real time clock can be programmed to select reduced temperature and to return to operational value when required.

The time clock can also be set to switch the furnace on and off at pre-set dates and times.

METAL TEMPERATURE CONTROL

The temperature can be sensed from a floating, fixed or crucible pyrometer. The dual display programmable digital controller maintains close control, by regulating the power input to the heaters, relative to actual metal temperature and set value.

MKV HE ELECTRIC RESISTANCE BALE OUT		ALUMINIUM TO 720c													
MkV Furnace Size Reference		Size 1		Size 2		Size 3		Size 4		Size 5		Size 6			
Working Capacity		119	165	233	271	327	444	575	575	815	1024	762	1327	1290	1327
Max Power Rating	kW	46	46	46	46	54	72	72	96	120	120	120	120	150	150
Power Consumption	Covered	2.8	2.8	4	4	4.5	6.6	7	7	10.2	11	14	15	15	16
kWh/hr Holding	Uncovered	7.5	7.5	9.5	9.5	10	14.5	15	15	20	22	34	35	38	40
Melt Time (Mins)	1st Heat	144	173	216	260	252	300	380	280	330	395	310	420	400	430
	Subsequent Heats	94	113	151	181	185	215	278	208	216	258	202	275	265	290
Power Requirement KVA		50	50	50	50	60	80	80	105	130	130	130	130	170	170

Typical specific energy consumption: subsequent heat, 0.55kWh/kg* Throughput melting, 0.41kWh/kg* *Variances subject to crucible pattern. Brass melting and other furnace sizes available.

		SIZE 1	SIZE 2	SIZE 3	SIZE 4	SIZE 5	SIZE 6
Capacity by Crucible	Capacity Range Kg Al.	85 - 172	163 - 327	310 - 575	595 - 1135	762 - 1327	950 - 1327
	Pattern						
	BX166/BU100	85	BX202/BU210 163	BX1264 310	BX850/BN600 595	52100 762	60815 950
	BX167/BU125	103	BX302/BU250 233	BX847/BN500 441	BX851/BN800# 810	52330 860	60990 1200
	BX168/BU150	119	BX401/BU300 271	BX247/BU500 444	BX852/BN1100* 930	52370 1100	61050 1327
	BX169/BU175	144	BX402/BU350 327*	BX263/BU600 557*	BX853 1135	52770 1300	
	BX171/BU200	165					
	BX177/BU202	172					
Furnace Dimensions (mm)	A	1190	1190	1420	1526	1651	1740
	B	900	900 - 980*	1130 - 1270*	1330# - 1520*	1125 - 1395	1280 - 1490
	C	433	510	660	735	864	940
Shipping (approx) Net Weight	Kg	900	900	1300	2500	3000	3500
Gross Weight	Kg	1100	1100	1500	2750	3300	3800
Volume	M3	3.7	3.7	5.35	10	7	8

* Increased furnace height