Big castings, big performance

www.disagroup.com
DISA’s vertical moulding technology offers flexible and efficient large casting production with high speed, high volume and high quality.

For foundries that are still producing larger castings, such as engine blocks, pipe fittings, fire hydrants, large pumps and manhole covers, on big flask lines, the DISAMATIC 240-280 range offers the opportunity to step up productivity and casting quality and make large moulds faster than ever before.

Where horizontal moulding technology takes up space and ties up manpower, is slower and has a higher cost per casting, vertical moulding offers high-quality, higher-speed casting production together with a modern, safe working environment.

The DISAMATIC 240-280 in brief

The DISAMATIC 240-280 are a four-model range of vertical greensand moulding lines for large castings (with mould sizes of up to 1050 mm by 1200 mm and a thickness of up to 675 mm).

Their rigid design assures higher dimensional tolerances for optimal large mould accuracy, reducing or even eliminating the need for finishing work. Variable mould thickness also delivers lower sand consumption and a constant metal-to-sand ratio.

With a small footprint and easily run by a single operator, all four models enable sustainable, energy-efficient operation at speeds between 210 and 450 uncored moulds per hour.

Available globally in four sizes, the DISAMATIC 240, 250, 270 and 280 deliver the ultimate in moulding performance for large castings.

“We gained a 50% capacity increase with our new DISA 270A which 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
Big casting production - supercharged

The highest speed
The DISAMATIC 240-280 range harnesses advanced DISA moulding technology to deliver ultimate vertical mould performance: efficient hydraulic and pneumatic operation, rapid sand filling, double-side squeeze, enhanced rigidity – all coordinated by a sophisticated process control system.

With time-saving options like the Automatic Pattern Changer (APC), the Automatic Core Feeder (ACF) and Double Index System (DIS), the DISAMATIC 240-280 machines combine highly flexible production with outright speed.

The bottom line? Up to 450 large uncored moulds an hour, every hour.

The best engineering
DISA brings over half a century of vertical moulding expertise and development to the DISAMATIC 240-280 range. With subsystem rigidity up to double that of previous models, its optimised mechanical design reduces machine-dependent mismatch very close to zero.

Integrated operation with perfect synchronisation between DISA moulding line units further supports mould integrity.

With optimum mould quality and minimum mould tear, casting finishing is reduced to an absolute minimum – and often eliminated entirely.

Maximum uptime
Lower loads on bearings and moving parts increase plant lifetime and significantly reduce the need for servicing. Improved accessibility makes maintenance much easier too. Pre-set production parameters support fast and reliable pattern changes so there’s no need to slow the moulding line.

Total process control with threshold alarms plus on-screen messaging and instructions dramatically reduce stoppages while DISA Global Services and DISA TOPS – DISA’s exclusive customer inspection, service and maintenance programme – offer the industry’s finest aftermarket support.

Together, they deliver class-leading uptime, with DISAMATIC 240-280 machines still performing like new decades after installation.

“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 and our scrap rate has been reduced to only 2%.”

SungHun Kang, Project General Manager, Hyundai Sungwoo Casting Co. Ltd., Korea
Efficient and clean foundry operations

Fastest time to value
We designed the DISAMATIC 240-280 range to save foundries time and money, right from day one:

• compact architecture requires minimum floor space and foundation work
• pre-tested machine for fast installation and trouble-free start-up
• easy integration with existing sand and melting systems
• simple single-person operation

By minimising capital investment and operating cost, DISAMATIC 240-280 moulding lines help increase your foundry’s profitability in the production of large castings.

Safe, clean and lean operations
The range offers smoother, quieter and more energy-efficient operation:

• patented energy-efficient hydraulic pump
• in-chamber spray improves workplace air quality, lowers pattern plate wear and reduces fluid consumption
• ready-to-connect moulding chamber and conveyor air exhausts
• optional air cooling of hydraulic oil eliminates water consumption

With easy, safer maintenance access and ISO 14001 compliance, DISAMATIC 240-280 machines support sustainable casting production – without compromising the bottom line.

On the new larger DISAMATIC 250, we range from 415 to as high as 450 moulds per hour. Most of the time, it’s in the 420 range. The advantage is that it makes twice as many castings as the old machines.

Scott Lakey, Foundry Support Manager, Lodge Cast Iron, United States of America
Features and options

DISAMATIC moulding machines include an array of performance enhancing options for superior mould production quality and efficiency.

Automatic Core Setting (CSE)
The Core Setter inserts cores automatically in the rear face of the new mould, eliminating bottlenecks and maximising line speed. A light curtain guard gives operators easy, fast and safe access to insert cores in the core mask.

Pattern Change unit (QPC/PPC)
The Pattern Changer’s rapid, semi-automatic action makes pattern changes easier, faster and more precise, even with the heaviest patterns. Regardless of the operator’s skills and routine, it cuts pattern changing times and minimises errors.

Automatic Pattern Change unit (APC)
The fully automatic APC enhances small batch production flexibility, changing a set of pattern plates with a maximum cycle time extension of less than 60 seconds.

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

Synchronised Belt Conveyor (SBC)
Used to extend cooling time, the SBC is available in 2m modules. Powered by and synchronised with the mould conveyor drive mechanism, it ensures steady transport of the entire mould string without mould gaps or deformation.

Sand Spillage Conveyor (SSC)
The SSC collects and conveys spillage sand under the mould conveyor and Synchronised Belt Conveyor, reducing material loss and cutting dust formation.

Shuttle for foundries with limited space (SCC)
The standard DISA SHUTTLE configuration features two or three SBCs running side by side. This gives the option of reducing the total length of the main cooling line and at the same time occupying minimum floor space. The DISA SHUTTLE almost triples in-mould cooling time as and when required.

Double Index System (DIS)
DISA’s patented Double Index System lets you transport, then pour two moulds simultaneously on a DISA vertical machine for higher yield and casting quality.

Monitizer® | CIM
The Monitizer | CIM provides a flexible, scalable and central platform to access your foundry data, unlocking new possibilities and new insights from historical and real-time data. It is accessed via an easy to use web-based interface, making it easy to collect, correlate, analyse, monitor and exchange data.
Dependable, fast and profitable

Big performance
No-one else supports high-end vertical moulding like DISA. DISAMATIC 240-280 machines:
• are the fastest on the market - up to 450 uncored moulds per hour
• change patterns rapidly
• can produce the large moulds with ease
• come with a wide range of performance-enhancing options

Big quality
DISA’s renowned engineering and design quality gives you:
• double-sided mould squeeze operation and adaptive mould thickness for consistent and dense moulds, lower scrap and minimum finishing
• superior uptime due to fewer moving parts, more rigid design and reduced maintenance
• Monitizer | CIM monitoring and reporting for optimum efficiency and quality
• safe, easy and clean operation, maintenance and troubleshooting

Big profit
The DISAMATIC 240-280 range delivers breathtakingly fast large moulding performance with maximum ROI:
• minimal machine-related mismatch means less scrap, reduced finishing, lower production costs and higher earnings
• minimal labour requirements, low sand and power consumption
• higher profitability during a longer service life
• small footprint offers fast, low cost installation with minimum foundation work
• The DISAMATIC 240-280 range helps foundries lower their cost per casting, reduce turnaround time, increase margins and future-proof their casting production.
## DISAMATIC 240-280 technical data

### Mould dimensions:

<table>
<thead>
<tr>
<th></th>
<th>DISAMATIC 240-280</th>
<th>DISA 240</th>
<th>DISA 250</th>
<th>DISA 270</th>
<th>DISA 280</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>A</td>
<td>B</td>
<td>C</td>
<td>A</td>
<td>B</td>
</tr>
<tr>
<td>Height (mm)</td>
<td>600</td>
<td>600</td>
<td>600</td>
<td>650</td>
<td>700</td>
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<tr>
<td>Width (mm)</td>
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<td>850</td>
<td>850</td>
<td>950</td>
</tr>
<tr>
<td>Thickness (mm)</td>
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<td>150-500</td>
<td>150-500</td>
<td>150-500</td>
<td>200-650</td>
</tr>
</tbody>
</table>

| Mismatch (mm)  | 0.15              | 0.15     | 0.15     | 0.15     | 0.2      | 0.2      | 0.2      | 0.4      | 0.4      |

### Low moulding capacity:

<table>
<thead>
<tr>
<th></th>
<th>Uncored mould/hax*</th>
<th>Cored mould/hax*</th>
<th>Cooling time max (min)</th>
<th>Sand consumption max (tonnes/h**</th>
<th>Power consumption (kW)</th>
<th>Connected load (kVA)</th>
<th>Compressed air consumption (Nm/min)</th>
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<tbody>
<tr>
<td>DISAMATIC 240-280</td>
<td>335</td>
<td>335</td>
<td>98</td>
<td>305</td>
<td>110</td>
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<td>DISA 240</td>
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<td>305</td>
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<td>DISA 280</td>
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<td>98</td>
<td>250</td>
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### High moulding capacity:

<table>
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<tr>
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<tr>
<td>DISA 280</td>
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<td>65</td>
<td>114</td>
<td>110</td>
<td>138</td>
<td>23</td>
</tr>
</tbody>
</table>

### Connected load:

- **Cooling water consumption (DMS):**
  - at 15 ºC inlet temp: 37 litres/min

### Pressure:

- **Squeeze pressure (kp/cm²):** 1.5-16
- **Shot pressure (bar):** 0-5
- **Compressed air requirements:**
  - **Air pressure min (bar):** 5.5
  - **Hydraulic fluid (DMM):** liters
  - **Machine dimensions (DMM):**
    - **Height (mm):** 3650
    - **Width (mm):** 1750
    - **Length (mm):** 8230

### Machine dimensions (DMM):

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<td>Length (mm)</td>
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<td>8230</td>
<td>8230</td>
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<tr>
<td>Net weight (tonnes)</td>
<td>27</td>
<td>29</td>
<td>30</td>
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* At 200 mm mould thickness / ** At max. mould thickness