

MELHOLDER®

Melting & Holding Furnace

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MELHOLDER furnace attending a HP die-casting machine

MELHOLDER® Furnace is based on the proven Meltower technology and the development of Tower type aluminium melting furnaces.

The MELHOLDER® model is designed for lower production capacities but with the flexibility to melt a range of alloys and for positioning alongside the die casting machine.

Design Features

- . **Energy Saving.** Low specific energy consumption is achieved by efficient preheating of materials before melting.
- . **Molten metal temperature.** Temperature uniformity of $\pm 5^{\circ}\text{C}$ is maintained by combination wide turndown ratio burner with responsive temperature controls.
- . **Operation.** A large drossing door provides clear and unobstructed access for the removal of oxides from the holding chamber. A side access door is also provided to ease maintenance of the dry hearth and the removal residues from the melting process.
- . **Maintenance.** A roof mounted Burner provides even efficient distribution of the heat flux and minimises cleaning of the burner quark.
- . **Compact.** The furnace is extremely compact and is designed to elevate space restrictions imposed by the casting cell The unit is free standing and is complete with all wiring and pipe work for speed of installation.
- . MELHOLDER® furnace has two independent control zones :
 - . Melting
 - . Holding

WHERE ENGINEERING BECOMES HEAT

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Advantages:

- . Continuous melting with the molten alloy available on demand at the correct temperature and composition. Alloy flexibility independent of the central bulk melting process.
- . Low production rate compared with other site equipment.
- . High thermal efficiency.
- . Low oxidation losses.
- . Ease of maintenance, with clear unobstructed access to the melting and holding chambers. Independent control of melting and holding. Automatic molten metal level sensor automatic skip elevator.

Additional Options:

- . Purifying system can be fitted for degassing and removing non-metallic inclusions.
- . Other open-well type configurations are available.
- . Alternative fuels such as Light oil, LPG or natural gas can be used. Al-Mg alloys can be melted.

Controls :

- . When the **molten metal level sensor** in the side well reaches the upper limit, the melting burner is switched automatically to a high/low mode.
- . A **material level sensor** in the preheating tower detects low level condition, and provides a signal to activate the skip elevator to maintain a full tower and optimise preheating of the charge materials.
- . Temperature control of the holding chamber relies on inputs from **two separate thermocouples**. An Immersion thermocouple provides close control of the molten metal temperature whilst a second atmosphere thermocouple ensures protection from overheating the melt. If the temperature of the melt is below the set point the atmosphere temperature can rise abnormally high with increased oxidation. To avoid this condition burner modulation is automatically controlled by a signal from the atmosphere thermocouple.



\ viewed from skimming door



\ Side well detail, thermocouple and molten metal level sensor

