AUTOMATE
ALUMINUM CASTING

Safely and precisely move liquid aluminum, magnesium, zinc, and other metals with **CMI NOVACAST Electromagnetic Pumps**

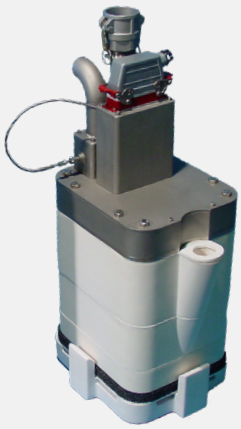
CMI NOVACAST

ELECTROMAGNETIC (EM) PUMP MODELS

CMI NOVACAST manufactures EM pumps that were developed specifically for the aluminum foundry industry and are also used for magnesium, zinc, and other metal alloys at temperatures up to 1,472° F (800° C).

Utilizing no moving parts, CMI NOVACAST pumps eliminate hand ladling with gravity and low pressure, bottom/side-fill pumping options. The pump and flow rates are computer-controlled with the ability to store and recall many different profiles.

CMI NOVACAST EM pumps, controls and launder systems allow sand casting foundries using gravity pouring to produce up to 120 castings per hour, foundries using the rollover scheme to produce up to 90 castings per hour, and foundries using low pressure bottom filling to produce up to 200 castings per hour – with higher quality metal and a pouring based scrap rate consistently below 4%, and as low as 1%.



PG 300

Pump Specifications

- **Head Pressure**: 40 in. (1.0 m)
- **Maximum Flow Rate**: 8.5 lbs./sec. (3.9 kg/sec.)
- **Minimum Well Size**: 19 x 16 x 20 in. deep (0.48 x 0.4 x 0.5 m deep)
- **Furnace Type**: gas or electric
- **Cooling Air**: system supplied by CMI Novacast

Casting Applications

Gravity Poured

- Green or Chemically Bonded Sand Molds
- High Pressure Die Casting Shot Sleeve
- Permanent Mold Machine Pouring Cup

PG 450

Pump Specifications

- **Head Pressure**: 87 in. (2.2 m)
- **Maximum Flow Rate**: 22 lbs./sec. (10 kg/sec)
- **Minimum Well Size**: 24 x 20 x 22 in. deep (0.6 x 0.5 x 0.56 m deep)
- **Furnace Type**: gas or electric
- **Cooling Air**: system supplied by CMI Novacast

Casting Applications

Low Pressure Bottom Fill Process

- Green or Chemically Bonded Sand Molds
- High Pressure Die Casting Shot Sleeve
- Squeeze Casting Shot Sleeve

Low Pressure Side Fill

- Green or Chemically Bonded Sand Molds
- High Pressure Die Casting Shot Sleeve
- Green or Chemically Bonded Sand Rollover Molds

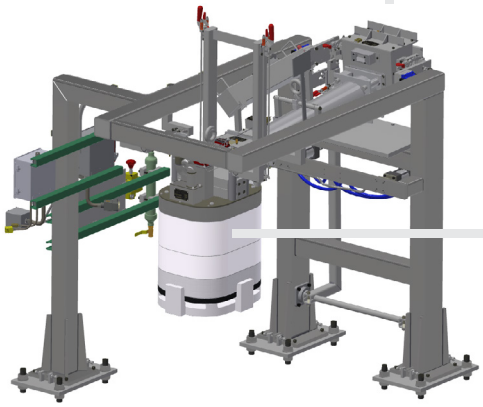
CMI NOVACAST

The Control System

Stores all operating parameters for each casting job, which can amount to hundreds of fill profiles in gravity-pour applications.

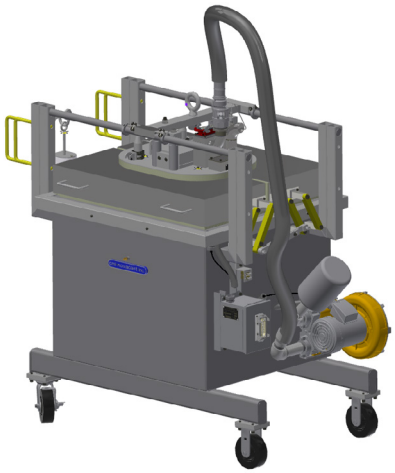
Heated Launder

Utilizes electric resistance elements for heating the ceramic lined tube, so the discharge temperature of the molten metal is at the desired level.



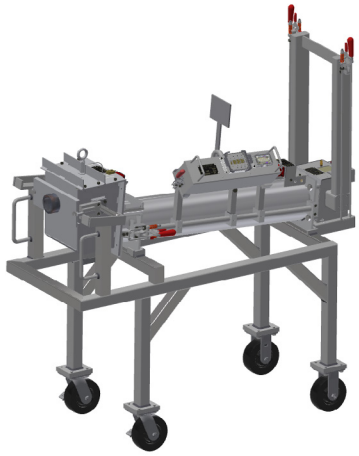
Electromagnetic Pump

Maximizes yield by allowing sand casting foundries using gravity pouring to produce up to 120 castings per hour, foundries using the rollover scheme to produce up to 90 castings per hour, and foundries using low pressure bottom filling to produce up to 200 castings per hour.



Preheat Oven

Brings the temperature of the pump's ceramic body up to the molten bath level to avoid thermal shock and to remove ceramic moisture.



Spare Launder

Each CMI Novacast System includes a spare launder on a mobile cart.

WHY USE CMI NOVACAST EM PUMPS

- First developed 40 years ago
- More consistent, precise, and better performance than any other pump
- No moving parts
- Designed for aluminum casting
- Also use with magnesium, zinc and other metal alloys with temperatures up to 1,472° F (800° C)
- Gravity, bottom-fill and side-fill options
- Quickly and precisely control mold filling
- Store and quickly select as many custom, mold-specific fill profiles as needed
- Prevent dangerous spills
- Improve worker safety, retention and productivity
- Reduce turbulence and bubbles/oxides
- Ensure metal entering the mold is the same temperature as in the furnace
- Prevent the heat loss of ladling
- Minimize penetration and burn-in
- Increase metal quality and surface finish
- Eliminate dross and other contaminants through pump filtration
- Avoid recasting and downtime
- Consistently reduce scrap to levels below 5%
- Maximize yield
- Allows sand casting foundries using gravity pouring to produce up to 120 castings per hour
- Allows sand casting foundries using the rollover scheme to produce up to 90 castings per hour even with a cast weight of 110 lbs. (50 kg.) per mold
- Allows sand casting foundries using the low pressure bottom filling to produce up to 200 castings per hour

ABOUT CMI NOVACAST

Founded in 1981, CMI NOVACAST manufactures electromagnetic (EM) pumps with no moving parts that automate the movement of liquid metal in foundry casting and non-casting applications. Foundry casting applications include pumping aluminum, magnesium, zinc, and other alloys to improve the safety, productivity and retention of workers while also increasing metal quality and constituently reducing scrap rates to below 5% – this helps foundries eliminate hand ladling, maximize yield, and reduce production costs with options for gravity pouring and low-pressure side/bottom-filling. Non-casting applications include pumping liquid sodium that keep secondary cooling systems in nuclear power plants available on a 24/7 basis without needing maintenance – ever.

More: **www.cminovacast.com**