

# Combination MELTOWER®

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## Melting Ingots & Chips



\ Combination MELTOWER furnace with skip elevator

The combination MELTOWER® furnace has the capability to melt prealloyed ingots and foundry returns and additional continuous melting and blending with machining chips.

Both forced convection and submergence systems are employed to optimize melting efficiency and to facilitate the efficient and high metal recovery on recycling of the machining chips.

Combination MELTOWER® process will provide clean quality molten metal on demand from the casting cells and with the correct temperature uniformity and alloy composition at all times.

Includes fully automated loading systems for the charge materials.

Using the proven economy of the MELTOWER design combines an electro-mechanical ALUSWIRLER® to provide the forced convection for improving the heat flux, accelerating melting rates and optimizing fuel efficiency.

The molten metal recirculation also serves to provide the necessary sink vortex submergence system for processing the pre-treated machining chips.



\ ALUSWIRLER® chamber and feed of chips

### Factors considered and justification:

- . Improvements in metal quality and productivity.
- . Additional melting capacity.
- . Opportunities to reduce fixed operating costs.
- . In-house recycling of machining chips.
- . Rapid return on the investment.
- . Impact on foundry environment.
- . Compact layout high metal recovery.
- . Low specific energy consumption
- . Continuous melting in molten metal
- . Instantaneous entrainment.
- . Molten metal temperature uniformity.
- . Flux less melting.



\ Sink vortex chamber



\ Sink vortex chamber with chips entrainment

WHERE ENGINEERING BECOMES HEAT

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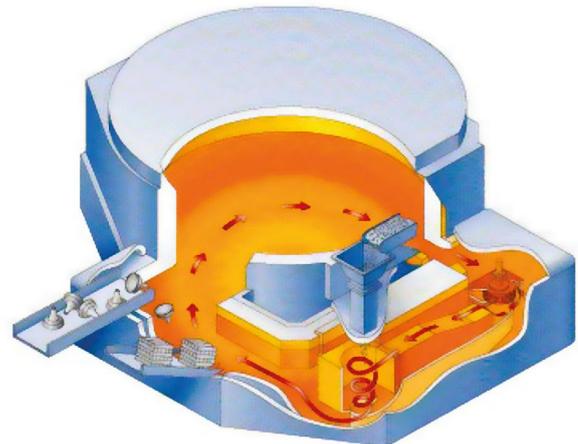
The molten metal recirculation rate is closely controlled and is synchronized with the Chips feed rate and condition of the pre-treated chips.

Alternative for recycling sprues and iron parts, like liners, metallic filters, ... are available to submerge on baskets into open well downstream sink vortex.

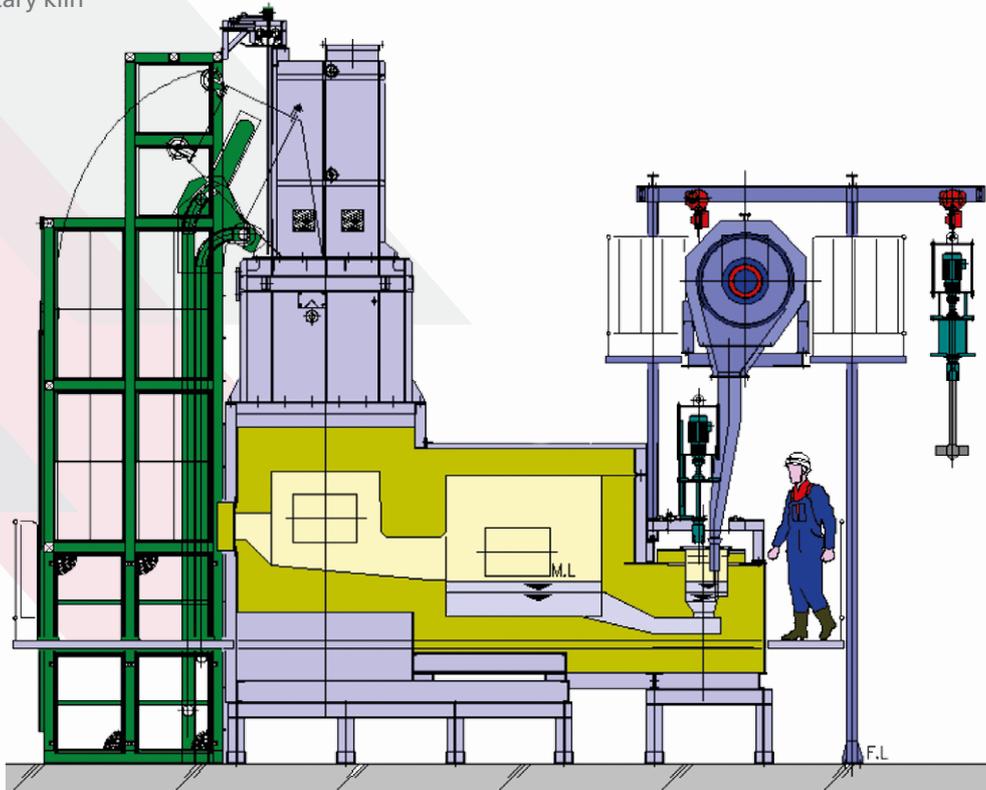
### Combination MELTOWER

Continuous aluminium Ingots and chips pretreated melted with the following main components:

- . Skip elevator for Ingots, returns and rejected parts on baskets.
- . Basket charging on tower section.
- . Collected hood for waste gases.
- . Preheated ingots tower chamber.
- . Tower melting chamber.
- . Holding chamber.
- . Chips sink vortex chamber.
- . Aluswirlor pumping system.
- . Chips dryer rotary kiln



\ ALUSWIRLER recirculating system.



\ Schematic diagram combination MELTOWER installation.

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