

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



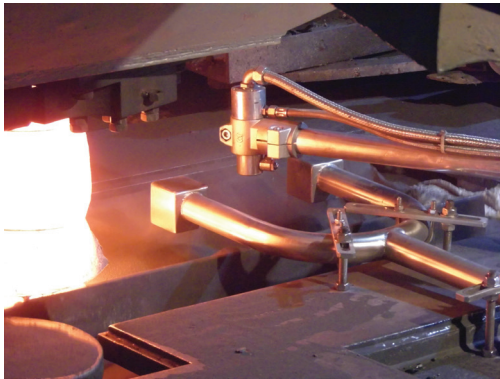
Wireless remote pendant for setting of powder discharge rate

Powder Level Sensor

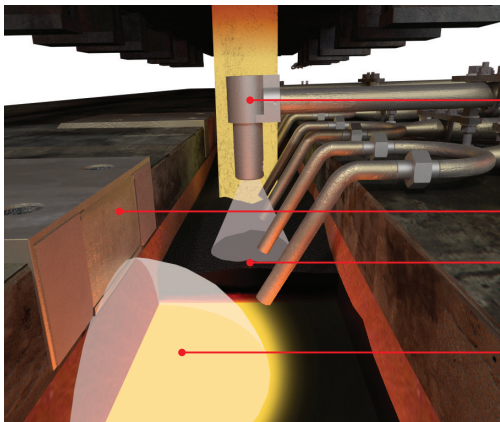
It measures the top level of granulated powder in the mould.

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

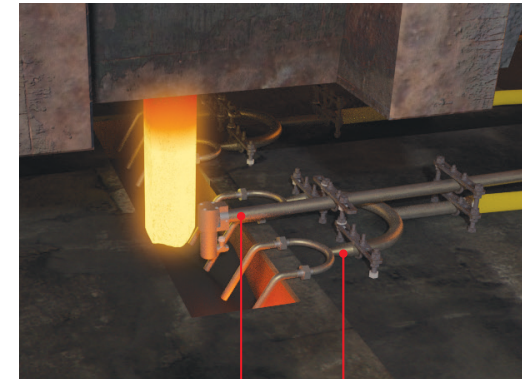
Powder level sensor

Eddy current mould level sensor

Solid powder level

Steel level

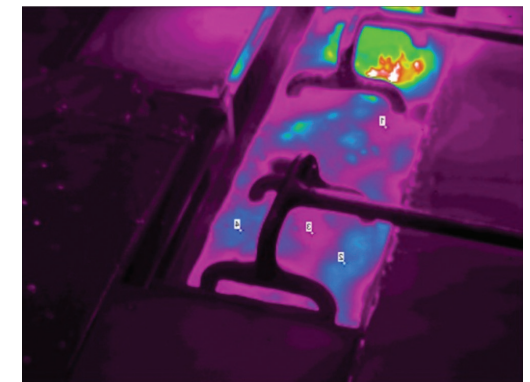
Example of installation



Powder Level Sensor

Discharge nozzle

Sensor mounted on the discharge nozzles



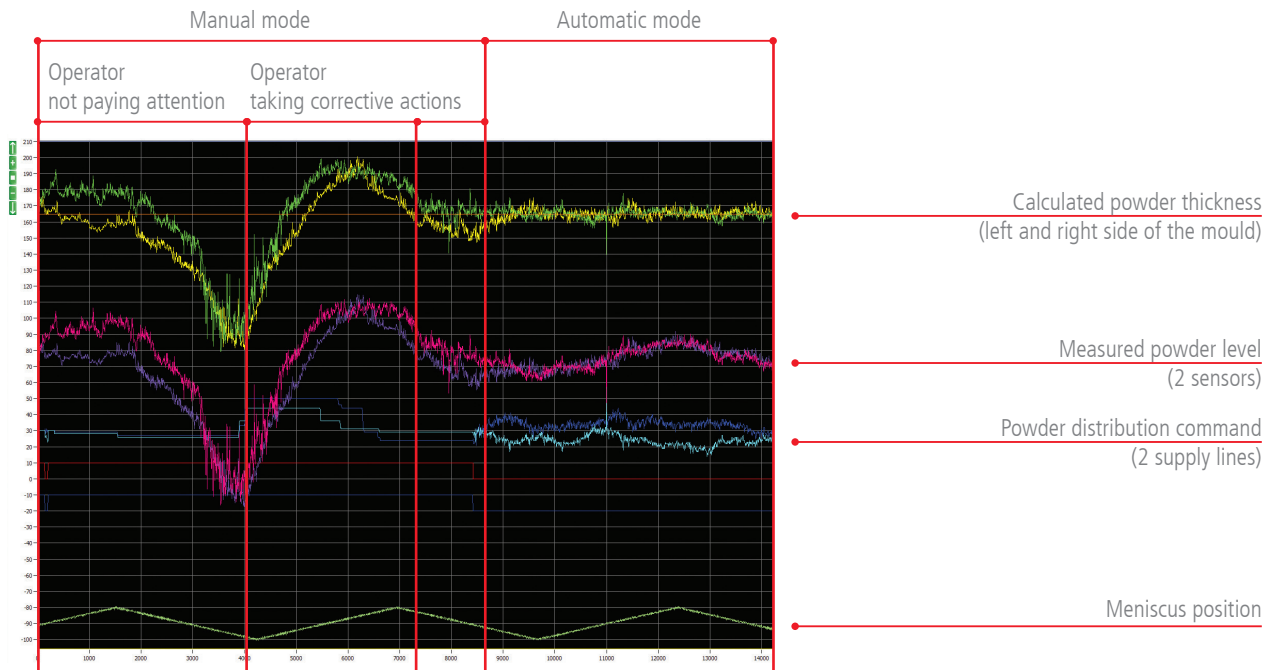
Avoidance of hot spots at the surface of the steel bath

Powder Level Control

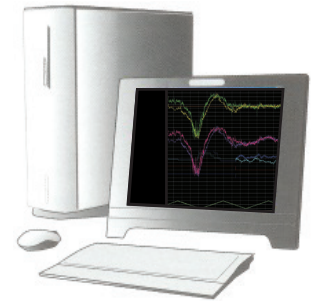
It is a PLC based controller, designed to control and optimize the granulated powder thickness in the mould. It uses DASCOS computer to provide data storage and analysis of mould powder control parameters.

Main features

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



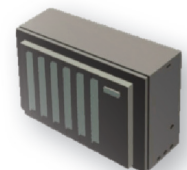
DASCO screenshot: Smart Powder Distribution Control during one sequence (4 hours)



Data storage
and image
analysis



Touchscreen HMI



PLC Control

Smart Powder Distribution Mechanism

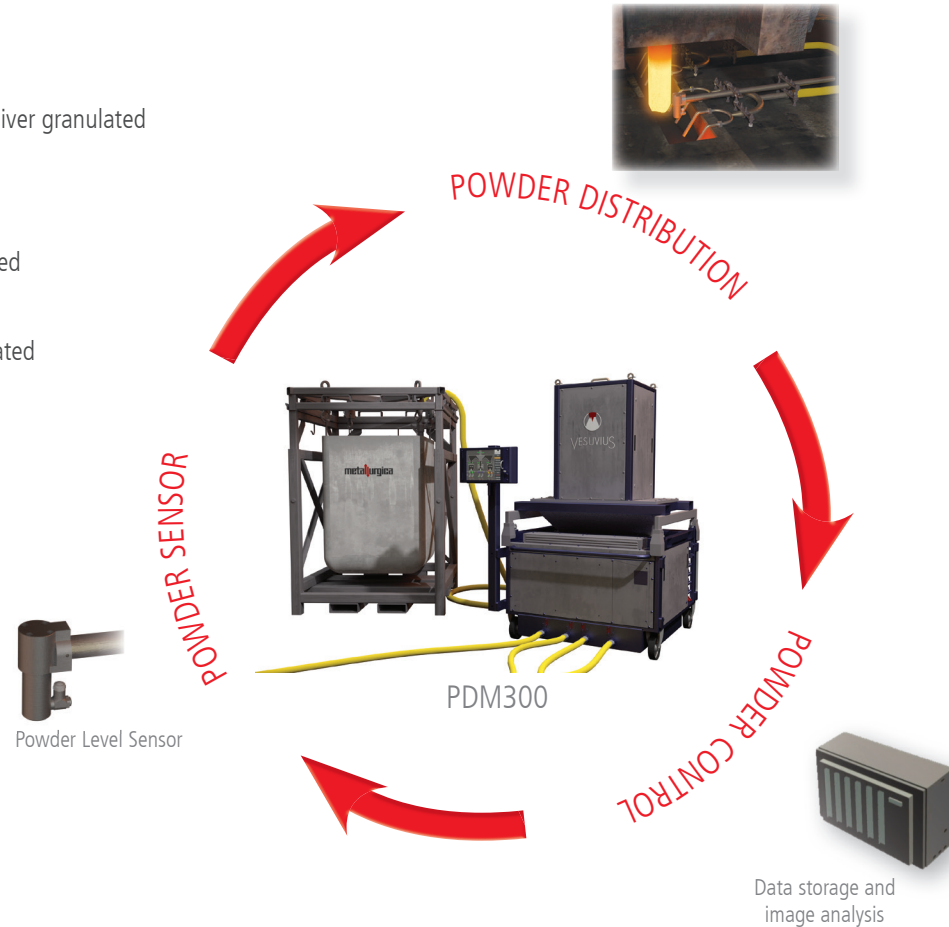
Vesuvius offers a global solution for automatic distribution of granulated casting powder into the mould.

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:

VESUVIUS GROUP, S.A.

Rue de Douvrain, 17
7011 Ghlin - Belgium
Tel: +32 65 400 810
Fax: +32 65 311 474
gh@vesuvius.com

VESUVIUS INDIA LTD

P104, Taratolla Road
700088 Kolkata - India
Tel: +91 33 240 10 234
Fax: +91 33 240 1

VESUVIUS GMBH (METALLURGICA)

Schieferbank 2-16
45472 Mülheim an der Ruhr
Germany
Tel: +49 208 43 466 0
Fax: +49 208 43 466 80

VESUVIUS REFRATARIOS, LTDA

Av. Brazil 49.550
Distrito Industrial de Palmares
CEP '23065-480-Campo Grande
Rio de Janeiro, Brazil
Tel: +55 21 2414 0606
Fax: +55 21 2414 0648

VESUVIUS USA CORPORATION

1100 Maple Avenue
Conneaut, Ohio 44030 - USA
Tel: +1 440 596 1161
Fax: +1 440 593 6268

**VESUVIUS ADVANCED CERAMICS
(CHINA) CO., LTD**

221 Xing Ming Street
China-Singapore Suzhou Industrial Park
Suzhou 215021, JiangSu Province
P.R. of China
Tel.: +86 512 6741 2088
Fax: +86 512 6741 1700

VESUVIUS USA CORPORATION

P.O. Box 4014
1404 Newton Drive
Champaign, IL 61822 - USA
Tel: +1 217 351 5000
Fax: +1 217 351 5031

SERT METAL / VESUVIUS GROUP

3 avenue de l'Europe
69150 Décines - France
Tel: +33 4 7826 0180
Fax: +33 4 7841 4000
sales@sert-metal.com
www.sert-metal.com

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