

GAS FIRED BALE OUT FURNACE MK V E

- ✓ **IMPROVES THE THERMAL EFFICIENCY OF THE MELTING PROCESS**
- ✓ **ALUMINIUM CAPACITIES UP TO 1327 KG**



FURNACE DESCRIPTION

Morgan's MK V E gas furnace is constructed using the efficient low thermal mass materials for the lining and provides good economy in energy costs. The insulation allows for excellent melting performance from the high performance compact gas burner. High alumina panels efficiently convert combustion products into radiant energy to maximise heat transfer. Radiation losses are minimised by use of a swing-aside type cover that can be closed when no baling out is needed. The furnace is fitted with an exhaust extension.

RADIANT PANEL ASSEMBLIES

Twelve high alumina radiant panels are arranged around the crucible and extend the full depth of the furnace chamber. The self-supporting and interlocking design facilitates ease of removal should exchange be required. These panels efficiently convert gas energy to radiant energy.

HIGH EFFICIENCY

The combination of radiant heat transfer and the use of advanced insulating materials provides a melting and holding furnace of exceptional efficiency and comfortable working conditions.

SIZE RANGE

The furnace is available in sizes ranging up to 1327 kg for melting. Other crucible patterns than those shown in the performance table are available to provide the capacity span indicated for each size reference.

FUEL TYPES

Natural Gas: 9000 Kcal/m³ Propane: 22000 Kcal/m³
 Butane: 28000 Kcal/m³ Pressure: 20–50 millibar

TYPICAL PERFORMANCE DATA

Mk V GAS FIRED SERIES		ALUMINIUM to 720°C*									
Mk V Furnace Reference		SIZE 1		SIZE 2		SIZE 3		SIZE 4		SIZE 5	
Capacity Range • Kg, Aluminium		85–172		163–327		310–575		595–1135		762–1327	
Working Capacity	kg	119	165	233	271	444	575	815	1024	Data on application.	
	Maximum Power Ratings kWh / hour	146	146	146	205	234	234	366	366		
Power Consumption kWh/hour, Holding	Covered	5	5	5	7	8	8	12.5	12.5		
	Uncovered	14	14	21	23	36	38	45	48		
Melting Time Minutes	First Heat	32	32	42	44	67	70	87	89		
	Subsequent Heat	115	145	182	163	250	320	285	335		
Maximum Melt Rate kg/hour	Covered	75	100	135	113	160	205	185	230		
	Uncovered	125	130	133	180	220	220	340	335		
		110	113	113	150	185	185	297	292		

*Data for zinc and zinc alloys available on request.



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KEY FEATURES

GAS BURNER

The furnace is equipped with a high performance compact gas burner providing On/Off Control of heat input. Air and gas are automatically mixed to the correct ratio at the set output to optimise efficiency and control of emissions. During periods when the burner is not operative, the air damper closes and seals to avoid oxidising atmospheres. The burner conforms to the highest safety standards.

CONTROL PANEL

A modern high quality control panel provides the following features:

- Circuit breakers for isolation and protection
- Flame failure, sequencing controller
- Programmable time clock switching
- Digital temperature controller

METAL TEMPERATURE CONTROL

Control using a standard fixed pyrometer with sheath immersed in the molten metal.

- Digital temperature controller
- Standard on/off control

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.

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.

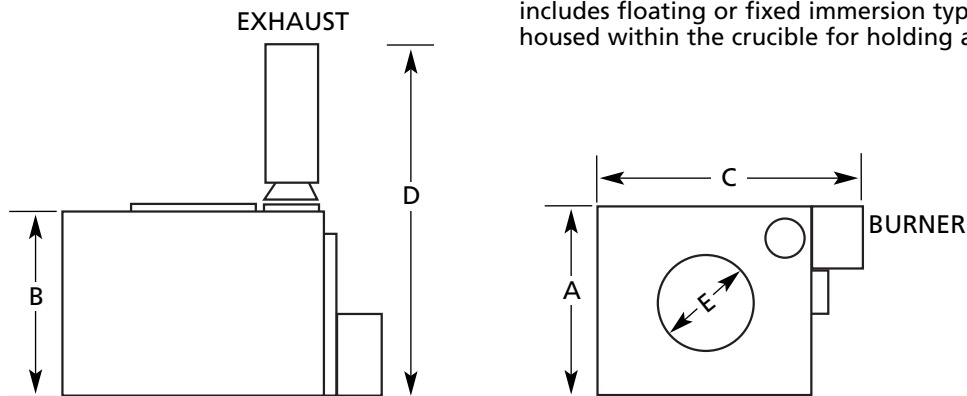
POLICEMAN CONTROL

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.

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.



SPECIFICATIONS

NOTE: Opposite hand available. *increased furnace height.

CAPACITY by CRUCIBLE	SIZE 1 Capacity Range kg AL 85–172		SIZE 2 Capacity Range kg AL 163–327		SIZE 3 Capacity Range kg AL 310–575		SIZE 4 Capacity Range kg AL 595–1135		SIZE 5 Capacity Range kg AL 762–1327	
	Pattern	kg	Pattern	kg	Pattern	kg	Pattern	kg	Pattern	kg
	BX166 / BU100	85	BX202 / BU210	163	BX1264	310	BX850	595	52100	762
	BX167 / BU125	103	BX302 / BU250	233	BX847 / BN500	441	BX851	815	52330	1098
	BX168 / BU150	119	BX401 / BU300	271	BX247 / BU500	444	BX852 / BN1100	1024		
	BX169 / BU175	144							60990*	1327
	BX171 / BU200	165	BX402 / BU350*	327	BX263 / BU600*	575	BX853*	1135		
	BX177 / BU202	172								
FURNACE DIMENSIONS (mm)	A	1190	1190		1420		1516			
	B	920	920 980		1130 1270		1330 1520			
	C	1610	1610		1840		2020			
	D	2125	2125 2205		2355 2500		2560 2750			
	E	433	510		660		735			
SHIPPING (approximate)										
NETT WEIGHT	kg	900	900		1300		2400		2500	
GROSS WEIGHT	kg	1100	1100		1500		2650		2750	
VOLUME	m ³	3.7	3.7		5.35		9		10	



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