



MCC<sup>®</sup>

Magaldi Casting Cooler

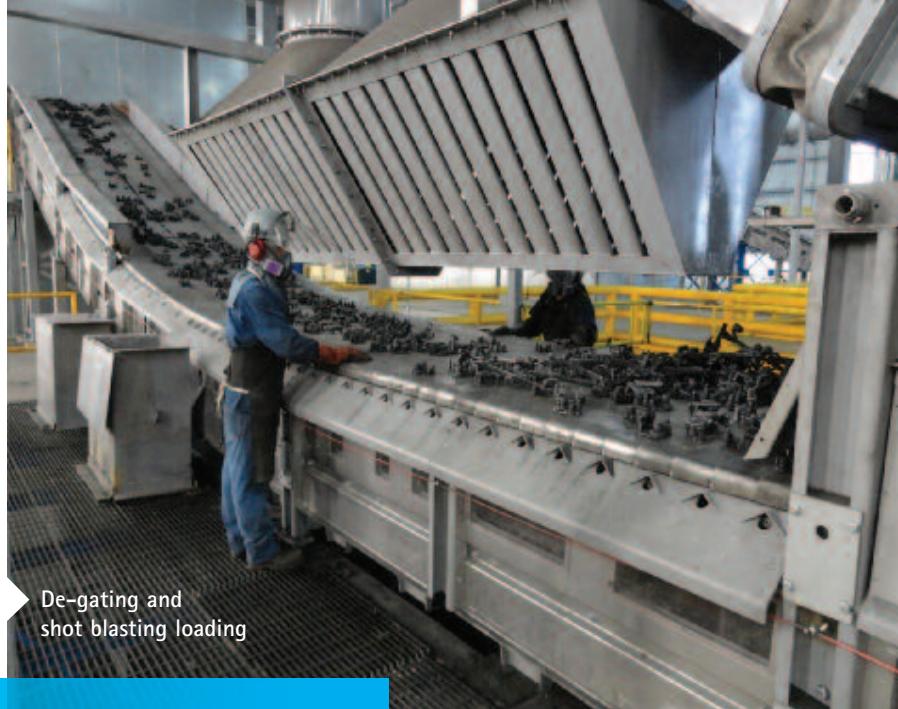


 **MAGALDI**<sup>®</sup>  
Dependable technologies

since 1929

The **Magaldi Casting Cooler - MCC®** - is an automated system for the transportation and cooling of castings downstream the moulding lines and it can be also a valuable workstation for de-gating operation, avoiding the need for a further conveyor.

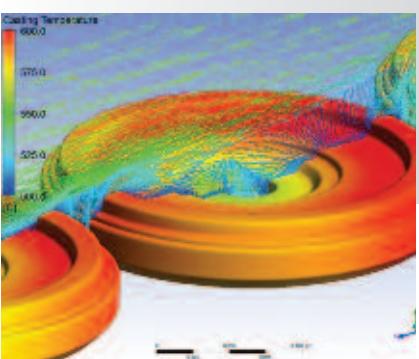
Specifically designed to ensure both a dependable handling / cooling of castings and the maximum productivity, the **MCC®** is able to work in the most difficult conditions as high temperatures, heavy loads, abrasive or sharp castings.



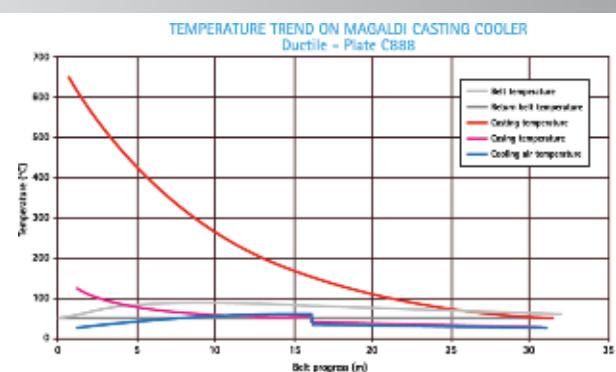
## MCC® WORKING CONCEPT

The **Magaldi Casting Cooler** is equipped with a cooling tunnel, held under negative pressure, in which a stream of cooling air flows at controlled speed to avoid thermal shocks to the castings. Ambient air is forced to enter the extremities of the cooling hood and it is then sucked from the center of the hood itself. The cooling tunnel is provided with a set of optical pyrometers for casting temperature detection at different points along the transportation (inlet, middle and outlet of the tunnel).

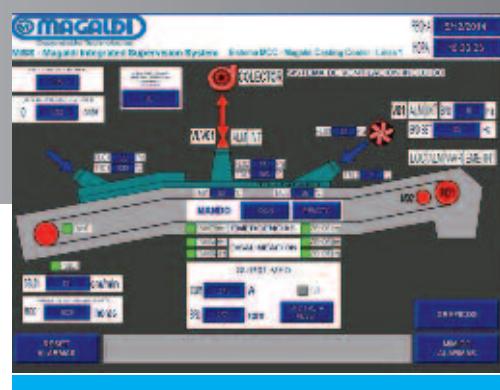
Downstream the cooling tunnel the uncovered remaining part of the **MCC®** allows operators to comfortably degate the cooled castings and to sort the sprues by sliding them down out, without noise and vibration, thanks to the conveyor's low speed and available large flat work surface (if required). The cooled and de-gated castings are then conveyed to the shot blasting machine.



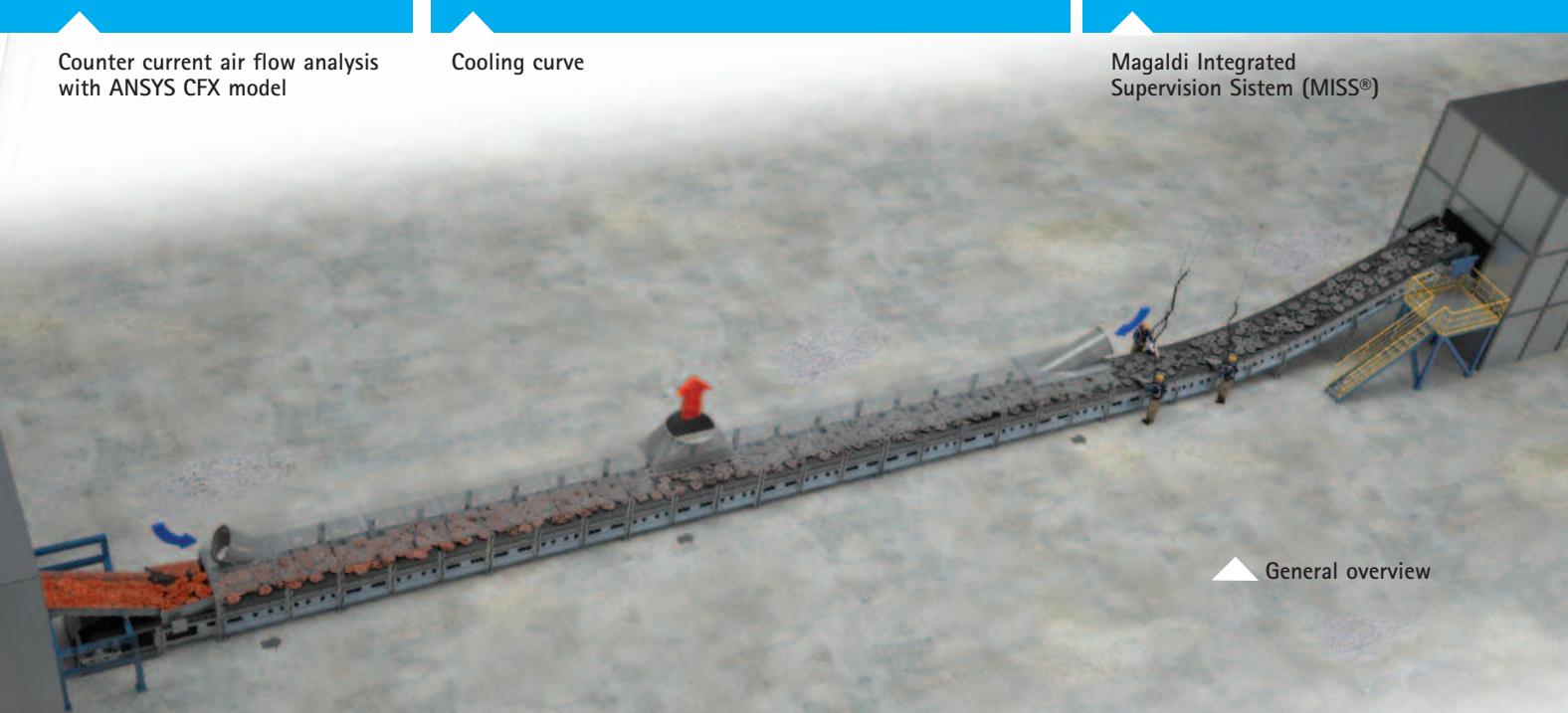
Counter current air flow analysis  
with ANSYS CFX model



Cooling curve



Magaldi Integrated  
Supervision Sistem (MISS®)





MCC® for an agricultural and truck foundry  
(chemical sand)

The **Magaldi Casting Cooler** overcomes the limitation of conventional methods - cooling drums, vibrating coolers or carousels that may cause production losses due to unforeseen failures - thanks to the dependable Magaldi Superbelt® technology and a fully automatic castings cooling process suitable for high frequency production lines as well.

The Magaldi Superbelt® is designed to withstand high mechanical impact caused by heavy castings (hundreds of kilograms) and shock loads generated by hammers, air cannons or manipulators during the sprues removal operation. It can be arranged with slopes up to 35° to transport materials such as castings, sprues, forgings, scraps and crop ends. The unique multilink Superbelt® technology, specifically designed with no chains and sprockets, eliminates any risk of sudden failures and ensures a dependable and safe operation.

Wear is negligible, since material is slowly conveyed with no relative motion against steel pans. Maintenance activities are very easy. In most cases the steel belt operational life exceeds 10 years.



MCC® for an automotive foundry (green sand)



## MCC® ADVANTAGES

- High dependability.
- Efficient casting cooling.
- Ability to perform cooling, de-gating and shot blasting loading on the same conveyor.
- No vibrations, dust and noise (below 68 dB).
- Flexible layout arrangement, including inclined ramps for material lifting.
- Low power demand and low spare parts requirement.
- No heavy foundations required.
- Fully integrated supervision system for automatic and optimized operation.

The MCC® is completed with the Magaldi Integrated Supervision System (MISS®).

Linked to the moulding line operation signals, the MISS® receives the identification number (ID) of each casting from the moulding line along with the actual casting temperatures. Depending on the above parameters, the MISS® automatically adjusts

the MCC® belt speed and the cooling air flow rate, thus maximizing foundry productivity.

The MCC® can be implemented either in new projects or as a retrofit. Custom-made technical solutions can be studied to solve specific problems for any severe applications.



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