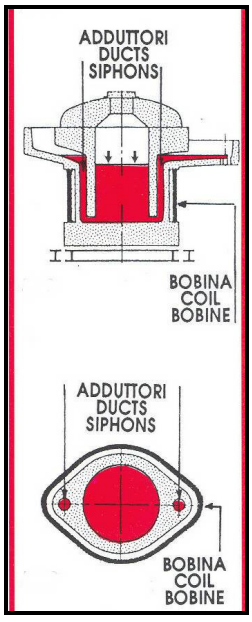
CAP Coreless Automatic Press Pouring

First and unique Coreless Press Pour Furnace all over the world
Equipped with elliptical coil and heated internal siphons

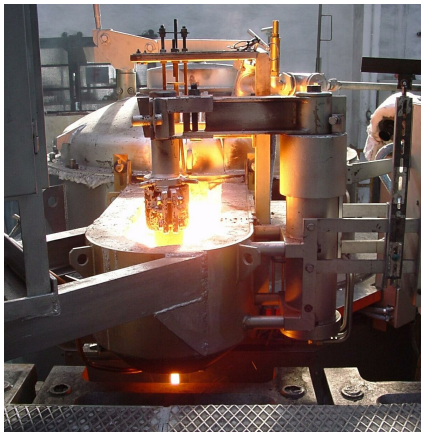


The **CIME - CAP (Coreless Automatic Pressure Pour)** furnace is equipped with a patented elliptical meIting coil and a UItra High Efficiency design. These features allow the furnace to be de-energized and restarted from a cold charge if necessary. No other autopour presently on the market has this capability. The elliptical coil design encompasses the entire charge duct and the discharge duct within the heating zone, therefore a uniform temperature is guaranteed inside the ducts as well as in the crucible itself. Unlike traditional pressure pouring furnaces the CAP ducts are heated by induction; they do not freeze or get dirty with slag. In fact, due to quick super heating capability, the slag remains fluid and easy to remove from the top surface. Since the CAP unit does not require the use of a heel, quick grade changes or additions are easily accomplished. Also, if required, the possibility of a shut down over long periods or the entire weekend can be achieved. The controls and electrical functions of the CAP units are completely computerized. Exact pouring curves, quantity of metal poured per mold, remaining metal in the fornace, patterns memory file and other diagnostic functions can all be pre-programmed for complete automatic control of the furnace. Also, inoculation systems and temperature controls can be interconnected to the computer to automate these functions. CAP units are available in the following sizes: 1, 2, 4, 8, 10, 15, 25 tons and with power ratings from 50 up to 1000 kw.

The CAP is available with exclusive **Patented camera control system (OPTICAL)** consisting of an electro-optical device which focuses on the mould pouring cup and the molten metal provides a continuous signal to the stopper - rod electronic control which adjusts in real time to the different mould filling parameters instantaneously.

The outstanding benefits are ensured by the use of **CAP Coreless Press Pouring** equipment,as follows:

- slagless pouring thanks to the double-duct, plug-type arrangement
- precise pouring with consequent reduction of sprue-cups and overflowing
- consistent reduced pouring temperature ensuring cold-metal rejects elimination
- operating personnel reduction due to a completely automatized and process-controller adjusted "Metal feeding system" interfaced with the moulding line
- no wait for metal equal to production increase
- no down-time due to a reduced takeout
- alloys reduction due to automatic inject, right on the pouring stream
- improvement in safety and environment conditions
- operators more qualifying job
- output increase due to immediate pouring start-up
- large amount of metal of correct analysis and temperature always "ready" on the pouring line
- no ingot stripping required even during long-lasting plant stops
- nodular-grade maintained (practically no fading)
- lower treatment temperature leading to a reduced amount of alloys, with improved metallurgical qualities
- minimum floor requirements
- reduced power consumption
- no "ballast heel" required
- possibility of analysis adjustment in the furnace
- when rapid alloy changes are required the furnace can be emptied completely
- the unit can be shut-down over week-ends or longer rest period
- frozen metal remelting
- uniform bath temperature throughout, thanks to inlet/outlet ducts heating by induction
- self-cleaning of ducts through inducted heat
- rapid superheating (100 °C/hour)
- dry rammed lining
- reliability to pour 100% ductile iron



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