

# ELECTRIC RESISTANCE BALE OUT FURNACE MK V E

✓ **A WELL-PROVEN, RELIABLE AND EFFICIENT MELTING AND HOLDING FURNACE**

## FURNACE DESCRIPTION

The Morgan Electric Resistance Bale Out Furnace Mk V E is an entry level, efficient and reliable crucible bale out furnace for melting and holding. It is constructed using efficient low thermal mass lining materials, minimising energy costs.

## SIZE RANGE

The Electric Resistance Bale Out Furnace Mk V E is available in the size range 85-1327 kg aluminium.

## KEY FEATURES

- Fine temperature control is achievable with fixed pyrometry
- Earth leakage detection for operating safety
- Electronic time clock enabling best use of supply tariffs
- Swing-aside type crucible cover.
- Digital temperature controller, standard control On/Off
- The 12 refractory, freely radiating heater panels are arranged around the crucible and extend to the full furnace chamber depth. Elements can be removed vertically without removing the crucible, allowing rapid replacement if necessary. Element temperature protection promotes long life.



▲ Morgan's Electric Resistance MK V E Furnace.

## PERFORMANCE DATA (surrounding air temperature 20°C)

| ELECTRIC RESISTANCE MK V E FURNACE     |                 | ALUMINIUM TO 720°C* |     |         |      |         |          |      |                      |                      |
|--|-----------------|---------------------|-----|---------|------|---------|----------|------|----------------------|----------------------|
| MK V E Furnace Reference               |                 | SIZE 1              |     | SIZE 2  |      | SIZE 3  | SIZE 4   |      | SIZE 5               | SIZE 6               |
| Capacity Range • kg, Aluminium*        |                 | 85-172              |     | 163-327 |      | 310-575 | 595-1135 |      | 762-1327             | 1050-1327            |
| Working Capacity                       | kg              | 119                 | 165 | 233     | 271  | 444     | 815      | 1024 | Data on application. | Data on application. |
| Max. Power Rating                      | kW              | 46                  | 46  | 46      | 46   | 72      | 120      | 120  |                      |                      |
| Power Consumption<br>kWh/hour, Holding | Covered         | 4.6                 | 4.6 | 5.4     | 5.4  | 8.2     | 12.5     | 13.5 |                      |                      |
|  | Uncovered       | 9.5                 | 9.5 | 11.1    | 11.1 | 16.8    | 22.3     | 23.3 |                      |                      |
| Melting Time<br>Minutes                | First Heat      | 162                 | 195 | 243     | 292  | 352     | 370      | 450  |                      |                      |
|  | Subsequent Heat | 108                 | 130 | 173     | 212  | 270     | 275      | 330  |                      |                      |
| Maximum Melt Rate<br>kg/hour           | Covered         | 99                  | 101 | 107     | 107  | 140     | 234      | 240  |                      |                      |
|  | Uncovered       | 88                  | 90  | 90      | 90   | 125     | 207      | 212  |                      |                      |

\*Zinc melting data available upon request.

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](http://www.morganmms.com)



# ELECTRIC RESISTANCE BALE OUT FURNACE MK V E

## KEY FEATURES

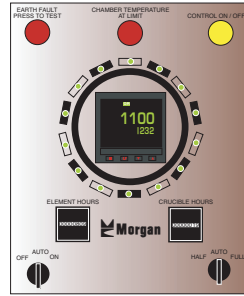
### HEATER ASSEMBLIES

Twelve refractory heater panels are arranged around the crucible and extend to the full depth of the furnace chamber. Typical power loadings of only 3-4 watts/sq cm ensure long life, while the self supporting design facilitates ease of removal. Multi-strand element tails and cool stud terminals enable element changes to be made in less than 10 minutes without removing the crucible.

### CONTROL PANEL

- Circuit breaker for isolation and protection
- Earth leakage detection for operational safety and personnel protection
- Programmable time clock switching

The programmable controller will maintain the metal temperature within very close limits by automatic adjustment to heat input, whether melting or holding. The digital display shows both the required and current metal temperature.



### OUTPUT LIMITED

#### THERMOCOUPLE FAILURE PROTECTION

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

### POLICEMAN CONTROL

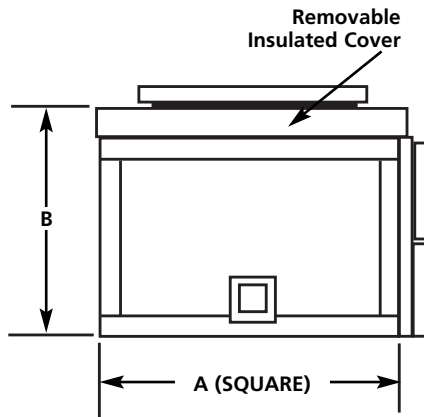
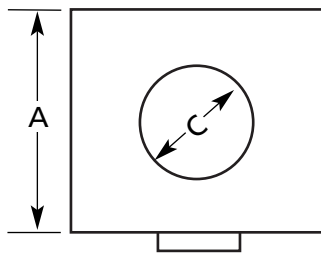
The furnace is equipped with a "policeman" control. This feature trips out the power to the element panels above a set temperature ensuring that under no circumstances will they over-heat, thus preventing reduction in their life span.

### PYROMETRY

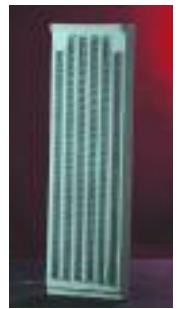
A variety of metal temperature pyrometry can be specified. Includes floating or fixed immersion types and thermocouples housed within the crucible for holding applications.

### OPTIONS AVAILABLE

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



Electric resistance radiant panel. ▶



## SPECIFICATIONS

\*increased furnace height.

| CAPACITY BY CRUCIBLE    | SIZE 1         |              | SIZE 2         |              | SIZE 3         |                         | SIZE 4                  |          | SIZE 5         |      | SIZE 6         |      |
|-------------------------|----------------|--------------|----------------|--------------|----------------|-------------------------|-------------------------|----------|----------------|------|----------------|------|
|                         | Capacity Range |              | Capacity Range |              | Capacity Range |                         | Capacity Range          |          | Capacity Range |      | Capacity Range |      |
|                         | kg AL          |              | kg AL          |              | kg AL          |                         | kg AL                   |          | kg AL          |      | kg AL          |      |
|                         | 85-172         |              | 163-327        |              | 310-575        |                         | 595-1135                |          | 760-1300       |      | 1043-1327      |      |
|                         | Pattern        | kg           | Pattern        | kg           | Pattern        | kg                      | Pattern                 | kg       | Pattern        | kg   | Pattern        | kg   |
|                         | BX166/BU100    | 85           | BX202/BU210    | 163          | BX1264         | 310                     | BX850                   | 595      | 52100-30       | 760  | 60760          | 1043 |
|                         | BX167/BU125    | 103          | BX302/BU250    | 233          | BX847/BN500    | 441                     | BX851                   | 815      | 52100-33       | 860  | 60813          | 1100 |
|                         | BX168/BU150    | 119          | BX401/BU300    | 271          | BX247/BU500    | 444                     | BX852/BN1100            | 1024     | 52100-37       | 1100 | 60990          | 1327 |
| BX169/BU175             | 144            |              |                |              |                |                         |                         | 52770-46 | 1300           |      |                |      |
| BX171/BU200             | 165            | BX402/BU350* | 327            | BX263/BU600* | 575            | BX853*                  | 1135                    |          |                |      |                |      |
| BX177/BU202             | 172            |              |                |              |                |                         |                         |          |                |      |                |      |
| FURNACE DIMENSIONS (mm) | A              | 1190         | 1190           | 1420         | 1516           | 1651                    | 1830                    |          |                |      |                |      |
|                         | B              | 900          | 900 980*       | 1130 1270*   | 1330 1520*     | 1125 1395               | 1125 1372               |          |                |      |                |      |
|                         | C              | 433          | 510            | 660          | 735            | 864                     | 915                     |          |                |      |                |      |
| SHIPPING (approximate)  |                |              |                |              |                |                         |                         |          |                |      |                |      |
| NETT WEIGHT             | kg             | 900          | 900            | 1300         | 2500           | Available upon request. | Available upon request. |          |                |      |                |      |
| GROSS WEIGHT            | kg             | 1100         | 1100           | 1500         | 2750           |                         |                         |          |                |      |                |      |
| VOLUME                  | m <sup>3</sup> | 3.70         | 3.70           | 5.35         | 10.00          |                         |                         |          |                |      |                |      |



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

[www.morganmms.com](http://www.morganmms.com)

