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DISA
shaping industry

DISAMATIC

World leading vertical moulding equipment

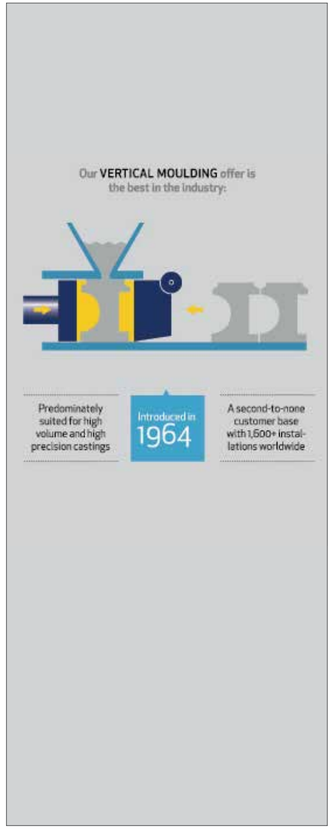
DISA
shaping industry

Stator housing from WEG, Brazil

The WEG Motors company is situated in Jaragua do Sul, SC – in Brazil, and they run 2 DISA 250, 1 DISAMATIC MK5, 1 DISAMATIC MK4 and 1 DISAMATIC 2110 in 3 different foundries, producing stator housings and covers in different sizes for electro motors.

"With our DISAMATICs we have increased our production capacity significantly. No doubt that the speed and accuracy has added to the quality of our end products. High productivity with a minimum number of resources was one of our goals – and our DISA moulding equipment has helped us realizing the goal".

Mr. Wilson Hauffe
WEG Plant III and IV Manager



High-performance benefits for the modern foundry

At DISA, industry leadership is equivalent to customer partnerships and in-depth market knowledge. We continue to consolidate our global footprint with the broadest industry offer, and we enjoy the trust and loyalty of leading foundries all over the world.

Optimise reliability

- Rock-steady operation and consistency mean dependable production and delivery of high-quality castings

Maximise earnings

- Achieve the lowest costs per casting and short payback time with high speed and yield, ultra-short pattern change times, low maintenance requirements.

World-class service and support

- DISA Global Services offers service and maintenance, operator training and foundry technology service agreements to help optimise your productivity and performance

Unparallelled reliability, excellent castings and minimum scrap

Optimise reliability

- The control system and operator panel comply with the latest standards to minimise complexity and provide the highest precision
- The hydraulic system has been simplified and enhanced to provide higher reliability and uptime
- The redesigned Automatic Mould Conveyor (AMC) features an integrated control system, enabling superior control of the mould string movement. Improved protection of thrust bars prevent iron spillage.

Features that make the difference

High speed

A world-class PLC system optimises all functions and movements of the enhanced mechanical and hydraulic system in order to achieve highly flexible production options/ efficiency with speeds of up to 555 uncored moulds per hour.

Excellent accuracy

The proven rigid mechanical design means that DISA is able to guarantee moulds with a machine-dependent mismatch of less than 0.10 mm. The need for machining and trimming is reduced to an absolute minimum – or even eliminated.

Unbeatable uptime

The DISAMATIC D3 incorporates numerous features making operation more straightforward, more reliable and more cost effective:

- Less wear and less maintenance due to load reductions on fewer moving parts
- Shorter maintenance times using standardised DISA wear parts and interchangeable components
- Quick and reliable changeover with preset production parameters
- Dramatic reduction of downtime via total process control with on-screen messages and instructions as well as threshold alarms

10 good reasons for choosing the DISAMATIC D3

- Up to 555 uncored moulds per hour
- Mould Acurracy Controller, Enhanced control over tolerances
- Automatic Filter Setter - provides faster and more efficient un-cored production with filters
- Double Index System - increases production by up to 30%, now standard on DISAMATIC D3-555
- Further improved mould transportation, ensuring accurate and stabile pouring position, lowering scrap
- Automatic Pattern Change unit for fast pattern change in 60 seconds
- VDU touch panel with clear text and graphics for complete operator overview and quick user-friendly troubleshooting
- Compatible with DISAMATIC 2013/230/231 pattern plates
- Genuine double-side mould squeeze operation for consistent and dense moulds
- Clean and quiet for an enhanced working environment

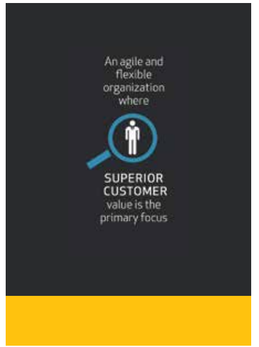
Service organisation

The DISA Foundry Cockpit collects, stores and distributes information from the entire moulding line, enabling real-time monitoring and reporting to optimise production process and efficiency.

DISA Global Services

DISA's unparalleled service organisation provides and ensures the following:

- 24 hour hotline
- Availability of spare parts
- DISA TOPS – DISA's exclusive customer inspection, service and maintenance programme
- DISA Foundry Cockpit
- DISA Training
- DISA Remote Monitoring Services
- DISA Foundry Optimisation



"DISA TOPS has been a significant asset in helping us to sustain the higher productivity, higher uptime, reduced finishing needs and lower scrap that our DISA 270 has given us. We have priority access to DISA's service and know-how via our personal DISA TOPS service engineer and DISA TOPS training has increased our in-house technical and operator competences."

Jostein Lunde,
Site Director, Jøtul AS,

Performance enhancing options

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

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.

Quick Pattern Change unit (QPC)

The QPC enables quick, semi-automatic pattern changes. 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.

Automatic Mould Conveyor (AMC)

The AMC conveys 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 AMC 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. The Double Index System increases productivity by up to 30%

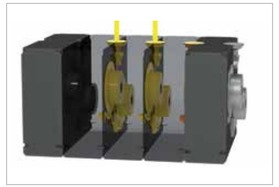
Automatic Filter Setter (AFS)

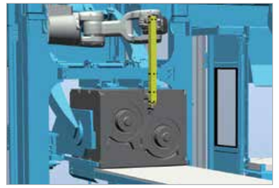
The AFS increases productivity and utilises the full moulding capacity. Furthermore, it decreases the need for operator personnel.

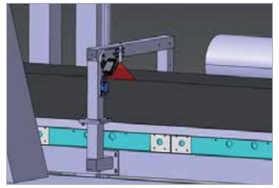
Mould Accuracy Controller (MAC)

The MAC ensures early warning of any mould deviations within customer defined tolerances. The MAC System is fully integrated with the DISA Foundry Cockpit. The Mould Accuracy Controller (MAC) is a DISA patented solution.

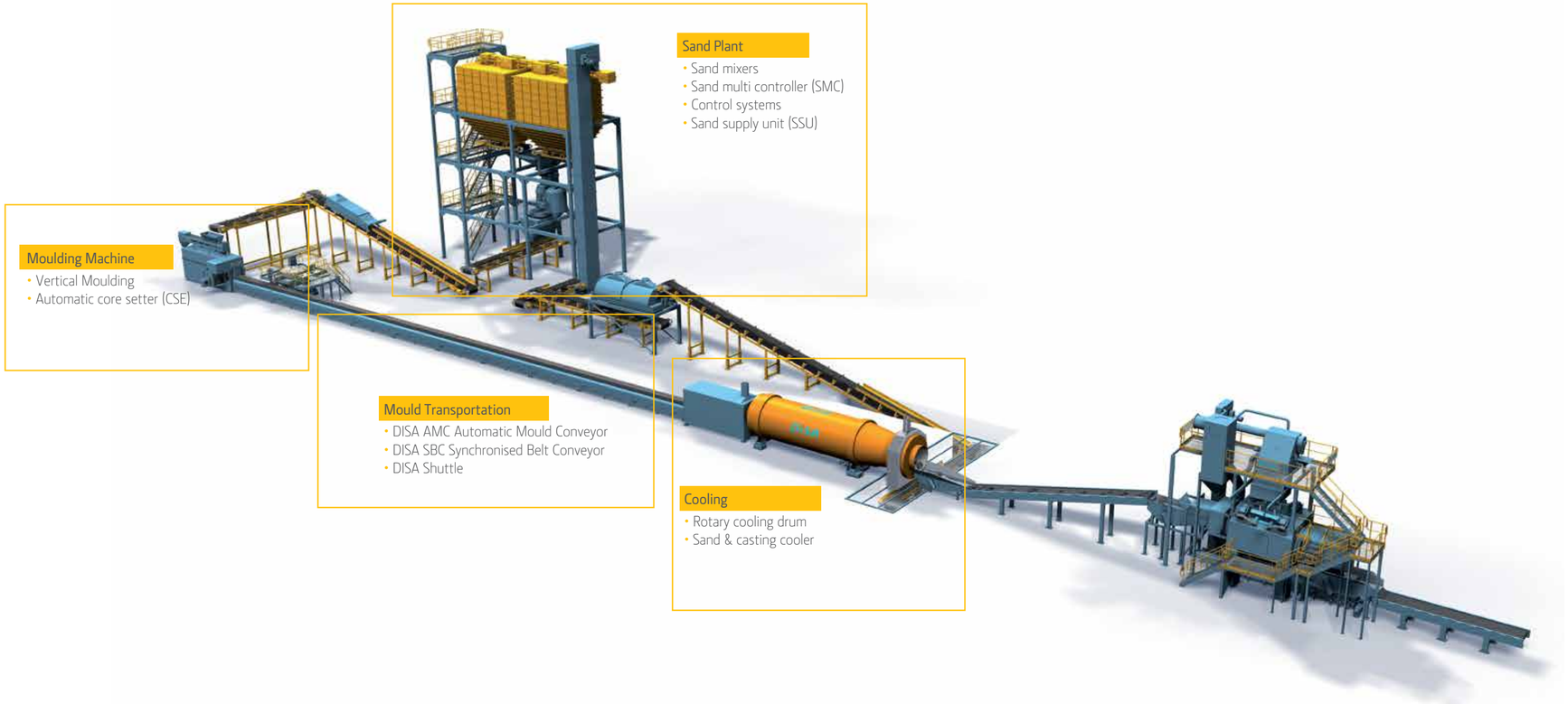
New features


Double Index System (DIS)


Automatic Filter Setter (AFS)


Mould Accuracy Controller (MAC)

The DISAMATIC foundry



View an animation of the DISAMATIC complete foundry here

View Wheelabrator shot blast animations here

Castings made on DISAMATIC

Oval casserole, 2.8 kg
2 per mould - DISA 231-X FAST

Brake Caliper, 2.5 kg
4 per mould - DISA 231-A

Flush Valve, 1.2 kg
4 per mould - DISAMATIC 2110 MK2

Sustainability - Being transparent and responsible

Providing environmentally sustainable products and services

Designed to be safe, clean and lean

The DISAMATIC D3 offers the following advantages to satisfy increasing demands concerning health, safety and consumption:

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

"DISA embraces innovation to deliver solutions to environmental challenges. All our innovations are dedicated to improving the sustainability of green sand foundries, in a way that is both efficient and cost effective for our customers."

Sten Hounstrup, Vice President R&D
DISA Industries A/S, Denmark

DISAMATIC D1 - faster than ever before!

The DISAMATIC D1 is a compact vertical moulding machine with the power and precision to increase competitive edge, both for smaller foundries and foundries producing smaller mass-produced castings, through higher output and quality.

Since its inception in 1987, the DISAMATIC D1 (formerly known as DISAMATIC 2110) has established an unbeaten track record with more than 150 machines in operation all over the world. Many smaller foundries have used the DISAMATIC D1 to extend their businesses into new, higher value markets where competitively priced quality and reliability are at a premium.

High speed and high quality

The DISAMATIC D1 is available in two versions, the high-output version and the standard version. Both versions provide an integrated solution with relatively few movements and are ideal for high-speed, high-quality production of smaller ferrous, aluminum and copper castings.

The even higher level of automation of the DISAMATIC D1 is achieved by embedding the latest know-how of DISA in the control system and operator interface. This reduces manning requirements to a minimum.

PLC control system

The DISAMATIC D1 Moulding System is as standard provided with the latest high-end PLC control system incorporated in the moulding machine. The basic PLC-configuration includes:

- Interface to all moulding line units
- Auto-diagnosis of electrical hardware for fast troubleshooting
- Monitoring of positions and velocities of movements to ensure perfect synchronisation between all system units
- Automatic machine setting adjustments based on pre-entered pattern data

Electrical Core-setter (CSE)

The latest version of the DISAMATIC D1 is equipped with an even faster and more reliable core-setter – independent of core size and weight.

"With the performance enhancing features of our new DISAMATIC D1 we are adding further to the capacity, speed and quality, which will maintain our position as a superior competitor in the market"

Philippe BOISSON
President of Fonderie Boisson

DISAMATIC D1 - Technical specifications

DISAMATIC D1

Measurements:	Metric	US	Metric	US
Mould dimensions:				
Height	mm	inches	400	15.7
Width	mm	inches	500	19.7
Thickness	mm	inches	100-315	3.9-12.4
Mismatch:	mm	inches	0.2	0.008
Low Mould capacity:				
Uncored	mould/hour*	mould/hour*	205	205
Cored	mould/hour*	mould/hour*	185	185
Cooling time max	min*	min*	70	70
Sand consumption max	tonnes/h**	tons/h**	20	22
Power consumption	KW	KW	67	-
Connected load	KVA	KVA	55	-
Air consumption	Nm3/min	cu ft/min	3,2	113
High Mould capacity :				
Uncored	mould/hour*	mould/hour*	315	-
Cored	mould/hour*	mould/hour*	285	-
Cooling time max	min*	min*	47	47
Sand consumption max	tonnes/h**	tons/h**	29	32
Power consumption	KW	KW	67	-
Connected load	KVA	KVA	55	-
Air consumption	Nm3/min	cu ft/min	4,3	152

DISAMATIC D1

Measurements:	Metric	US	Metric	US
Conveyor length max:	m	ft	50	164,1
Water consumption (DMS):				
at 15 C inlet temp.	litres/min	gallons/min	8	2,1
Pressure:				
Squeeze pressure	kp/cm2	psi	12,5	184,9
Shot pressure	kp/cm2	psi	5,5	80
Pneumatic requirements:				
Air pressure min.	bar	psi	5,5	81,3
Hydraulic fluid (DMS):	litres	gallons	550	145,2
Machine Dimensions (DMM):				
Height	mm	Inches	2880	113,4
Width	mm	Inches	1700	66,9
Length	mm	Inches	4140	163,0
Net weight:	tonnes	tons	5,6	6,2

* At 200 mm (7.9 inches) mould thickness
** At max. mould thickness

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

DISAMATIC D3 – The evolutionary new D3 sets new standards for vertical moulding

New green sand vertical moulding machine with DISA precision and reliability

The introduction of DISA New Generation moulding machine technology signaled a radical change in vertical moulding. The new technology meant a new, even more rigid, mechanical design, more mould sizes, fewer moving parts, a cutting-edge PLC solution and standardised components, which enabled even greater precision and reliability, lower maintenance costs and an improved working environment.

With the new DISAMATIC D3, DISA vertical moulding technology enters a complete new level, both integrating and enhancing the vertical moulding features. The DISAMATIC D3 platform introduces features which have never been seen before in vertical moulding technology. However, this is only the beginning, DISA is constantly developing and enhancing the existing features but also introducing new features in the years to come, in order to further lowering your costs per part.

The DISAMATIC D3 makes DISA's latest technology affordable for foundries looking for best possible capacity output of precision castings. The DISAMATIC D3 offers the same mould dimensions as its predecessor (the DISA 231, DISA 230, DISAMATIC 2013).

DISAMATIC D3 is the perfect solution for many jobbing foundries and foundries looking for a replacement for an older machine such as the DISAMATIC 2013.

The DISAMATIC D3 combines unsurpassed quality with high throughput of up to 555 uncored or 485 cored moulds an hour. The secret is the new, simplified hydraulics system together with a state of the art electrical control system and 40+ years of experience from 1500+ installations world-wide. This enables production of castings with high accuracy and lower cost per mould.

"In our efforts to further enhance the quality of our renowned "Le Creuset" kitchenware we bought a DISA 230-X in 2003."

"This has proven unparalleled advantages and improvements in the production process, and due to this excellent experience we have recently invested further in a DISA 231-X FAST."

Mr Patrick JACOB General Manager
Mr Frédéric SALLE General Manager
Le Creuset Industrie, France

DISAMATIC D3 - Technical specifications

DISAMATIC D3			A		B		C		X		Z	
Measurements:	Metric	US	Metric	US	Metric	US	Metric	US	Metric	US	Metric	US
Mould dimensions: Height	mm	inches	480	18.9	535	21.1	550	21.7	535	21.1	570	22.4
Mould dimensions: Width	mm	inches	600	23.6	650	25.6	675	26.6	750	29.5	750	29.5
Mould dimensions: Thickness	mm	inches	150-395	5.9-15.6	150-395	5.9-15.6	150-405	5.9-15.9	150-405	5.9-15.9	150-405	5.9-15.9
Mismatch:	mm	inches	0.1	0.004	0.1	0.004	0.1	0.004	0.1	0.004	0.1	0.004
Low Mould capacity: D3-365												
Uncored	mould/hour*	mould/hour*	365	-	365	-	365	-	365	-	365	-
Cored	mould/hour*	mould/hour*	333	-	333	-	333	-	333	-	333	-
Cooling time max	min*	min*	77	-	77	-	77	-	77	-	77	-
Sand consumption max	tonnes/h**	tons/h**	62	68	75	83	82	90	89	98	91	101
Power consumption	KW	KW	55	-	55	-	55	-	55	-	55	-
Connected load	KVA	KVA	69	-	69	-	69	-	69	-	69	-
Air consumption	Nm3/min	Ncu ft/min	11	389	11	389	11	389	11	389	11	389
Medium Mould capacity : D3-425												
Uncored	mould/hour*	mold/hour*	425	-	425	-	425	-	425	-	425	-
Cored	mould/hour*	mold/hour*	380	-	380	-	380	-	380	-	380	-
Cooling time max	min*	min*	66	-	66	-	66	-	66	-	66	-
Sand consumption max	tonnes/h**	tons/h**	73	80	88	96	96	105	104	114	107	117
Power consumption	KW	KW	55	-	55	-	55	-	55	-	55	-
Connected load	KVA	KVA	69	-	69	-	69	-	69	-	69	-
Air consumption	Nm3/min	Ncu ft/min	13	459	13	459	13	459	13	459	13	459
High Mould capacity : D3-555												
Uncored	mould/hour*	mold/hour*	555	-	555	-	555	-	555	-	555	-
Cored	mould/hour*	mold/hour*	485	-	485	-	485	-	465	-	465	-
Cooling time max	min*	min*	48	-	48	-	48	-	48	-	48	-
Sand consumption max	tonnes/h**	tons/h**	77	85	93	102	99	109	107	118	110	121
Power consumption	KW	KW	60	60	60	60	60	60	60	60	60	60
Connected load	KVA	KVA	75	-	75	-	75	-	75	-	75	-
Air consumption	Nm3/min	Ncu ft/min	16	565	16	565	16	565	16	565	16	565
Conveyor length max:	m	ft	86.5	283.8	86.5	283.8	86.5	283.8	86.5	283.8	86.5	283.8
Water consumption (DMS): at 35 C inlet temp.	litres/min	gallons/min	190	50	190	50	190	50	190	50	190	50
Pressure: Squeeze pressure	kp/cm2	psi	16	237	16	237	16	237	16	237	16	237
Pressure: Shot pressure	kp/cm2	psi	4	59	4	59	4	59	4	59	4	59
Pneumatic requirements: Air pressure min.	bar	psi	5.5	80	5.5	80	5.5	80	5.5	80	5.5	80
Hydraulic fluid (DMS).	litres	gallons	575	152	575	152	575	152	575	152	575	152
Machine Dimensions (DMM): Height	mm	Inches	3650	144	3650	144	3650	144	3650	144	3650	144
Machine Dimensions (DMM): Width	mm	Inches	1465	58	1465	58	1465	58	1540	61	1540	61
Machine Dimensions (DMM): Length	mm	Inches	7010	276	7010	276	7010	276	7010	276	7010	276
Net weight:	tonnes	tons	20	22	20	22	20	22	21	23	21	23

* At 200 mm (7.9 inches) mould thickness
** At max. mould thickness

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