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MELTING-HOLDING TOWER FURNACES



- **Purpose of the Furnaces :**

- *Returns from diecasting, general scrap with the exclusive possibility of separating the iron inclusions. Cife tower furnaces in fact are the only tower furnaces which can be used also as iron separator furnaces.*

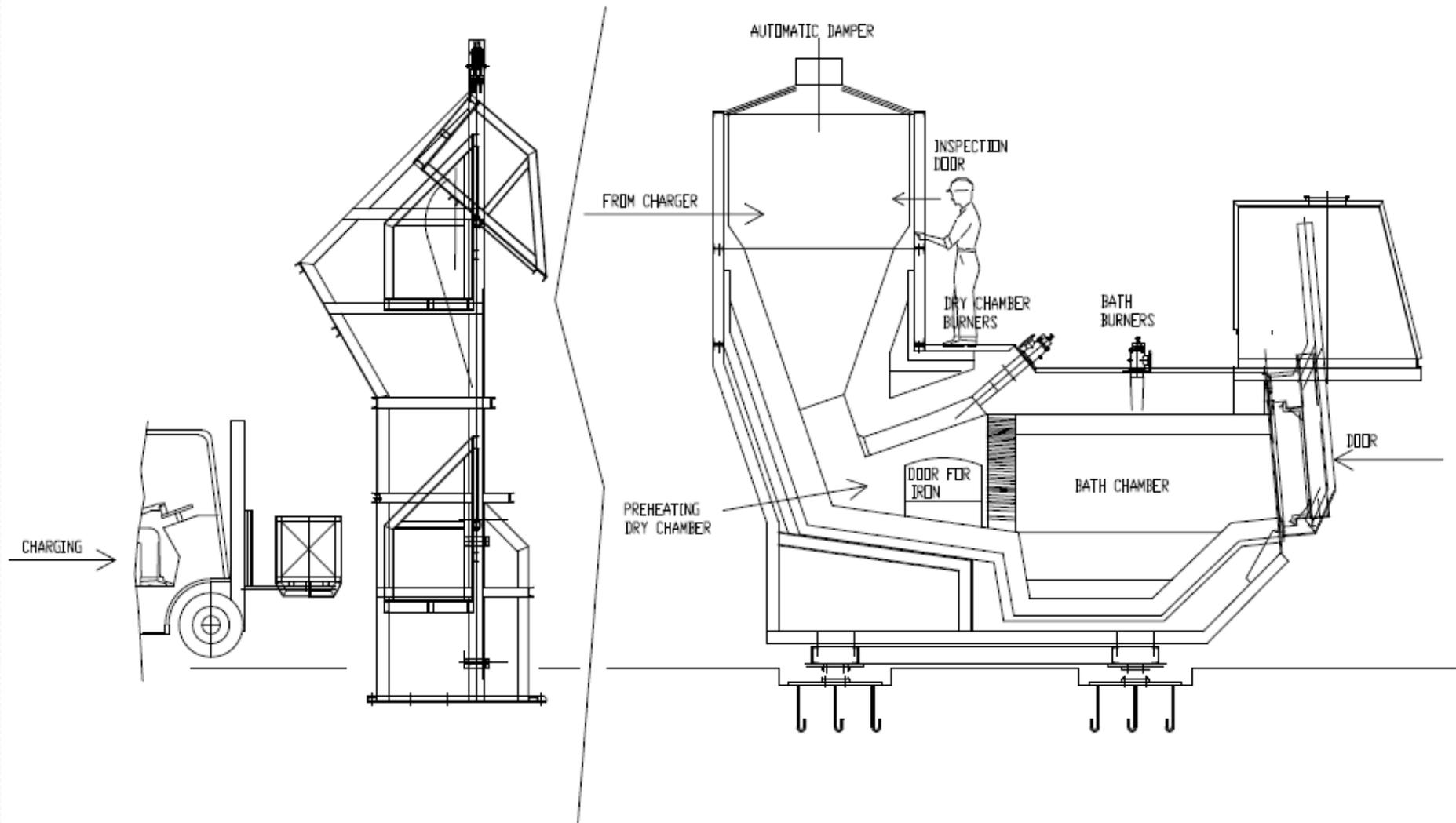
- **Capacity of the furnaces :**

- *3-12 tons of liquid aluminum, depending on the customer needs*

Furnace description

- *The furnace is designed in order to melt bulky returns from die casting, ingots of Al-alloy and general aluminum scrap (with iron inclusions too).*
- *This is achieved by loading die casting returns from the tower door with the skip automatic loader or hydraulic loader and melting the aluminum in the dry chamber, on a little inclined surface made of castable refractory. The liquid aluminum can therefore flow into the main basin, placed at the back of the furnace (main holding chamber).*
- *Clean aluminum scrap or liquid aluminum can be instead loaded through a back door directly into the main basin and the necessary material corrections, in order to obtain the right alloy, can be added too.*
- *The general scrap with iron inclusions, can be loaded into the tower too and iron, separated from the aluminum in the dry chamber, can be unloaded easily through rakes.*

Furnace Sketch



Technical Specification

- *Maximum height of smelted bath : $\approx 750\text{mm}$.*
- *Spillage of melted aluminum: By tilting the furnace on the axis of the spout with oil dynamic system and cylinders.*
- *Heating of the furnace: By combustion plants driven by Diesel Oil / LPG / Methane, depending on customer needs, made up of automatic burners and all the safety protections. Dry Melting chamber and Holding Chamber are thermally independent and burning systems work under different control purposes*
- *Thermal power installed : 1.000.000 - 3.000.000 Kcal/h depending on furnace dimensions*

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Technical Specification

- *Consumes : < 600 Kcal/Kg of loaded aluminum at 720° C.*
- *Consumes are strongly influenced by the quality of the charge and the amount of iron in the scraps.*
- *High Melting Rate : 1,0 – 3,0 ton / h depending on furnace dimensions and on type of load .*

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Technical Specification

- *The lining of the furnace is made up of:*
 - *Low density bricks;*
 - *Intermediate refractory materials to prevent infiltration;*
 - *Refractory basin made up of silicon-aluminum bricks at 42/44⁰%;*
 - *Lining is accurately installed by specialized workers as established by the refractory manufacturer in our factory.*

- *Electrical Panel:*
 - *Electrical panel controls the furnace and the automatic systems of burners in the two independent zones of work.*

- *Manual books and layouts:*
 - *Manual books and layouts (written in English) are supplied with the furnace and the catalogues of all the equipments such as hydraulic, gas and electrical diagrams. A complete list of the spare parts is provided for the best operation of the plant.*
 - *CE certification is included.*

FURNACE PICTURES





HYDRAULIC BUCKET FOR WHEEL LOADERS & FORK-LIFTER

- *The bucket is constructed in a metallic structure made of a fixed and a mobile part.*
- *The mobile part moves inside, between two guides, driven by a mechanism activated by hydraulic pistons, which use the oil pump of the wheel loader.*
- *Dimensions: ≈ Length 1500 mm x Width 1500 mm x height 800 mm, depending on customer needs.*

