

PDM300

Smart Powder Distribution Mechanism



# PDM300 – Powder Distribution Mechanism

The new PDM300 is a state of the art Mould Powder Distribution Mechanism to precisely adjust and deliver granulated powder at the desired rate into the mould.



PDM300 - Vacuum version

## Main features

- Designed for up to 4 independently controlled discharge lines
- Adapted for slab and bloom moulds
- Continuous delivery of granulated powder in the mould
- Adjustable mass flow rate control
- Provides real-time powder consumption for each discharge line
- Anticipated buffer draining for fast powder change
- Automatic unclogging of the discharge lines

## PDM300 - Vacuum version



The PDM300-Vacuum version uses a vacuum unit to aspirate the granulated powder from a remotely located bulk source (bulk bag or silo).

## Typical installation layout



## Control



Touchscreen HMI for parameters setting



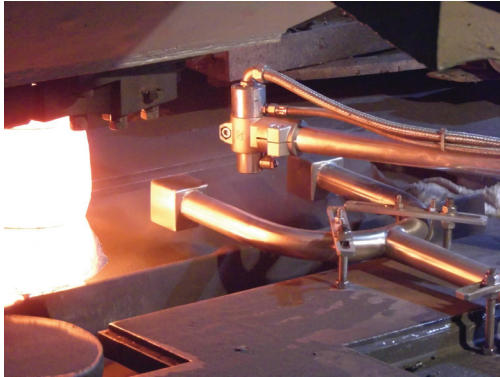
Wireless remote pendant for setting of powder discharge rate

# Powder Level Sensor

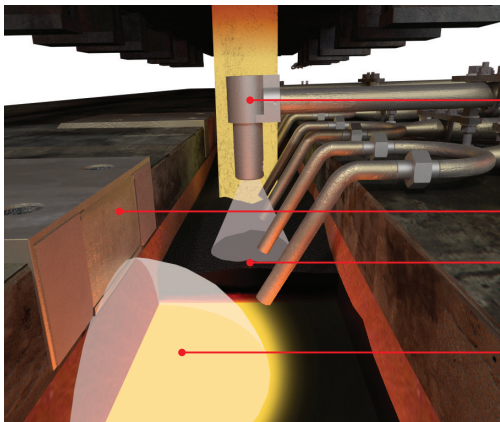
It measures the top level of granulated powder in the mould.

## Main features

- Mounted on discharge nozzle, tundish car or dedicated support
- Signal accuracy not affected by dust or flame



Sensor mounted on a dedicated support



Powder thickness calculation as difference between powder level sensor signal and real steel level

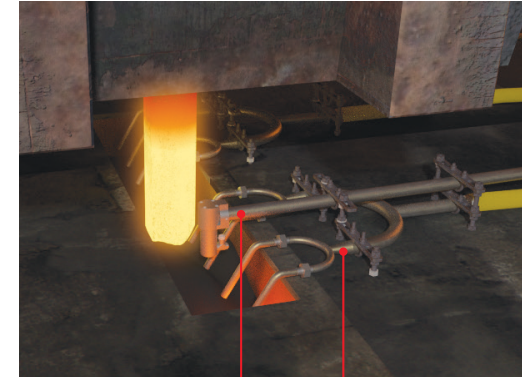
Powder level sensor

Eddy current mould level sensor

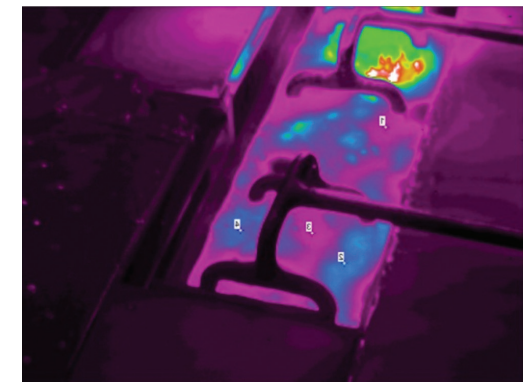
Solid powder level

Steel level

## Example of installation



Powder Level Sensor  
Sensor mounted on the discharge nozzles



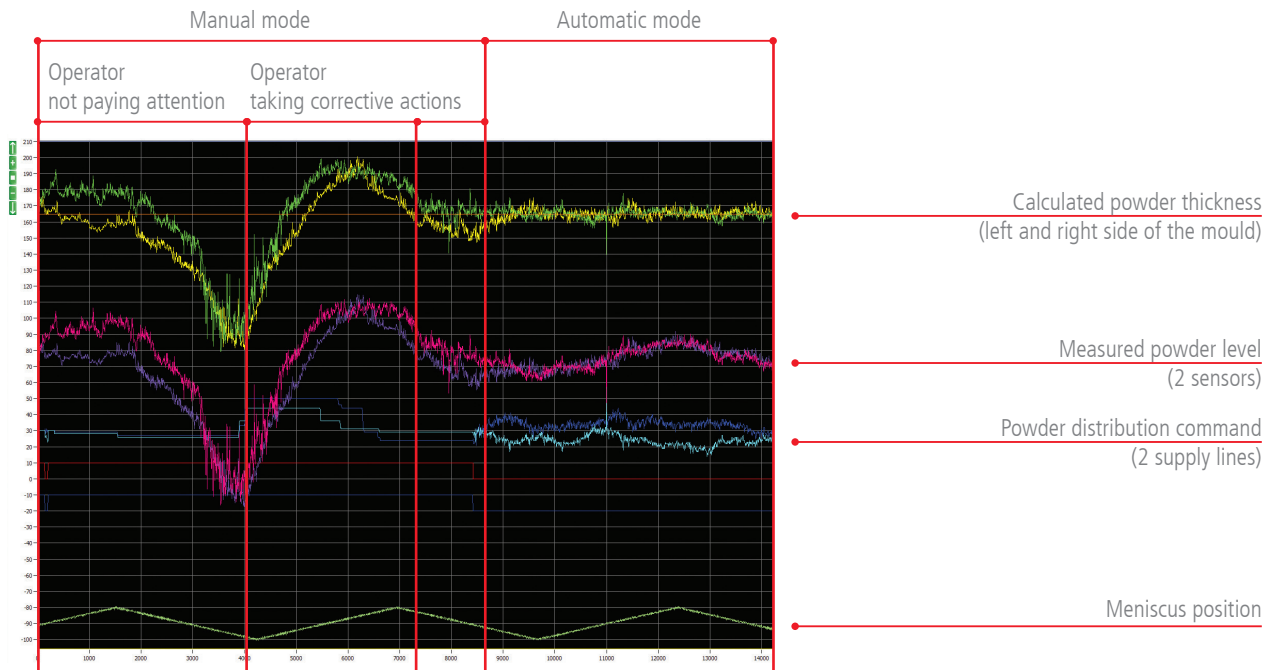
Avoidance of hot spots at the surface of the steel bath

# Powder Level Control

It is a PLC based controller, designed to control and optimize the granulated powder thickness in the mould. It uses DASCOS computer to provide data storage and analysis of mould powder control parameters.

## Main features

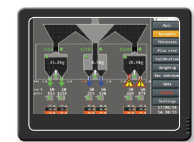
- Powder thickness control
- Remote control via ethernet and communication with level 2 computer
- Data storage and analysis



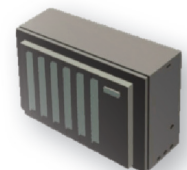
DASCO screenshot: Smart Powder Distribution Control during one sequence (4 hours)



Data storage and image analysis



Touchscreen HMI



PLC Control

# Smart Powder Distribution Mechanism

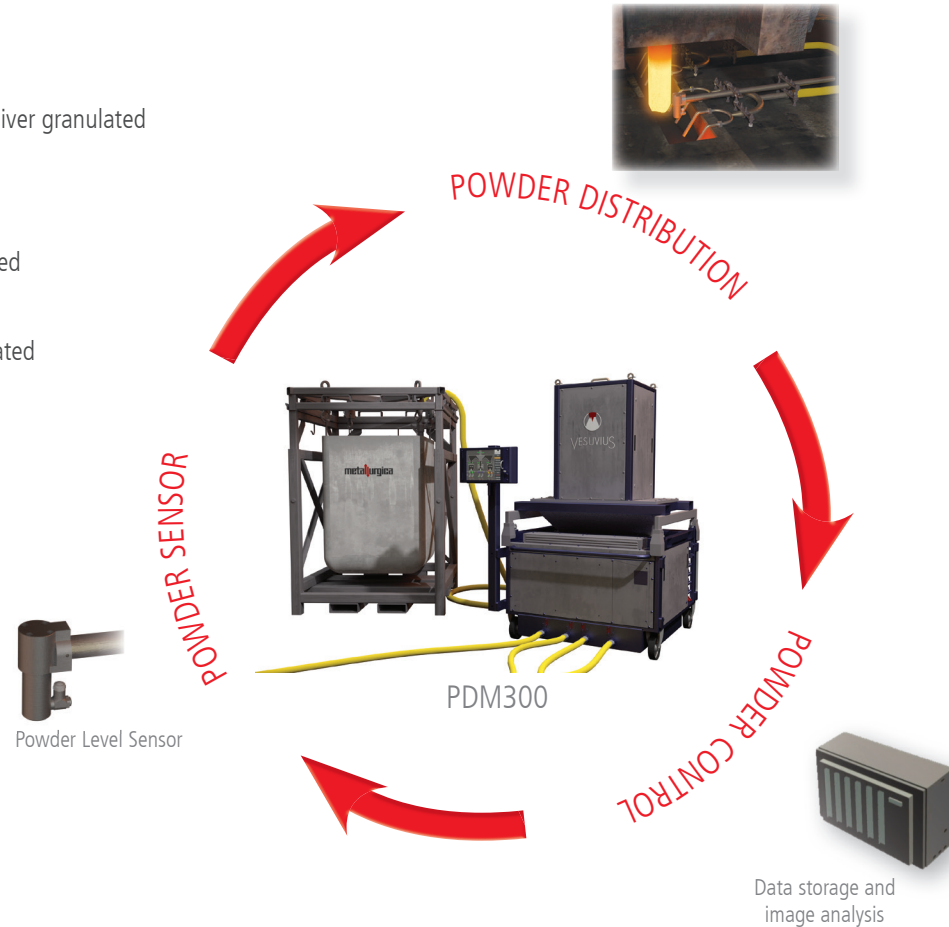
Vesuvius offers a global solution for automatic distribution of granulated casting powder into the mould.

The smart powder distribution mechanism consists of

- PDM300 - Powder Distribution to precisely adjust and deliver granulated casting powder at the desired rate into the mould.

with its key elements:

- Powder Level Sensor to measure the top level of granulated powder in the mould.
- Powder Level Control to optimize the thickness of granulated powder in the mould.







For more information on this product and on our complete package of solutions please contact our local service center:

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