

## Befesa new sow caster

Befesa was awarded by Vedanta in Jahrsuguda India a contract to cast 15 tph of low-profile sows (680 kgs -1500 lbs) in a small space available in their cast house 2. The liquid metal comes at temperatures of 850-930°C in crucibles of 10 -10.5 tons size each, with height constraints in the cast house.

It was decided to use Befesa "**dry cast**" water-cooled saw caster carrousel provided with 2 hydraulic tilting stations occupying an area of 500 m2.

Air cooled sow caster option was discarded due to lack of space

In what refers to quality of final product , the system is provided with a downspout casting system to reduce the amount and dispersion of dross while casting, a robotic dross skimmer to clean the top surface of sow ingots and a laser marking system that stencils the weight and batch number with clarity.

Since the crucibles come unskimmed Befesa robotic based crucible skimming system is installed between the two crucible tilting positions. This is also a standard Befesa product that removes more than 90% of the dross/bath floating in the liquid metal. This skimming not only increases the period between cold cleaning of crucibles but also assures the cleanliness of the launders that convey the metal from crucible tilting station to casting point. Without this the launders would choke continually

For first time Befesa introduced a vacuum extraction system based on a robot with capacity to manipulate 1 ton. This robotic system offers besides the normal reliability and accuracy characteristics of robots, features that can only be incorporated by a well programmed robot like, finding best extracting position, rejection, double checks, retrying operations, resetting.

A centralized control cabin with direct view to most areas of the process and helped with video screen for areas where more detail is required (like crucible casting spout), helps monitor the system.

The outlet of finished product is provided by a conveyor that stores them in groups of 3-4 to facilitate evacuation.

All the plant is adequately fenced, all access points are interlocked with the safety PLC from Allen Bradleys access doors are mechanical for operator access or optical where access for evacuation of finished product takes place all adequately safety coded.

The installation is manned by 3 operators.

This plant was started in February 2020 and is in operation

A new air-cooled sow caster installation with 35 tph casting capacity is in construction for another client in this moment to be delivered early 2021

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