

DISAMATIC® D3

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Liberating performance

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**DISA**  
A Norican Technology



# Take a giant leap forward



## What's holding you back?

If your foundry is pushing at the very limits of productivity, quality and performance, then it will be many little things that prevent you from going even further. With the DISAMATIC D3 moulding line, DISA is systematically eliminating all those small things that are holding you and your foundry back.

Countless features and innovations have been introduced for this next-generation DISAMATIC, each designed to enable you to fully exploit the technically possible - in terms of speed, accuracy and uptime. It's a giant leap forward from moulding as you know it. It's liberating performance.

## The DISAMATIC D3 in brief

The DISAMATIC D3 is a greensand vertical moulding solution, designed for highest speeds, highest yields and maximum uptime and performance. It combines unmatched quality with high throughputs of up to 555 uncored or 485 cored moulds per hour.

Building on more than 50 years' experience in vertical moulding, DISA has taken a radical approach to improving its flagship DISAMATIC concept for this next-generation, high-performance moulding line.

A new, even more rigid construction, fewer moving parts, standardised components and a cutting-edge control system mean greater

precision and reliability, lower maintenance costs and an improved working environment.

## The right moulding line for me

The DISAMATIC D3 is perfect for high-performance foundries looking to achieve the highest possible quality and output of precision castings, thereby lowering their cost per part and achieving a step change in efficiency and productivity.

# Maintain your competitive edge



## Speed is uptime, uptime is output

The DISAMATIC D3's newly developed control system perfectly orchestrates and facilitates a new level of movement precision, allowing the moulding line to achieve highest speeds of up to 555 uncored moulds per hour.

## Perfectly cast means no machining

With its rigid, precision construction, the DISAMATIC D3 continuously achieves a machine-dependent mismatch of less than 0.1 mm, reducing or even eliminating the need for machining and trimming.

## Just keeps running

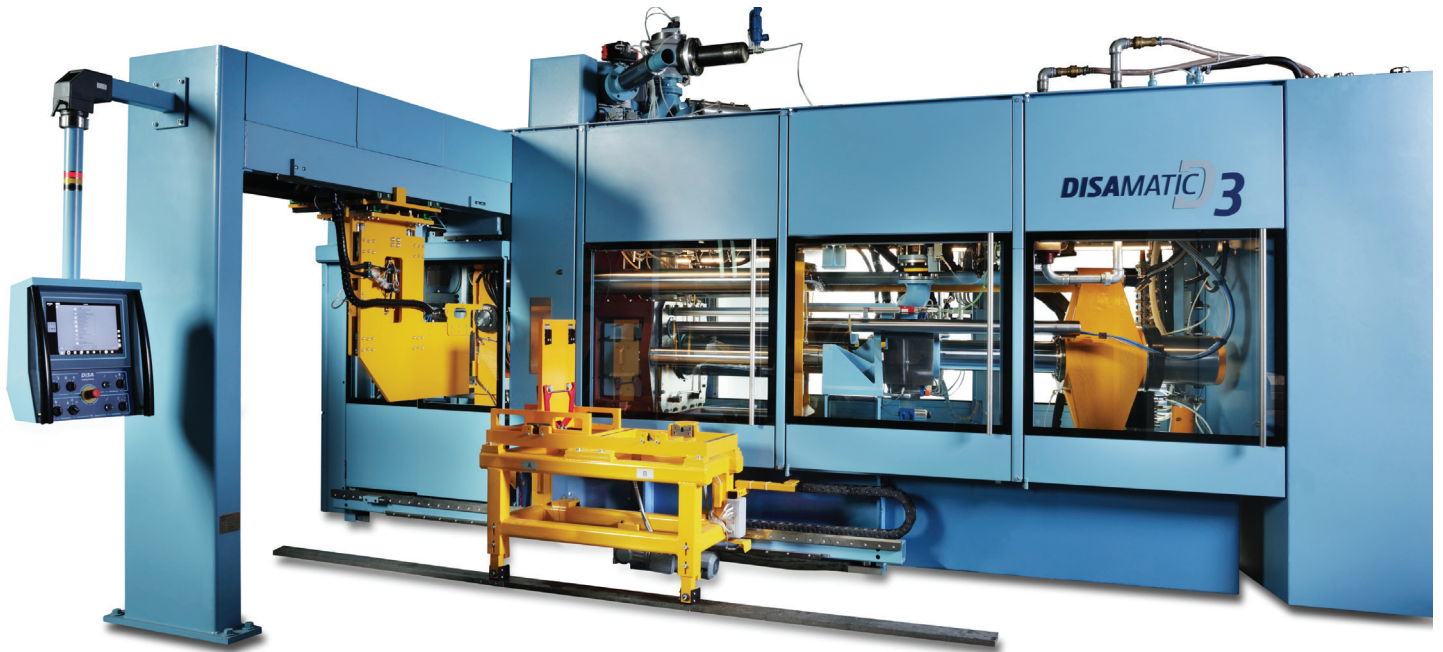
The DISAMATIC D3 offers unbeatable uptime thanks to:

- fewer moving parts, reducing wear and associated maintenance
- standardised DISA wear parts and interchangeable components - to speed up maintenance times
- preset production parameters, for quick and reliable changeovers
- total process control with on-screen messages, instructions and threshold alarms to slash downtime
- integration of optional features into the machine controls

## Operated intuitively

The new touch-screen visual display unit (VDU) has an intuitive and user-friendly interface with clear icons, enabling operators to carry out key actions in a maximum of three taps. It is the central point of access to view and control real-time data fast – all at your fingertips.

# Features and options



The following features are available as options on the DISAMATIC D3.

## Automatic Pattern Change unit (APC)

The fully automatic APC can change a set of pattern plates in less than 60 seconds. It enables a production increase of up to 16 moulds per pattern change compared to the manually operated Quick Pattern Changer (QPC) and reduces downtime for a pattern change by 300%.

## Double Index System (DIS)

The DISA patented DIS increases productivity by up to 20% by performing a double mould transport stroke, enabling you to pour two moulds simultaneously.

## Automatic Filter Setter (AFS)

The AFS is a PLC-controlled robot that inserts filters directly into the un-cored moulds. The AFS is fully integrated into the DISAMATIC D3 control system and operated from the VDU.

The AFS increases productivity by up to 15%\* and ensures the line can run at its full moulding capacity. It also frees up operators for less repetitive, more value-added tasks.

The AFS comes with a semi-automatic or fully automatic filter feeding unit and requires no special tooling or programming.

\* Compared to using a CSE

## Monitizer® | CIM

Monitizer® | CIM is an on-premise solution for foundry data collection, data visualisation and machine automation. Delivering a synchronised, reliable digital view of your DISA equipment, this well-proven Industry 4.0 platform helps you increase uptime, reduce scrap and optimise production. Working in your local language, it is the perfect digital foundation for your foundry.



# Push the limit



Example of casting made using MPP



Mould Accuracy Controller (MAC)



Melt Overflow Covers (MOC) on AMC

## Automatic Core Setting (CSE)

The CSE unit automatically inserts cores into the mould for high-productivity, high-precision casting. The CSE has a light curtain and operator light to maintain a safe and user-friendly working environment.

## Movable Pattern Parts (MPP)

The MPP feature enables the application of a retractable part in the pattern plate to make an 'undercut' in the sand cavity, thereby removing the need for simple cores and saving costs incurred by CSE operation.

## Optimal Oil Filtration unit (OOF)

The OOF unit provides a real-time overview of the condition, quality and purity of the entire hydraulic oil system of the moulding line. It is fully integrated into the DISAMATIC D3 control system and warns the operator via the VDU about possible contaminations and particle levels.

OOF reduces maintenance cost, prevents equipment failure and extends component life.

## Mould Accuracy Controller (DISA MAC)

The DISA MAC is a high-precision measuring device that captures mould-related mismatch, mould gaps, mould steps and parallelism for each mould before pouring - reducing scrap and improving quality.

## Automatic Mould Conveyor (AMC) with Melt Overflow Covers (MOC)

The AMC provides fully synchronised, high-precision mould transportation. Optional thrust bar heating is available to ensure no sand sticks to the bars - preventing the shifting, distortion or displacement of moulds.

Equipped with MOC, the AMC's mechanical and electrical parts are protected from molten metal escape due to over-pours or leakages. This simple protective feature reduces maintenance cost, risk of mismatch and down-time.

## Mould Side Support (MSS)

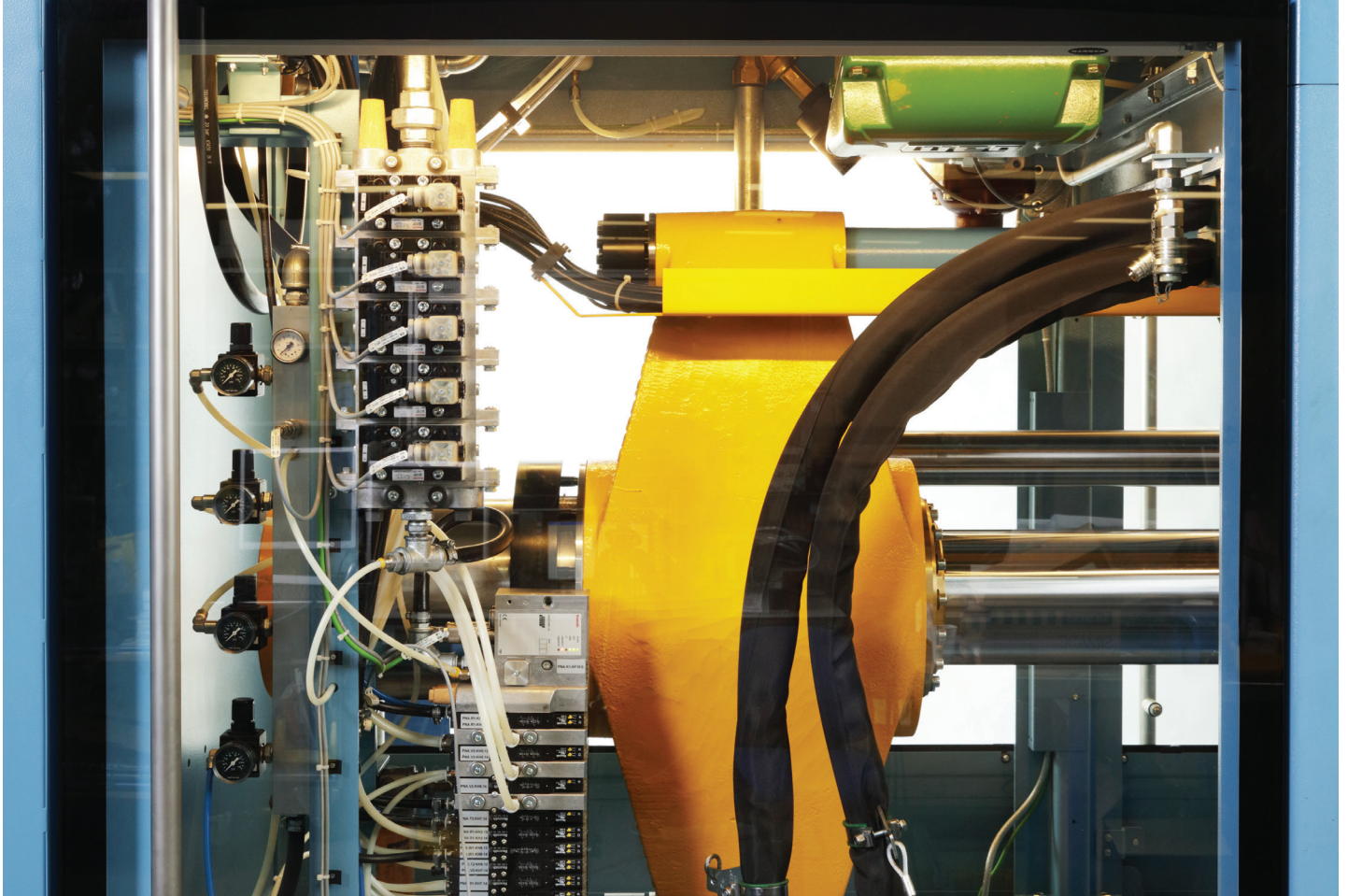
MSS is an accessory for the AMC. It supports the sand moulds in the pouring zone of the AMC through a constant and adjustable pressure force - to obtain a higher degree of utilisation of the moulding area as well as increased castings accuracy.

## Shuttle with Synchronised Belt Conveyors (SBC)

The SBCs extend the cooling zone after the AMC by 2m-sections to adjust the length to match the required in-mould cooling time.

If very flexible production is needed, the SBC can be extended with a shuttle conveyor solution. It gives the option of reducing the total length of the main cooling line by adding two or three SBCs to run side by side, providing almost triple the in-mould cooling time as and when required.

# Set the standard



## Quality that pays

DISA is renowned for engineering and design quality that ensures

- highest uptime
- lowest scrap
- lower finishing costs
- higher profitability over a longer service life
- safest and fastest operations

## Sustainability that pays

The DISAMATIC D3 is designed to deliver sustainable performance at the cutting edge of moulding.

It creates a safer, more sustainable working environment by

- being manufactured using environmentally responsible materials and safety processes according to ISO 14001 and CE certification
- reducing energy-intensive remelting, offering optional air cooling of hydraulic oil to eliminate water consumption
- using patented hydraulic pump system for maximum energy efficiency and minimum oil cooling energy use
- using in-chamber spray for enhanced workplace air quality, preventing wear on pattern plates and minimising use of spray liquids

DISA offers worldwide support of the DISAMATIC D3 to help maximise foundry performance at all times, thanks to

- fast delivery of original spare parts
- on-site technical support from offices close to you
- 24-hour support hotline
- DISA TOPS, DISA's exclusive customer inspection, service and maintenance programme
- application and training experts on demand

# DISAMATIC D<sub>3</sub> technical data

DISAMATIC D <sub>3</sub>		A	B	C	X	Z
<b>Mould dimensions:</b>						
Height	mm	480	535	550	535	570
Width	mm	600	650	675	750	750
Thickness "rear sand slot"	mm	150-395	150-395	150-405	150-395	150-405
Thickness "front sand slot"	mm	120-395	120-395	120-405	120-395	120-405
<b>Mismatch:</b>	mm	0.1	0.1	0.1	0.1	0.1
<b>DISAMATIC D<sub>3</sub>-365:</b>						
Uncored	mould/hour*	365	365	365	365	365
Cored	mould/hour*	333	333	333	333	333
Cooling time max.	min*	77	77	77	77	77
Sand consumption max.	tonnes/h**	49	59	63	69	73
Power consumption	kW	55	55	55	55	55
Connected load	kVA	69	69	69	69	69
Compressed air consumption	Nm <sup>3</sup> /min	8	8	8	8	8
<b>DISAMATIC D<sub>3</sub>-425:</b>						
Uncored	mould/hour*	425	425	425	425	425
Cored	mould/hour*	380	380	380	380	380
Cooling time max.	min*	66	66	66	66	66
Sand consumption max.	tonnes/h**	58	70	75	81	86
Power consumption	kW	55	55	55	55	55
Connected load	kVA	69	69	69	69	69
Compressed air consumption	Nm <sup>3</sup> /min	9	9	9	9	9
<b>DISAMATIC D<sub>3</sub>-555:</b>						
Uncored	mould/hour*	555	555	555	555	555
Cored	mould/hour*	485	485	485	465	465
Cooling time max.	min*	49	49	49	49	49
Sand consumption max.	tonnes/h**	77	93	99	107	114
Power consumption	kW	60	60	60	60	60
Connected load	kVA	75	75	75	75	75
Compressed air consumption	Nm <sup>3</sup> /min	11	11	11	11	11
<b>Conveyor length max:</b>	m	86.5	86.5	86.5	86.5	86.5
<b>Cooling water consumption (DMS):</b> at 15 °C inlet temp.	litres/min	37	37	37	37	37
<b>Pressure:</b>						
Squeeze pressure	kp/cm <sup>2</sup>	1.5-16	1.5-16	1.5-16	1.5-16	1.5-16
Shot pressure	bar	0-4	0-4	0-4	0-4	0-4
<b>Compressed air requirements:</b>						
Air pressure min.	bar	5.5	5.5	5.5	5.5	5.5
<b>Hydraulic fluid (DMM):</b>						
	litres	575	575	575	575	575
<b>Machine Dimensions (DMM):</b>						
Height	mm	3650	3650	3650	3650	3650
Width	mm	1465	1465	1465	1540	1540
Length	mm	7010	7010	7010	7010	7010
<b>Net weight:</b>	tonnes	21	21	21	21	21

\* At 200 mm mould thickness / \*\* At max. mould thickness

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