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. We 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 reaching the goal", says Wilson, from WEG.

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.
Unparalleled 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 high flexibility, 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.

To go for good reasons using DISAMATIC D3

- 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.

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’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

10 good reasons for choosing DISAMATIC D3

- Up to 555 uncored moulds per hour.
- Mould Accuracy Controller: Enhanced control over tolerances.
- Automatic Filter Setter: Faster and more efficient uncored production with filters.
- Double Index system: Increase production by up to 50%, more standard on DISAMATIC D3.
- Further improved mould transportation ensuring precise and stable pouring position, lower 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.
- Clear and quiet for an enhanced working environment.

Evaluation

- Complete DMS inspection
- Review spare parts inventory
- Process audits (benchmark)
- Management review

Planning activities

- Define immediate needs
- Set priorities
- Schedule activities
- Order components
- Management review

Implementation

- Maintenance
- Repairs
- Updates
- Major overhaul supervision
- Machine adjustment for optimal performance
- Management review

Follow up

- Evaluate the results
- Check Benchmark
- Define new goals
- Management review

*DISA TOPS has been a significant asset in helping us to sustain the higher production and higher uptime, reduced finishing needs and lower scrap that our DISA pro has given us. We have priority access to DISA’s service and know how our personal DISA TOPS service engineer and DISA TOPS testing has increased our own 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 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 synchronization ensure 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)
The CIM module collects, stores and distributes process information along the entire moulding line, enabling real-time monitoring and reporting to improve 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 50%.

Automatic Filter Setter (AFS)
The AFS increases the productivity and eliminates the need for operator personnel.

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

New features

Automatic Pattern Change unit (APC)
Automatic Mould Conveyor (AMC)
Synchronised Belt Conveyor (SBC)
Sand Spillage Conveyor (SSC)
Shuttle for foundries with limited space
Computer Integrated Manufacturing modules (CIM)
Double Index System (DIS)
Automatic Filter Setter (AFS)
Mould Accuracy Controller (MAC)
Offline Oil Filtration (OOF)
DISA Foundry Cockpit
Disamatic
Controlling your foundry with BIG DATA
The DISAMATIC foundry

- Moulding Machine
  - Vertical Moulding
  - Automatic convertor (CSE)

- Mould Transportation
  - DISA AMC Automatic Mould Conveyor
  - DISA SBC Synchronised Belt Conveyor
  - DISA Shuttle

- Sand Plant
  - Sand mixers
  - Sand multi controller (SMC)
  - Control systems
  - Sand supply unit (SSU)

- Cooling
  - Rotary cooling drum
  - Sand & casting cooler

View an animation of the DISAMATIC complete foundry here

View Wheelabrator shot blast animations here
Castings made on DISAMATIC

Sustainability - Being transparent and responsible

Means 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 workplace
• 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

“Through decades, innovation has been at the very forefront when trying to battle existing environmental challenges. Within DISA R&D, all innovations are dedicated to developing solutions that lead to higher sustainability in green sand foundries in a both efficient and cost consistent way for our customers:”

Sten Haunstrup, Vice President R&D DISA Industries A/S, Denmark
DISAMATIC D1 - faster than ever before!

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 reliably 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 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 synchronization 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.

DISAMATIC D1 - Technical specifications

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.

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.

Since its inception in 1987, the DISAMATIC D1 has achieved the following milestones:

- More than 150 machines in operation worldwide
- Extensive range of applications from small to large castings
- Proven reliability and durability

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.

"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

"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**

The introduction of DISA New Generation moulding machine technology signalled 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 our customers' 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 is offering the same mould dimensions as its predecessor (the DISA 231-X, DISA 230-X, 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 DISA 231-X FAST.

**In our efforts for further enhancing the quality of our renowned kitchenware “Le Creuset” we bought a DISA 230-X in 2003.**

“This has proven unparalleled quality with high throughput of up to 333 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.”

**Mr Frédéric SALLE General Manager**

**Mr Patrick JACOB General Manager**

**Le Creuset Industrie, France**

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**DISAMATIC D3 - Technical specifications**

<table>
<thead>
<tr>
<th>Component</th>
<th>Units</th>
<th>DISAMATIC D3</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>X</th>
<th>Z</th>
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<tbody>
<tr>
<td>Mould dimensions: Thickness</td>
<td>mm</td>
<td>inches</td>
<td>140</td>
<td>5.5</td>
<td>140</td>
<td>5.5</td>
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<td>Mould dimensions: Width</td>
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<td>inches</td>
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<td>Mould dimensions: Height</td>
<td>mm</td>
<td>inches</td>
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<td>22</td>
<td>555</td>
<td>22</td>
<td>555</td>
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<tr>
<td>Uncored mould/hour*</td>
<td>200</td>
<td>7.9</td>
<td>200</td>
<td>7.9</td>
<td>200</td>
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<tr>
<td>Low Mould capacity : D3-365</td>
<td></td>
<td></td>
<td>485</td>
<td>19</td>
<td>555</td>
<td>22</td>
<td>600</td>
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<tr>
<td>Medium Mould capacity : D3-425</td>
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<td></td>
<td>555</td>
<td>22</td>
<td>600</td>
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<tr>
<td>High Mould capacity : D3-555</td>
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<td>600</td>
<td>24</td>
<td>650</td>
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<td>Cored mould/hour*</td>
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<td>333</td>
<td>13</td>
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<tr>
<td>Connected load KVA</td>
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<td>Air consumption Nm³/min</td>
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<td>Water consumption (DMS): at 35 C inlet temp. litres/min</td>
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<tr>
<td>Shot pressure kp/cm²</td>
<td>psi</td>
<td>20</td>
<td>290</td>
<td>29</td>
<td>20</td>
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<td>Squeeze pressure kp/cm²</td>
<td>psi</td>
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<td>290</td>
<td>29</td>
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<tr>
<td>Pneumatic requirements: Hydraulic fluid (DMS): litres gallons</td>
<td></td>
<td></td>
<td>575</td>
<td>19</td>
<td>575</td>
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</tr>
</tbody>
</table>

* At 200 mm (7.9 inches) mould thickness
** At new mould thickness

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