

Industrial Motors
Commercial &
Appliance Motors
Automation
Digital &
Systems
Energy
Transmission &
Distribution
Coatings

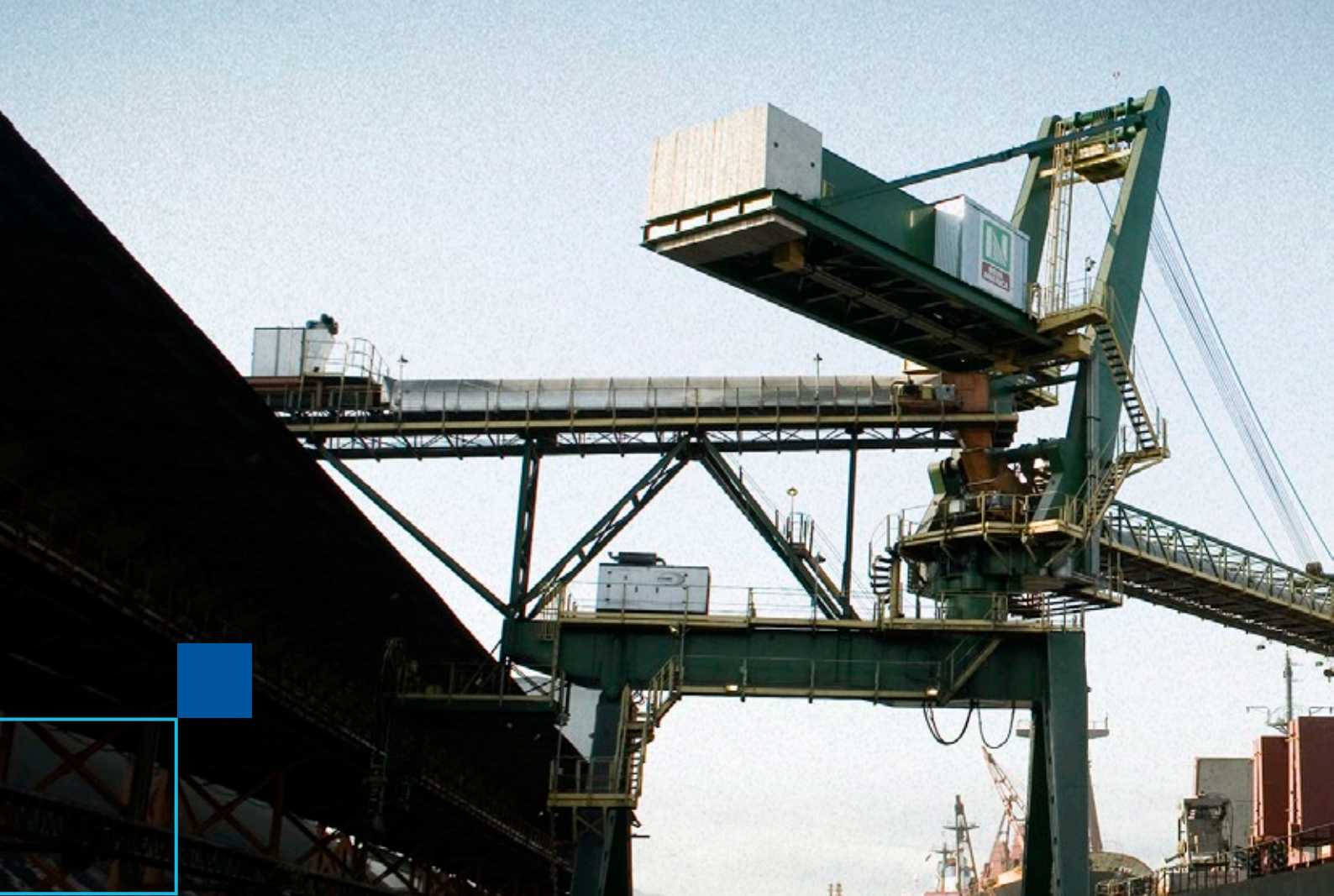
WGM20 LINE

**Three-Phase
Induction Motors**
Water Jacket
Cooling System



Driving efficiency and sustainability





Three-phase induction motors

WGM20 Line - Water Jacket Cooling System

WGM20 motor is a compact product designed for various industrial applications. It operates efficiently in reduced-space and aggressive environments, ensuring low noise and minimal heat dissipation. The cooling system design of longitudinal cooling water channels simplifies inspection and cleaning while reducing maintenance costs.

Features and Benefits



Reduced noise levels



Suitable for VFD application



Minimum thermal dissipation to the environment



Reduced dimensions



Design

Developed with state-of-the-art technology by R&D and engineering specialists with the application of high quality raw materials and modern software, the WGM20 motors are suitable for industrial and marine applications. Its optimized design ensures high performance and reliability, even under the most severe conditions. This motor line is available with Marine Certification such as Lloyds, Bureau Veritas, ABS and DNV



Suitable to operate under severe conditions and aggressive environments



Easy cleaning of water cooling channels



Accessories installed inside the motor



Terminal box easy to be rotated



Simplified bearing maintenance

Mounting Features

Cooling System

The water jacket cooling system consists of a water flow in a “zigzag” circuit throughout the frame, which makes the channel cleaning operation easier. This cooling system has a proper degree of protection suitable for aggressive, reduced-space, or high-temperature environments. The thermal exchange of the motor does not depend on the environment and allows several torque combinations with motor speed.

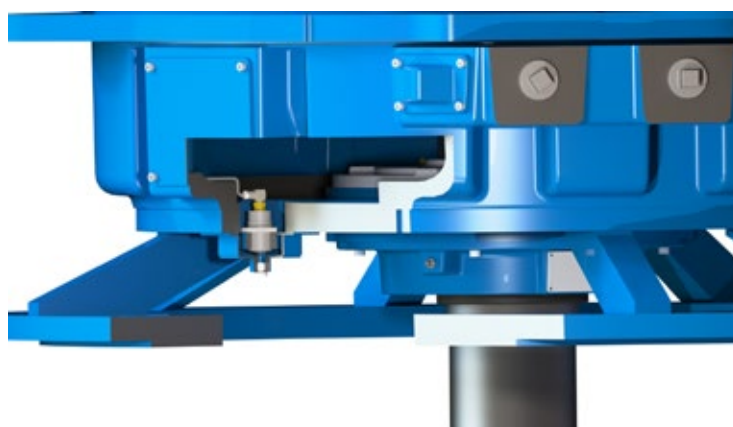


Water inlet

Water outlet

Protected Accessories

The WGM20 motor was designed in such a way to keep all accessories protected inside the motor. Although accessories are assembled inside the motor, they are easily accessed for maintenance.



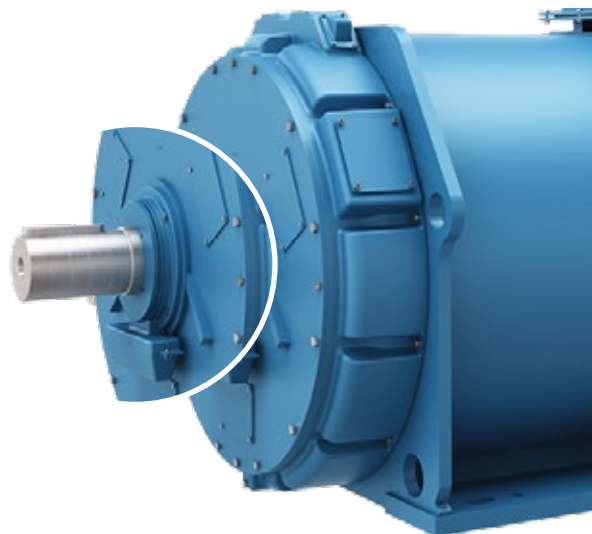
Water Type

The water cooling channels are suitable to operate with treated industrial water and meet the majority of the water specifications available in the industry. The design flexibility and robustness of WGM20 motor allow operation with several water inlet temperatures and multiple types of additives, such as antifreeze, anticorrosive, among others.

Mounting Features

Bearings

Grease lubricated bearings have a grease storage system that does not require to remove the old grease at each lubrication interval. Another feature is that the DE and NDE bearings are the same, reducing the amount of replacement parts in stock. As standard, the life (L10 nm) of the bearing is 80,000 hours. Other optional features, such as sleeve bearings, on request.



Terminal Box

The box design allows the motors to be installed in locations with limited height, as the box has a split cutout, enabling the terminal box to be positioned close to the ceiling. Another distinguishing feature of this box model is the way it is fixed to the frame: on horizontal motors, the box can be rotated 180°, and on vertical motors, it can be rotated 90°.



Horizontal motor T-box



Vertical motor T-box

Winding and Insulation System

The winding process is specially designed and specified according to the rated voltage and the motor application. Motor coils are produced with rectangular copper wire, preformed and completely insulated with mica-based porous tape. Conducting and semiconducting tapes are also used for the winding process, wrapping the coils and ensuring proper characteristics to the required insulation level. The insulation system is based on the Vacuum Pressure Impregnation (VPI) process. Using epoxy resins, this system ensures proper winding insulation in a process totally free of gas emission, which are harmful to the environment. The insulation system is applied to LV and HV machines.

Compatible with frequency inverters

The WGM20 motor is suitable for operation with frequency inverters, thus meeting various applications with allowing to vary the speed at high torques from the lowest ratings.

Technical Features

Horizontal Motor

- Output power: 200 up to 2,800 kW
- Frame sizes: 355 up to 560 (IEC)
- Voltage: 400 up to 4,160 V
- Number of poles: 4 to 8
- Frequency: 50 or 60 Hz
- Insulation class: F
- Service factor: 1.0
- Degree of protection: IP55 and IP56
- Cooling method: IC71W
- 180° rotational terminal box

Vertical Motor

- Output power: 200 up to 2,000 kW
- Frame sizes: 355 up to 500 (IEC)
- Voltage: 400 up to 4,160 V
- Number of poles: 4 to 8
- Frequency: 50 or 60 Hz
- Insulation class: F
- Service factor: 1.0
- Degree of protection: IP55 and IP56
- Cooling method: IC71W
- 90° rotational terminal box

Standard Accessories

- Pt-100 - 2 per phase and 1 per bearing
- Pt-100 - water inlet and outlet
- Water leakage detector
- Space heaters
- NDE insulated bearing
- Grounding terminal on the frame and T-box
- Stainless steel nameplate
- Terminal box with blind plate for cable inlet
- Drain plugs

Optional Features

- Encoder
- Vibration sensors
- Flange connection for water inlet/outlet
- Water pressure switch
- Water flow switch
- Cable glands or Multi Cable Transit (MCT)
- Degree of protection: IP56

Special Features

- Brake system
- Bearing thermometer
- Water flow regulator valve
- Marine Certification: ABS, Lloyd's Register, DNV and BV
- Ex-n protection (explosive atmospheres)

Note: other features on request.



Applications

WGM20 motors are suitable for a wide variety of applications including: fans, pumps, compressors, rolling mills, main and lateral thrusters, hoists and others in the main market segments:



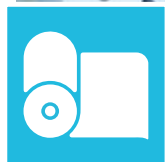
Marine



Cement



Mining



Pulp & Paper



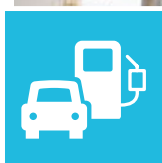
Petrochemical



Water & Waste Water



Steel Industry



Sugar & Ethanol



Oil & Gas

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The information contained is reference values.