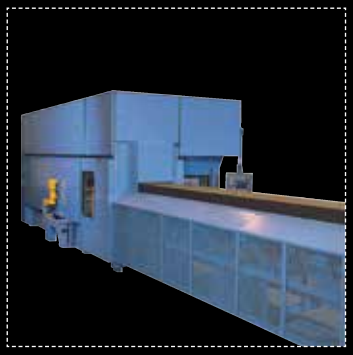
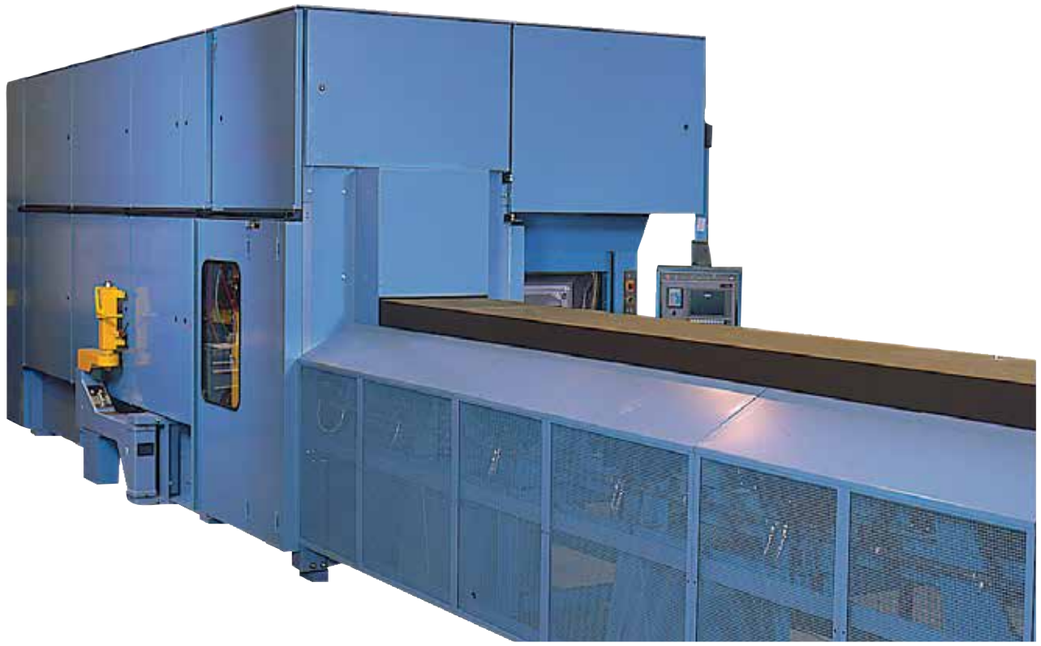
DISA 240, 250, 270 & 280



DISA
shaping industry

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 mouldng 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

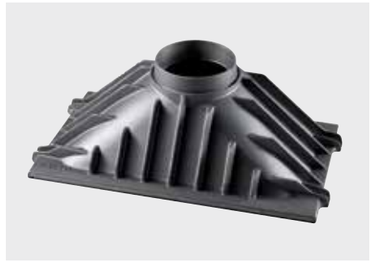
The compact machine design brings several advantages:

- 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

High-performance benefits for the modern foundry

4 cylinder engine block (grey iron)

Suspension rear arm (ductile iron)



Stove roof (grey iron)

Features that make the difference

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.

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 life-time 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

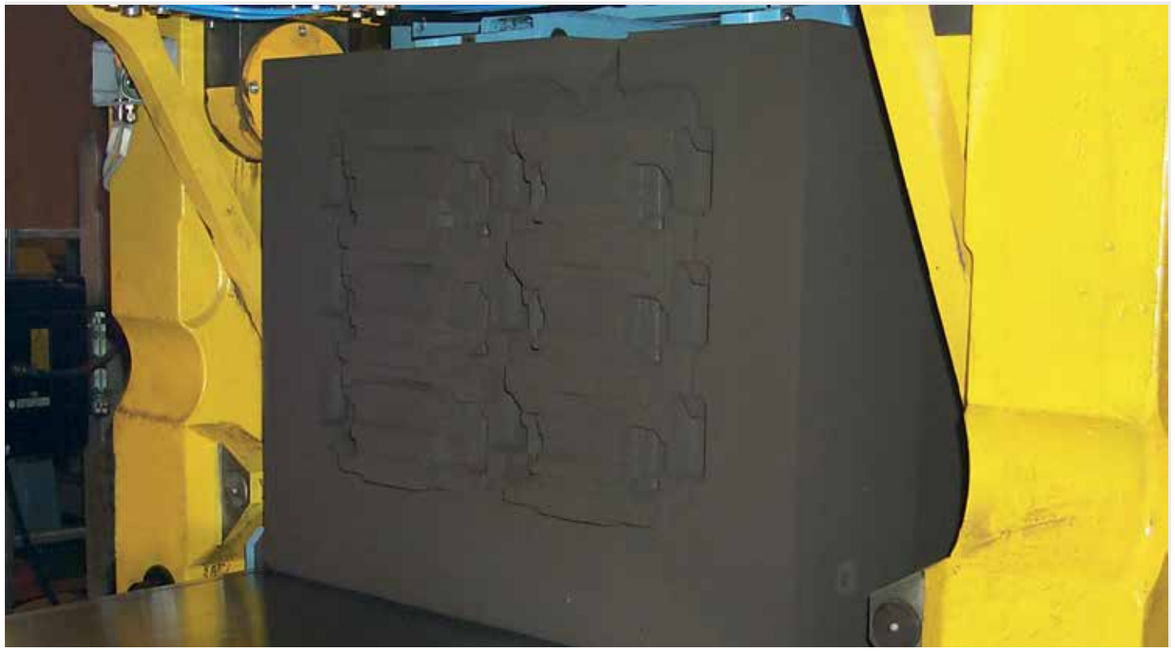
With the DISA patented Double Index System (DIS), you can achieve the following features:

- 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



Mould inside DISA New Generation machine

Designed to be safe, clean and lean

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

Double Pouring

APC with integrated sand blow-off

DISA SHUTTLE conveyor

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.

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

Ventilated brake disc (grey iron)

Boiler (grey iron)

Stator housing (grey iron)

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)
- 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 DISA240-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

Type		DISA 240			DISA 250	DISA 270			DISA 280	
		A	B	C	C	A	B	C	B	C
Mould dimensions: Height	mm	600	600	600	650	700	800	800	850	1050
Mould dimensions: Width	mm	750	775	850	850	950	950	1000	1200	1200
Mould dimensions: Thickness	mm	150-500	150-500	150-500	150-500	200-650	200-650	200-650	250-675	250-675
Mismatch:	mm	0.15	0.15	0.15	0.15	0.2	0.2	0.2	0.4	0.4
Low Mould capacity:										
Uncored	mould/hour*	335	335	335	335	280	280	280	210	210
Cored	mould/hour*	305	305	305	305	250	250	250	195	195
High Mould capacity:										
Uncored	mould/hour*	450	450	450	450	400	390	390	300	300
Cored	mould/hour*	400	400	400	400	375	365	365	280	280
Conveyor length max:	m	100	100	100	100	120	120	120	120	120
Cooling time max:	min*	65	65	65	65	90	92	92	95	95
Sand consumption max:	tonnes/h**	122	125	138	150	188	215	226	255	309
Water consumption (DMS): at 15 C inlet temp.	litres/min	40	40	40	40	43	43	43	50	56
Pressure:										
Squeeze pressure	kp/cm^2	3-16	3-16	3-16	3-16	3-16	3-16	3-16	3-12	3-12
Shot pressure	kp/cm^3	0-5	0-5	0-5	0-5	0-5	0-5	0-5	0-5	0-5
Electrical requirements (DMS):										
Power consumption	KW	105	105	105	105	110	110	110	125	125
Connected load:	KVA	123	123	123	123	129	129	129	138	138
Pneumatic requirements:										
Air consumption	$Nm3/min$	18	18	18	18	23	25	26	28	30
Air pressure min.	bar	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Hydraulic fluid (DMS):	litres	1850	1850	1850	1850	1950	1950	1950	1950	1950
Machine Dimensions (DMM):										
Height	mm	3650	3650	3650	3680	4265	4400	4400	4650	5160
Width	mm	1750	1750	1750	1750	1860	1860	2010	2110	2110
Length	mm	8230	8230	8230	8230	9800	9800	9800	9800	9800
Net weight:	tonnes	27	29	30	30	40	41	45	52	53

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

* at 200 mm (7.9 inches) mould thickness
** at 250 mm (9.8 inches) mould thickness
*** at max. mould thickness

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ISO 9001 BUREAU VERITAS Certification

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DISA
shaping industry

Norican Group is the parent company of DISA and Wheelabrator.