



Subject to technical alterations • 07/09 • © DISA Group

# DISA 231



DISA Industries A/S  
Herlev Hovedgade 17  
DK - 2730 Herlev  
Denmark

T: +45 44 50 50 50  
F: +45 44 94 52 25  
www.disagroup.com

DISA® is a registered trademark of DISA Holding A/S.  
DISAMATIC® is a registered trademark of DISA Industries A/S.



**DISA**  
shaping industry

**DISA**  
shaping industry

Norican Group is the parent company of DISA and Wheelabrator.

## DISA 231 - faster than ever before!



The new DISA 231 is founded on the experience of more than 120 installed DISA New Generation moulding machines to take precision, flexibility and reliability to a new level. The DISA 231 delivers high capacity, superior quality and rock-steady performance.

### Even more reliable

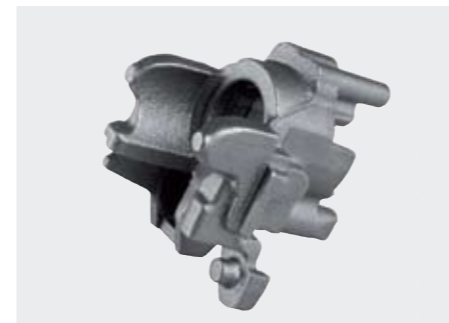
- The hydraulic system has been simplified and enhanced to provide higher reliability and uptime
- The control system and operator panel comply with the latest standards to minimize complexity and provide the highest precision
- The redesigned Automatic Mould Conveyor (AMC) features larger thrustbars and active braking as well as an integrated control system, enabling superior control of the mould string movement

### Even more flexible

- A new Automatic Pattern Change unit (APC) allows three times faster pattern change compared to previous systems. The APC changes patterns in just 60 seconds and has a payback time of less than one year when used in production with just a few pattern changes per shift
- Complex mould shape capability and optimum utilisation of the pattern plate area are now enabled through optimisation of the moulding chamber design and sand funnel system together with new mould assistance features

- The core setter has been redesigned to give maximum control over movements, enabling handling of difficult cores at maximum speed

## High-performance benefits for the modern foundry



Compressor housing (grey iron)



Brake caliper (ductile iron)



Steering knuckle (ductile iron)

### Features that make the difference

#### High speed

A state-of-the-art PLC system optimises all functions and movements of the enhanced mechanical and hydraulic system in order to achieve highly flexible production options with speeds of up to 510 uncored moulds per hour.

#### Excellent accuracy

The improved 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 is reduced to an absolute minimum – or even eliminated.

#### Unbeatable uptime

The DISA 231 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 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

## A sustainable solution



DISA 231 with inspection windows for easy surveillance

### Designed to be safe, clean and lean

The DISA 231 offers 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



12" colour VDU



CSE with light curtain



APC with integrated sand blow-off

### 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.

#### Quick Pattern Change unit (QPC)

The QPC 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.

#### 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.

#### Remote Diagnostic Access (RDA)

RDA reduces unscheduled downtime to a minimum through maximum support of the DISA line. A DISA engineer can connect directly to the VDU during troubleshooting for immediate assistance.

# High reliability, excellent castings and low scrap



Suspension rear arm (ductile iron)



Ventilated brake disc (grey iron)



Brake carrier (ductile iron)

## 12 good reasons for choosing DISA 231

- Up to 510 uncored moulds per hour
- Machine-related mismatch of less than 0.10 mm for minimum trimming and fettling
- Automatic Pattern Change unit for fast pattern change in 60 seconds
- User-friendly operation and maintenance
- VDU with clear text and graphics for complete operator overview and quick troubleshooting
- Standardised DISA wear parts
- World-class PLC system for optimum production efficiency
- Compatible with DISAMATIC 2013/230 pattern plates
- Optional remote diagnostics access for high uptime
- In-chamber spray, adaptive mould thickness and mould blow-off
- Double-side mould squeeze operation for consistent and dense moulds
- Clean and quiet for an enhanced working environment

*“The new DISA 231 design meets our anticipated needs for the production of geometrically more complex castings as well as rapid production changeover in order to meet customer demands for flexibility.”*

*Nicolas Grosdidier, President,  
La Fonte Ardennaise S.A., France*

# Technical Data

DISA 231			A		B		C		X		Y	
Measurements:	Metric	US	Metric	US	Metric	US	Metric	US	Metric	US	Metric	US
<b>Mould dimensions:</b>												
Height	mm	inches	480	18.9	535	21.1	550	21.7	535	21.1	550	21.7
Width	mm	inches	600	23.6	650	25.6	675	26.6	750	29.5	750	29.5
Thickness	mm	inches	150-395*	5.9-15.6	150-395*	5.9-15.6	150-405	5.9-15.9	150-395*	5.9-15.6	150-395*	5.9-15.6
Mismatch:	mm	inches	0.1	0.004	0.1	0.004	0.1	0.004	0.1	0.004	0.1	0.004
<b>Mould capacity:</b>												
Uncored	mould/hour**	mould/hour**	510	510	510	510	510	510	510	510	510	510
Cored	mould/hour**	mould/hour**	440	440	440	440	440	440	420	420	420	420
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
Cooling time max:	min**	min*	49	49	49	49	49	49	49	49	49	49
Sand consumption max:	tonnes/h***	tons/h***	70	77	84	93	91	100	97	107	100	110
Power consumption:	kW	kW	55	55	55	55	55	55	55	55	55	55
Free air consumption:	m <sup>3</sup> /min	cu ft/min	15	529.7	15	529.7	15	529.7	15	529.7	15	529.7
<b>Water consumption:</b>												
At 25°C inlet temp.	litres/min	gallons/min	40	10.6	40	10.6	40	10.6	40	10.6	40	10.6

\* 405 mm option (15.9 inches), not DISAMATIC 2013 compatible / \*\* At 200 mm (7.9 inches) mould thickness / \*\*\* At max. mould thickness

DISA 231 FAST			A		B		C		X		Y	
Measurements:	Metric	US	Metric	US	Metric	US	Metric	US	Metric	US	Metric	US
<b>Mould dimensions:</b>												
Height	mm	inches	480	18.9	535	21.1	550	21.7	535	21.1	550	21.7
Width	mm	inches	600	23.6	650	25.6	675	26.6	750	29.5	750	29.5
Thickness	mm	inches	150-395	5.9-15.6	150-395	5.9-15.6	150-405	5.9-15.9	150-395	5.9-15.6	150-395	5.9-15.6
Mismatch:	mm	inches	0.1	0.004	0.1	0.004	0.1	0.004	0.1	0.004	0.1	0.004
<b>Mould capacity:</b>												
Uncored	mould/hour*	mold/hour*	555	555	555	555	555	555	555	555	555	555
Cored	mould/hour*	mold/hour*	485	485	485	485	485	485	465	465	465	465
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
Cooling time max:	min*	min*	45	45	45	45	45	45	45	45	45	45
Sand consumption max:	tonnes/h**	tons/h**	76	84	92	101	99	109	106	117	109	120
Power consumption:	kW	kW	60	60	60	60	60	60	60	60	60	60
Free air consumption:	m <sup>3</sup> /min	cu ft/min	16	565	16	565	16	565	16	565	16	565
<b>Water consumption:</b>												
At 25°C inlet temp.	litres/min	gallons/min	40	10.6	40	10.6	40	10.6	40	10.6	40	10.6