Fastest way to produce large castings

The DISA vertical series of green sand moulding machines set new standards for speed, quality, reliability and cost effective production. More than 400 foundries all over the world have installed DISA vertical moulding machines for production of a wide variety of casting types and sizes.

Efficiency
The DISA vertical machines are designed perfectly for the cost effective production of large quality castings due to an extremely rigid machine design with an unmatched high speed. This gives the highest output compared to the investment while securing optimum reliability and uptime.

When producing castings on the DISA 240-280 machines, flasks are a thing of the past and variable mould thickness capability means lower sand consumption and constant metal-to-sand ratio. The result is the fastest and most competitive production of near net shape castings.

Optimised design
The compact machine design brings several advantages:
- Low space requirements
- Minimum foundation work
- Pre-tested machine for fast installation and trouble-free start-up
- Easy integration with existing sand and melting systems
- Simple operation requiring one person only

Optimised mechanical design ensures a machine-dependent mismatch very close to zero, reducing the need for machining to an absolute minimum – and often eliminating it entirely.

Machine subsystem rigidity has been increased by up to 100% compared to previous design, ensuring optimum mould quality and minimum mould tear off.

High-performance benefits for the modern foundry

High speed of up to 450 moulds per hour
An advanced PLC system optimises all functions and movements of the enhanced mechanical and hydraulic systems in order to achieve highly flexible production options with speeds of up to 450 uncored moulds an hour.

Excellent accuracy
Optimised mechanical design ensures a machine-dependent mismatch very close to zero, reducing the need for machining to an absolute minimum – and often eliminating it entirely.

Machine subsystem rigidity has been increased by up to 100% compared to previous design, ensuring optimum mould quality and minimum mould tear off.

Features that make the difference

- Unbeatable uptime
  - User-friendly design with fewer moving parts and improved accessibility enables faster service, maintenance and higher uptime.
  - Loads on bearings and moving parts have been significantly reduced to extend lifetime and maintenance intervals.
  - Pre-set production parameters enable fast and reliable pattern changes
  - Total process control with on-screen messages and instructions as well as threshold alarms dramatically reduces stoppages
  - Integrated operation with perfect synchronisation between DISA moulding line units ensures mould integrity

Increase your production capacity
With the DISA patented Double Index System (DIS), you can achieve the following features:
- Longer pouring time (when two moulds are poured simultaneously)
- Higher productivity
- Higher casting quality
- Higher yield

"We replaced our DISAMATIC 2070 by a new DISA 270-A New Generation moulding machine and gained a 50% capacity increase. The DISA 270 is running at a steady speed of 410 moulds an hour. The high casting quality, low scrap and 20% lower finishing costs contribute significantly to the bottom line."

Jostein Lunde,
Production Manager, Jøtul Foundry, Norway
A sustainable solution

The DISA vertical machines offer the following advantages to satisfy increasing demands concerning health, safety and consumption:

- In-chamber spray for enhanced workplace air quality, prevention of wear on pattern plates and minimised consumption of spray liquids
- Easy maintenance access for a safe working environment and time efficiency
- Quieter operation for a more comfortable working environment
- Prepared for air exhaustion from the moulding chamber for clean working environment
- Use of patented hydraulic pump system for maximum energy efficiency and minimum oil cooling energy consumption
- Optional air cooling of hydraulic oil to eliminate water consumption
- Manufactured using environmentally responsible materials and processes according to ISO 14001 certification

Performance-enhancing options

Optional additions and accessories

Automatic Core Setting (CSE)
CSE inserts cores automatically in the rear face of the last produced mould. A light curtain guard ensures easy, fast and safe access for the operator to insert cores in the core mask.

Pattern Change unit (QPC/PPC)
The pattern changer enables quick, semi-automatic pattern change. It makes pattern changing, even of heavy patterns, easier, faster and more precise, regardless of operator skills and routine.

Automatic Pattern Change unit (APC)
The fully automatic APC can change a set of pattern plates within a cycle time extension of max. 60 seconds.

Mould Conveyor (AMC/PMC)
The mould conveyor transports the mould string from the moulding machine through the pouring, solidifying and cooling zones. High-precision transport and synchronisation ensures no shifting, distortion or displacement of moulds.

Synchronised Belt Conveyor (SBC)
The SBC extends the cooling zone. Available with 2 m sections to increase length, the SBC is powered by the mould conveyor drive mechanism to ensure transport of the entire mould string without mould gaps or mould deformation.

Sand Spillage Conveyor (SSC)
The SSC collects and conveys spillage sand along the length of the mould conveyor and can be extended under the Synchronised Belt Conveyor.

Double Pouring APC with integrated sand blow-off

Shuttle for foundries with limited space
The standard DISA SHUTTLE configuration features two or three SBCs running side by side. This enables almost triple in-mould cooling time within a defined space without significant production loss.

Computer Integrated Manufacturing modules (CIM)
CIM modules collect, store and distribute process information along the entire moulding line, enabling real-time monitoring and reporting in order to optimise production process efficiency and quality.

Double Index System (DIS)
The DISA patented Double Index System (DIS) enables you to pour two moulds simultaneously on a DISA vertical machine. The moulding system actually performs a double mould transport before the double pouring begins.
Leading quality and productivity

12 good reasons for choosing the DISA vertical moulding machines

- Fastest moulding machine on the market with up to 450 uncored moulds an hour
- Superior uptime with fewer moving parts, more rigid design and reduced maintenance and parts usage
- Minimal machine-related mismatch for less fettling, lower production costs, increased efficiency and higher earnings
- Comprehensive real-time computer integrated manufacturing (CIM) monitoring and reporting for optimum production process efficiency and quality
- Low manpower requirements
- Automatic Pattern Change Unit for fast pattern change in 60 seconds (75 seconds for DISA 280)
- Ventilated brake disc (grey iron), Boiler (grey iron), Stator housing (grey iron)
- Fast and easy installation
- Double-sided mould squeeze operation and adaptive mould thickness for consistent and dense moulds
- Safe, clean and quiet for a good working environment
- Low power consumption
- User-friendly operator panel with text and graphics for easy operation and quick troubleshooting
- Low sand consumption with consistent sand-metal ratio

“Our DISA 240-C machine still manages to impress with an average uptime of 99.5% since installation. A machine dependent mismatch of under 0.15mm has significantly reduced our finishing costs compared to our other moulding processes and our scrap rate has been reduced to only 2%.”

Sung-Yong Hong, Project General Manager, Sungwoo Co. Ltd., Korea

### Technical Data

<table>
<thead>
<tr>
<th>Type</th>
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<th>DISA 250</th>
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* at 200 mm (7.9 inches) mould thickness
** at 250 mm (9.8 inches) mould thickness
*** at max. mould thickness

The technical data is not binding and may be subject to change.