

# MELTOWER®

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## Tilting Tower FADB



MELTOWER® melting furnace designed for ingots and in house foundry returns, used as central bulk melting furnace where a continuous production of liquid aluminium is required.

### Process Description

#### Charge Preheating.

A skip charge elevator lifts the materials up to the point of entry at the top of the tower. The materials are then preheated by transfer of energy from the exhaust gas. After preheating the materials, descend in the tower for melting on an inclined dry hearth.

#### Melting Burners

Melting Burners are positioned adjacent to the dry hearth and melt by direct flame impingement philosophy. Then, the metal drains by gravity from the inclined dry-hearth into the holding chamber. An additional proprietary dry hearth Burner avoids

unmelted metal remaining on the hearth whilst enhancing molten metal fluidity during transfer to the holding chamber

#### Metal Losses.

Our proven combustion combined with direct flame impingement philosophy will melt metal on demand and with the very minimum of oxidation. The short exposure of the materials to high temperatures, results in a high metal recovery.

A single burner maintains temperature uniformity at all times in the **holding chamber** during melting and holding

All the products of combustion are exhausted through the tower to maximize the thermal efficiency.

A molten metal level sensor in the holding chamber provides security for the operator

There is a charge level sensor is provided in the preheating tower, to ensure full preheating capability and initiating the automatic charging. The temperature of the waste gas is monitored and used to control the melting burners

Material **charging equipment** is designed to suit the physical nature of the charge materials, access and ease for charging and the foundry layout of the melting furnace.

A visual display of measured temperatures and control parameters is provided including the temperatures of the molten metal, exhaust gas and holding chamber atmosphere.

WHERE ENGINEERING BECOMES HEAT

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Furnaces & Refractories

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### Features:

- . Excellent thermal efficiency.
- . High metal recovery.
- . Clear and unobstructed access to chambers, for maintenance and ease of cleaning and inspection.
- . Independent temperature regulation for the melting and holding chambers.
- . Automatic bath level monitoring.
- . Material charge level detection by photocell sensor.
- . Automatic skip elevator charging system
- . Lip axis pour.

**MELTOWER furnace** is distinguished from other designs available in the market in:

- . its holding chamber of circular section, excellent mechanical rigidity with independent frame support, durability of refractory lining, easy access for cleaning and minimum space.

That joined to the long experience achieved by Insertec in the use of non-wetting castables allow to design and build with guarantee this kind of holding chambers.

