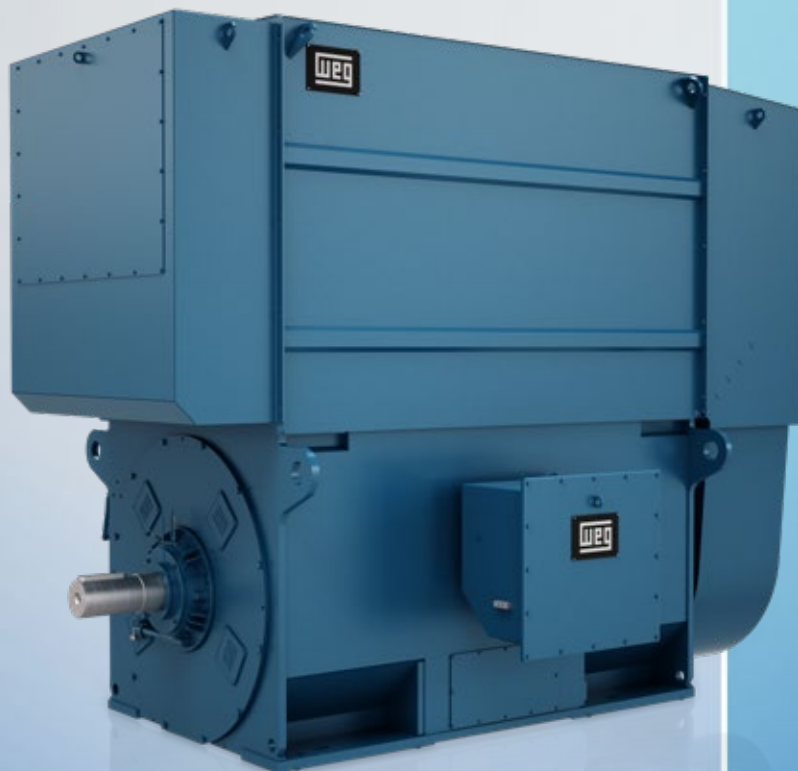


THREE-PHASE INDUCTION MOTORS MASTER LINE

Reliability
proved in
operation

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



Driving efficiency and sustainability



RELIABILITY

proven in

OPERATION



The Master Line (M Line) motors stand out for the flexibility of their electrical and mechanical design. They are versatile motors that allow different configurations and can be applied in harsh environments that demand high resistance and durability, making them suitable for a variety of applications. They make it easy to implement modifications to their designs, in order to make them interchangeable with existing motors, reducing operating costs resulting from downtime to change motors. They can also be designed for frequency inverter drive, which enables precise speed control as well as high torques during start-up.



High performance



Flexibility for interchangeability
with existing motors



Optimized design



Low noise level



Reliability and
robustness



Simple and low
maintenance



Segments

With the use of modern software that guarantees precision in the design, maximum performance can be achieved with these motors.

The Master Line stands out for its concept of versatility, providing adaptable motors capable of offering reliable and dedicated solutions in various segments, such as Oil & Gas, Mining, Cement, Energy, Water & Wastewater, Pulp & Paper, Steel, Marine and Sugar & Ethanol.

This line can be used to drive machines or equipment of any kind, with variable or constant torque, such as: fans, pumps, mills, conveyor belts, compressors, rolling mills, mixers, among others.

The versatility and flexibility of this product line provides a high degree of customization for each project requirement. The solutions in this product line include:

- Motors for Explosive Atmospheres of combustible gas and dust, meeting the high requirements of this segment/application, as well as international standards for hazardous areas, protection methods, atmospheres and temperature classes.
- Replacement motors with electrical and mechanical interchangeability.
- Low Starting Current motors specially developed for applications with weak power supply, providing lower voltage drop without the need for auxiliary starting equipment.
- Slip ring motors are suitable for loads that have high inertia or high resistant torque at start-up and/or in cases of starting current limitations in power supply networks.
- Vertical motors capable of handling axial loads for applications such as pumps, crushers, mixers and more.

Technical features

Scope

- Output: up to 50,000 kW
- Number of poles: 2 up to 14 poles
- Frame: 280 to 1,800 (IEC)
- Duty: S1
- Degree of protection: IP23 up to IP66 (sleeve bearings)
IP23 a IP56 (anti-friction bearings)
- Voltage: 220 up to 13.800 V
- Frequency: 50 and 60 Hz
- Service factor: 1.0
- Cooling system: IC01, IC31, IC06, IC37, IC81W, IC86W, IC511, IC611, IC616 and IC666

Standard Features

- Starting method – DOL (Direct On Line)
- Class F insulation
- Rotation direction: unidirectional or bidirectional
- Preformed coils with vacuum impregnation (VPI) for voltages above 1,000 V
- RTD Pt-100 temperature sensor, two per phase
- RTD Pt-100 temperature sensor, one per bearing
- Heating resistance
- Water leakage sensor (for IC81W and IC86W cooling)

Optional Features

- Starting method: frequency inverter, soft-starter or liquid rheostat (for wound rotor motors)
- Vibration sensors (acceleration, speed and displacement)
- Hazardous area motors: INMETRO, ATEX, IECEx, CSA, TR-CU certification
- Anchor plates, anchor bolts, base plates
- Both bearings electrically insulated
- Shaft end grounding brush
- Class H insulation
- Capacitor and lightning arrester for surge protection
- Capacitors for power factor correction
- Current transformers for self-balancing earth leakage protection
- Non-reverse ratchet
- Tapered shaft end, with collar, hollow shaft or double shaft end
- Vertical motors with high-axial thrust bearings suitable to withstand external axial loads
- Stainless steel screws, nuts and external washers



PROJECT DETAILS

Frame

Frame with a robust mechanical design and excellent structural rigidity, providing low vibration levels. Made of carbon steel, it provides great flexibility, interchangeability and customization for special designs.

Performance

The use of high quality manufacturing materials, such as a stator made of silicon steel plates with low specific losses, combined with high quality manufacturing and design optimizations, allows this product line to deliver reduced losses and, consequently, high efficiency.

Certifications for use in explosive atmospheres

Flammable gases, vapors and mixtures

- Ex ec / IIB or IIC / T3 or T4 Gc (increased safety, level of protection “ec”)
- Ex eb / IIB or IIC / T3 or T4 Gb (increased safety, level of protection “eb”)
- Ex pzc / IIB or IIC / T3 or T4 Gc (pressurized, protection level “pzc”)
- Ex pxb / IIB or IIC / T3 or T4 Gb (pressurized, protection level “pxb”)
- Class I, Division 2, Group A, B, C, D / T3B or T3C or T3 (nonincendive)

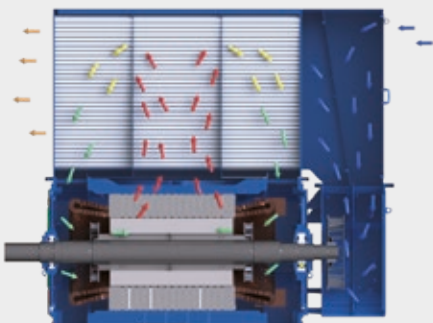
Combustible dust

- Ex tc / IIIB and IIIC / T125°C or T160°C Dc (protection by enclosure, protection level “tc”)
- Ex tb / IIIB and IIIC / T125°C or T160°C Db (protection by enclosure, protection level “tb”)
- Class II, Division 2, Group F and G / T3B ou T3C (dust ignition proof)

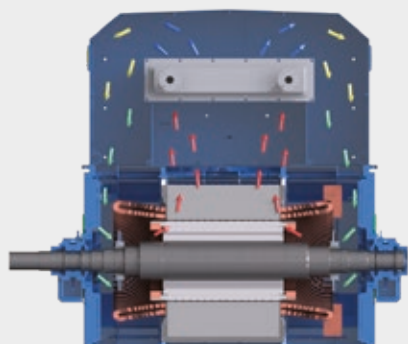


Cooling

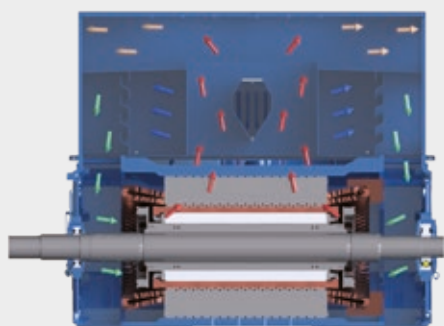
The Master line motors can be supplied with cooling systems which vary according to the type of driven machine, application and environment where they will be installed.



- Totally enclosed
- Air-air heat exchanger
- IC 611
- IP55 / IP56 / IP65 / IP66



- Totally enclosed
- Air-water heat exchanger
- IC 81W
- IP55 / IP56 / IP65 / IP66



- Open (self-ventilated)
- IC 01
- IP24(W)

Others Cooling Methods Available

- Totally enclosed
- Independent ventilation
- Air-water heat exchanger
- IC 86W
- IP55 / IP56 / IP65 / IP66

- Totally enclosed
- Independent ventilation by ducts
- Air-water heat exchanger
- IC 37
- IP55 / IP56 / IP65 / IP66

- Totally enclosed
- Independent enclosed
- Air-air heat exchanger
- IC 616 or 666
- IP55 / IP56 / IP65 / IP66

- Open
- Independent ventilation
- IC 06
- IP23 without ducts
- IP24W with ducts

- Totally enclosed
- Self-cooled by ducts
- IC 31
- IP55 / IP56 / IP65 / IP66

- Open (self-ventilated)
- IC 01
- IP23W or IP24W

Test Laboratory

WEG motors are tested according to NBR 5383, IEC 60034, NEMA MG 1 and API in modern laboratories. Capable of testing low and high voltage motors with power up to 20,000 kVA and voltages up to 15,000 V, WEG laboratories feature highly accurate controls and fully computerized test monitoring systems.

The tests are divided into three categories: routine, type and special tests. Routine tests are performed in all motors. In addition to routine tests, type and special tests are usually performed in one of a series of the same motors or under the customer's request.



Technical Assistance

WEG technical team provides the customers with full after sale support. The services include consulting in general and services in the field, such as diagnosis, commissioning of machines and 24x7 support.

The technical assistance team is highly qualified and experienced, able to handle many different situations in the field and to give remote support, using state-of-the-art equipment, which ensures reliable results.

WEG also provides its network of authorized repair shops, present in Brazil and worldwide.



Services

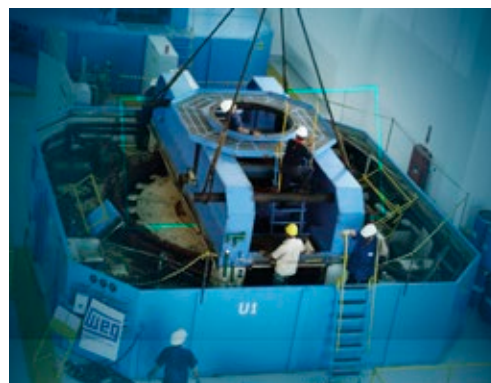
In order to restore medium and large electrical machines, count on WEG service team.

The same technology used to manufacture motors and generators is used for inspection and restoration. The services are executed in the field (at the customer's premises) or on factories: Jaraguá do Sul (Brazil), Sertãozinho (Brazil) and São Bernardo do Campo (Brazil), which is also homologated to execute services on equipment for use in explosive atmospheres. Those plants count on the full structure and support of the engineering, industrial process and quality control departments, enabling fast, reliable and quality service.

Service of WEG products and other brands:

- | | |
|--|----------------------|
| ■ DC generators and motors | ■ Turbogenerators |
| ■ Three-phase induction motors (squirrel cage or slip ring; medium and high voltage) | ■ Hydrogenerators |
| ■ Synchronous motors (with or without brushes; medium and high voltage) | ■ Wind Turbines |
| ■ Synchronous condensers | ■ Turbinas a vapor |
| | ■ Hydraulic Turbines |
| | ■ Steam Turbines |

WEG Services: flexibility, agility and experience to optimize your time and productivity.



The scope of WEG Group solutions
is not limited to products and solutions
presented in this catalogue.

To see our portfolio, contact us.

**For WEG's worldwide
operations visit our website**



www.weg.net



 **+55 47 3276.4000**

 **energia@weg.net**

 **Jaraguá do Sul - SC - Brazil**

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The values shown are subject to change without prior notice.
The information contained is reference values.