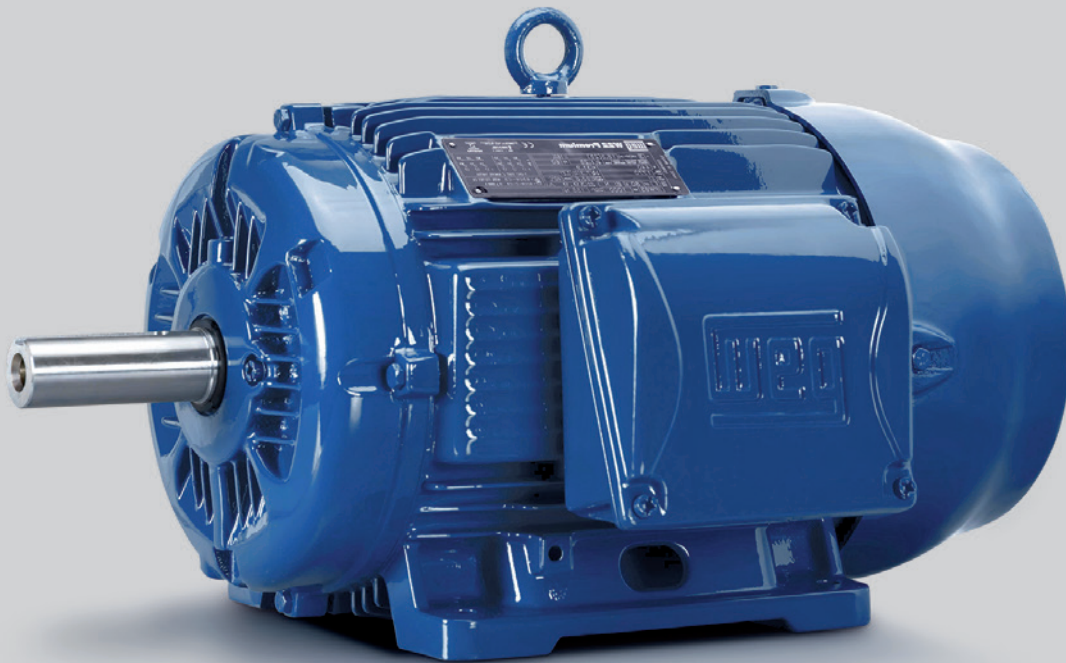


W22

Three Phase Motor



Motors | Automation | Energy | Transmission & Distribution | Coatings

W22

A motor developed with advanced concepts of energy efficiency, performance and productivity.



In the two past decades, the energy global consumption has risen 50%, and it is expected to expand even more in the next decades.



The economic development requires great investments in power generation, however, natural resources have become increasingly scarce, and their exploitation has generated irreversible environmental impacts.



As a consequence of this scenario, electric energy costs are exponentially growing and, in comparison to the other financial indicators, it stands out in a negative way.



The industrial sector is responsible for approximately 30% of the global energy consumption. In industrial applications, the systems driven by electric motors represent nearly 68% of the total energy consumption.



If we consider industrial and home applications, including household appliances, electric motors represent more than 40% of the whole energy consumed in the world.



In order to help the industry face this challenge, WEG has lines of high-technology and high-efficiency motors which offer energy savings and result optimization. Investing in the replacement of old motors with high-efficiency motors in your manufacturing plants will increase productivity and save natural resources.

High efficiency and reduced operating costs are the base for the development of the W22 three-phase motor line. Excellent cost-benefit, reduced electric energy consumption, low noise levels and easy maintenance are some of the characteristics that define this product.

Product Characteristics

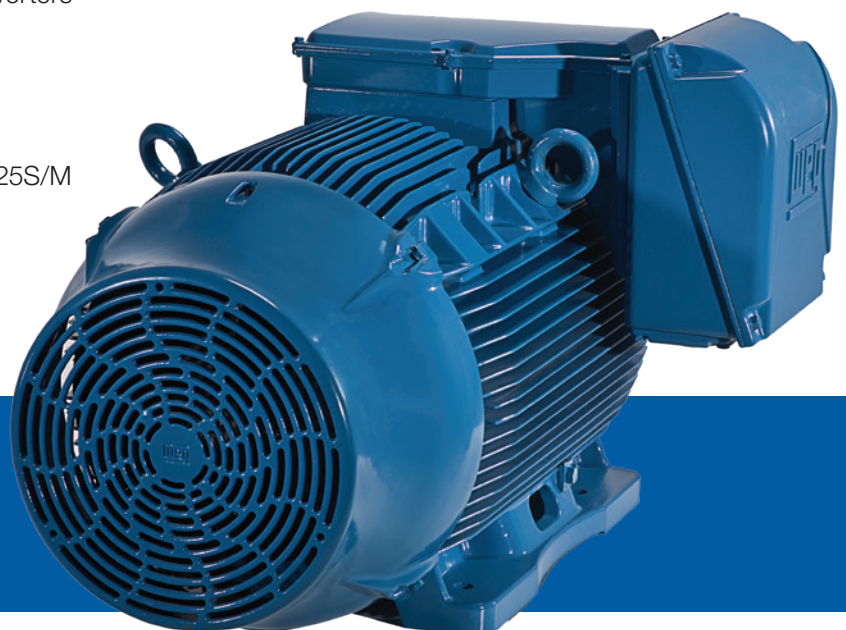
Standard characteristics

- Efficiency levels:
 - Standard Efficiency IE1
 - Premium Efficiency Plus IE2
 - Top Premium Efficiency IE3
- Cooling method: TEFC (Totally Enclosed Fan Cooled)
- Rated output:
 - 0,12 to 450 kW (Standard and Premium Efficiency)
 - 0,12 to 500 kW (Top Premium Efficiency)
- Number of poles:
 - 2, 4, 6, 8, 10 and 12 poles (Standard Efficiency)
 - 2, 4, 6 and 8 poles (Premium and Top Premium Efficiency)
- Frames:
 - 63 to 355M/L (Standard Efficiency)
 - 63 to 355A/B (Premium and Top Premium Efficiency)
- Frequency: 50 Hz
- Voltage:
 - 220-240/380-415 V (up to 100L)
 - 380-415/660 V (frame 112M to 355M/L)
 - 400 V (frame 355A/B)
- Color:
 - Blue - RAL 5009 (Standard Efficiency)
 - Green - RAL 6002 (Premium and Top Premium Efficiency)
- Design "N"
- Service factor:
 - 1,00 (All Standard Efficiency motors, and Premium and Top Premium Efficiency motors in frames 315S/M to 355A/B)
 - 1,15 (Premium and Top Premium Efficiency in frames 63 to 280S/M)
- Ambient temperature: 40°C, at 1000 m.a.s.l.
- Insulation class "H" (ΔT 80 K)
- Mounting: B3R
- Degree of vibration "A", according to IEC 60034-14
- Continuous Duty S1
- WISE insulation system® (WEG Insulation System Evolution) - Able to operate with frequency inverters*
- Degree of protection:
 - IP55 (Standard Efficiency)
 - IP66 (Premium and Top Premium Efficiency)
- Nameplate in stainless steel
- Grease nipple (frames 225S/M to 355A/B)
- Flexible terminal box position above frame 225S/M (B3R, B3L and B3T)

* For further details on the operation with frequency inverters, contact our sales office.

Available optional items

- Other mountings
- Other voltages
- Design "H"
- Insulation class "H" (ΔT 105 K)
- Degree of vibration "B"
- Suitable for SPM vibration sensor (frame 90S to 355A/B)
- Temperature sensors in the winding or bearing (Thermostat, Pt-100, thermistors)
- Space heater
- Degree of protection: IP56, IP65
- Additional terminal box for accessories
- Fan material: conductive plastic, aluminum or cast iron
- Drip cover
- Double shaft end
- Encoder (from frame 90S up)
- Cable glands: plastic, brass or stainless steel
- Forced ventilation kit (from frame 90S up)
- Roller bearings in the drive end (for frames 132S to 355A/B from 4 poles up)
- Insulated bearing (for frames 225S/M to 355A/B)
- Tropicalized internal painting
- Stainless steel shaft
- Grease outlet through the fan cover
- Other optional items on request



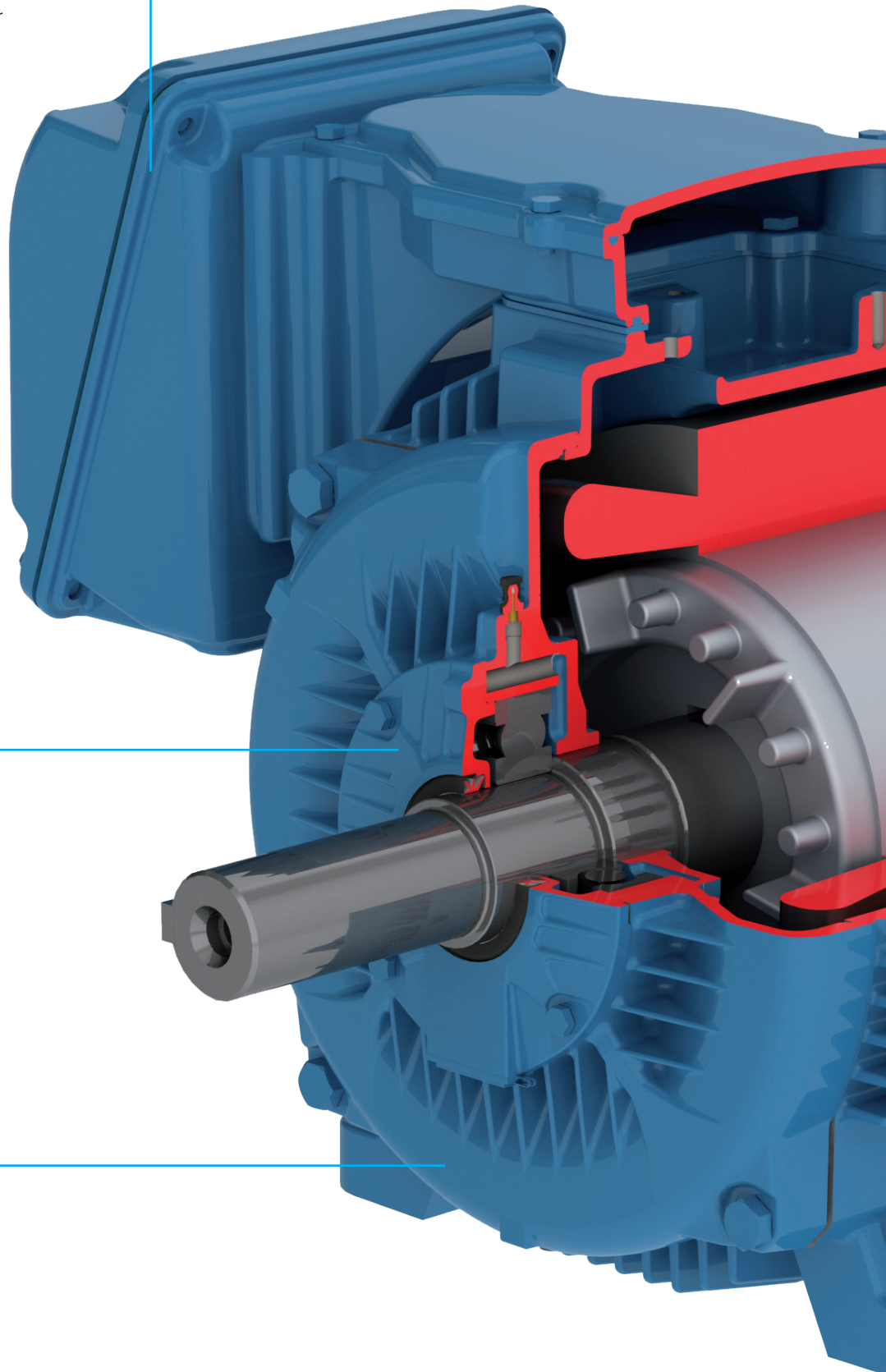
Electrical and mechanical data of the W22 motors are available on our website.

www.weg.net

Component Design

Terminal box

- Designed with ample internal space for easy handling and cable connection
- Great space to install accessories
- Enables rotation in stages of 90°
- Allows installation of auxiliary terminal box
- Option of different mountings (B3T, B3R, B3L) for frames 225S/M to 355A/B
- Opening in a diagonal section



Bearing caps

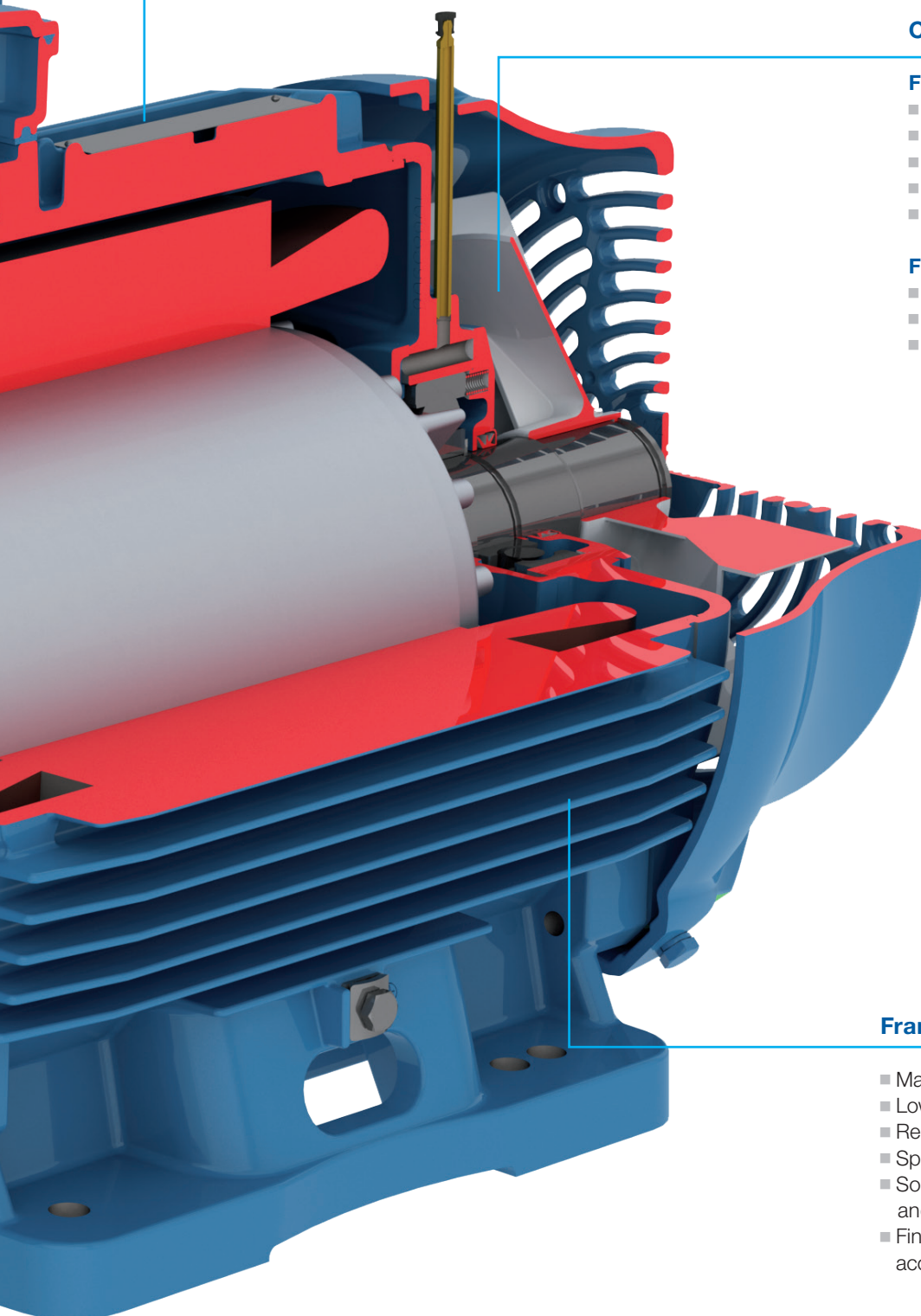
- Reinforced structure
- Finned surface for better bearing heat dissipation
- Bearing moved outwards for better heat dissipation

DE endshield

- Optimized fin design
- Bearing hub moved outwards the endshield
- Lower operating temperature
- Reinforced endshield structure
- Screws location protected against impacts and water accumulation

NDE endshield

- Design with smooth surface
- Optimized air flow
- Reduction of noise levels
- Robust structure to prevent machine deformation



Cooling System

Fan cover

- Aerodynamic design
- Low noise level
- Easy mounting
- Better air flow distribution
- High mechanical strength

Fan

- Reinforced structure
- Low noise level
- Higher efficiency of the ventilation system

Frame

- Maximum heat dissipation
- Low vibration levels
- Reinforced structure
- Specific places to install vibration sensors
- Solid feet that simplify the motor alignment and installation
- Fins dimensioned so as to prevent liquid accumulation on top of the motor

Design Details

Cooling System

The ventilation system design of the W22 line provides lower noise levels and a better distribution of the air flow over the motor, reducing the hot spots on the surface, and thus increasing the motor reliability and life. The new position of the terminal box and eyebolts contribute to reducing the air flow dispersion.

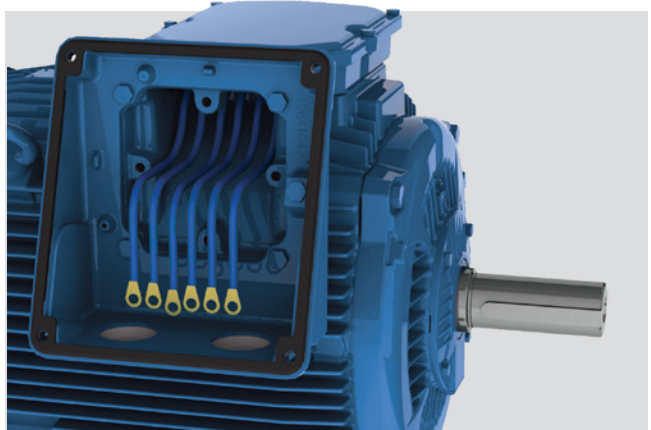
- Lower operating temperature on the bearings, resulting in longer lubrication intervals.
- Low noise levels.



Terminal Box

The increase in the internal space of the terminal box simplifies the access to the terminals, ensuring easy and safe electrical connections during the installation and maintenance of the motor.

- Versatile mounting
 - The terminal box connection system for frames 225S/M to 355A/B allows easy change of the motor mounting, without requiring the motor disassembly, reducing the time necessary for the modification and the quantity of motors in stock.



Frame

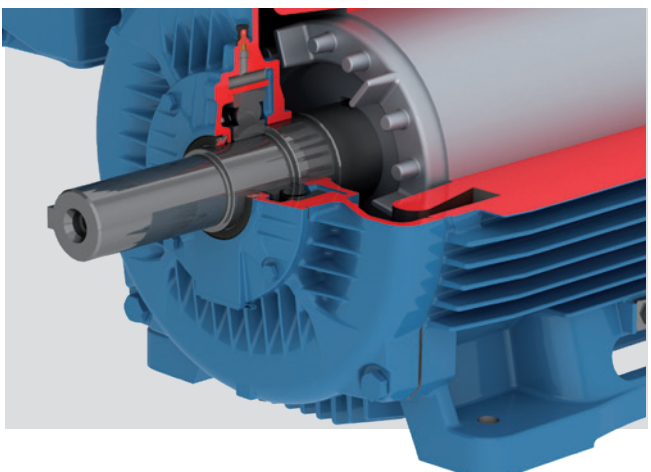
The frame design reduces the air flow dispersion and contributes to increasing the heat exchange between the motor and the environment, reducing hot spots on the frame surface and extending the bearing lubrication intervals.

- Eyebolts: simple handling and increased safety during installation.
- Specific locations to install vibration sensors from frame 132 up, simplifying the vibration measurement process, even in the non-drive end side of the motor.
- One-piece, solid feet simplify the alignment and installation and increase the capacity to absorb impacts.

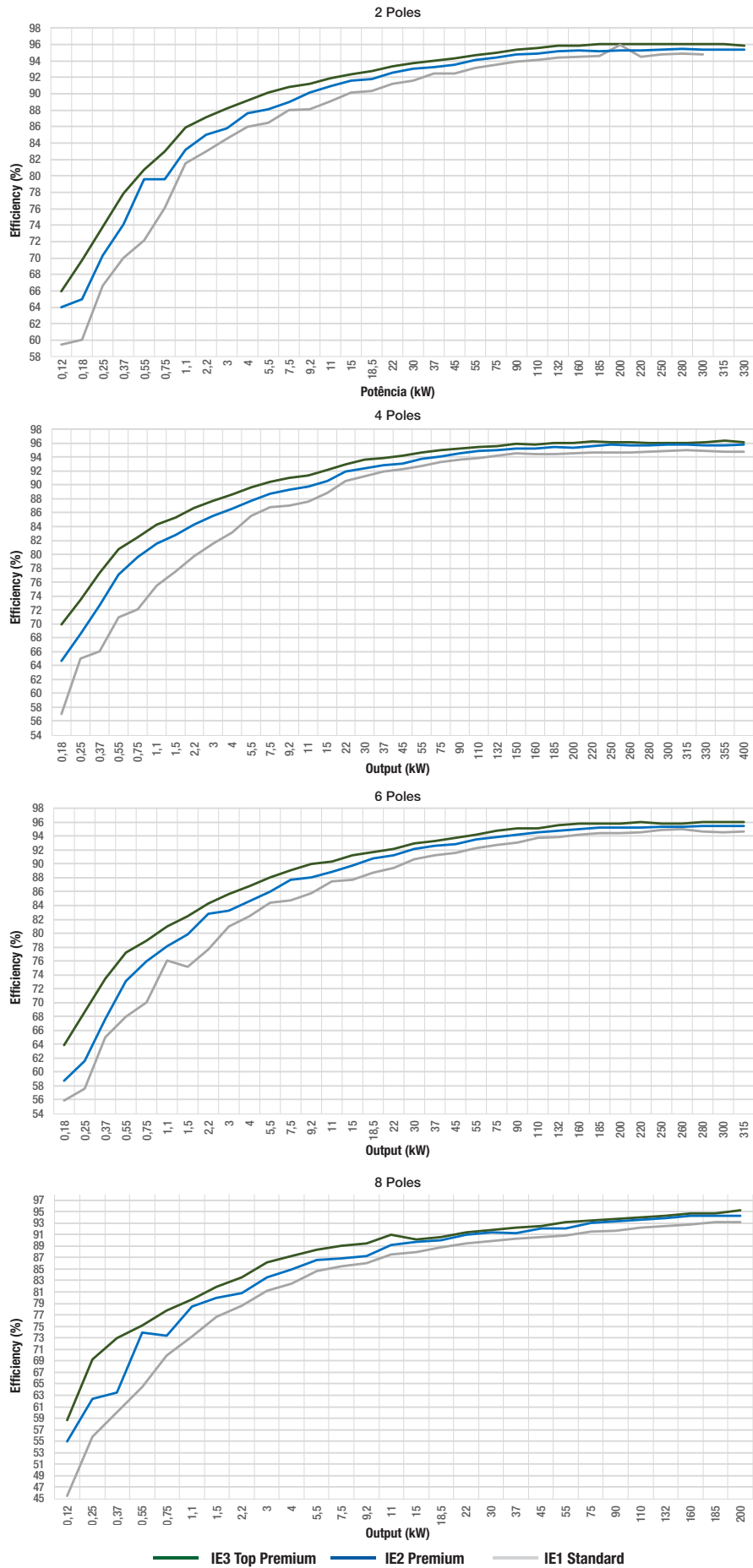


Exclusive sealing system - W3 Seal®

It extends the motor life in harsh environments and simplifies changing the stock motor degree of protection at branches and dealers, reducing inventory items (spare parts). The sealing system of the W22 motor directly contributes to increasing the motor life in harsh environments. The W3 Seal® is composed of taconite seal, V-ring and O-ring. In other words, it is a high-performance seal that prevents the ingress of contaminants through the bearings.



Efficiency



For WEG's worldwide
operations visit our website



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The values shown are subject to change without prior notice.

The information contained is reference values.