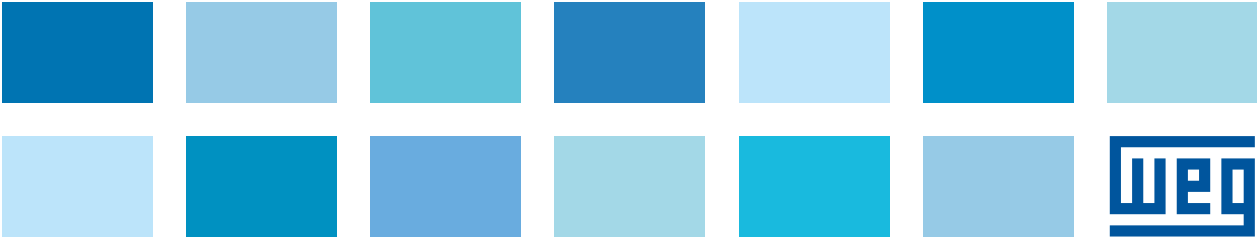




# Solutions for Oil and Gas



## Solutions for oil and gas

You will find at WEG complete solutions in motors, generators, automation and industrial paints. Besides offering state-of-the-art products, the company has the expertise to provide technical support and prompt service all over the world.

### **UPSTREAM**

#### **(Exploration and Production)**

- Solutions for well drilling
- Solutions for artificial means of elevation
- Solutions for production onshore and offshore

### **DOWNSTREAM**

#### **(Refinement, Storage/Transport and Distribution)**

- Solutions for refinement
- Solutions for storage and transport of oil and gas
- Solutions for distribution

## Services

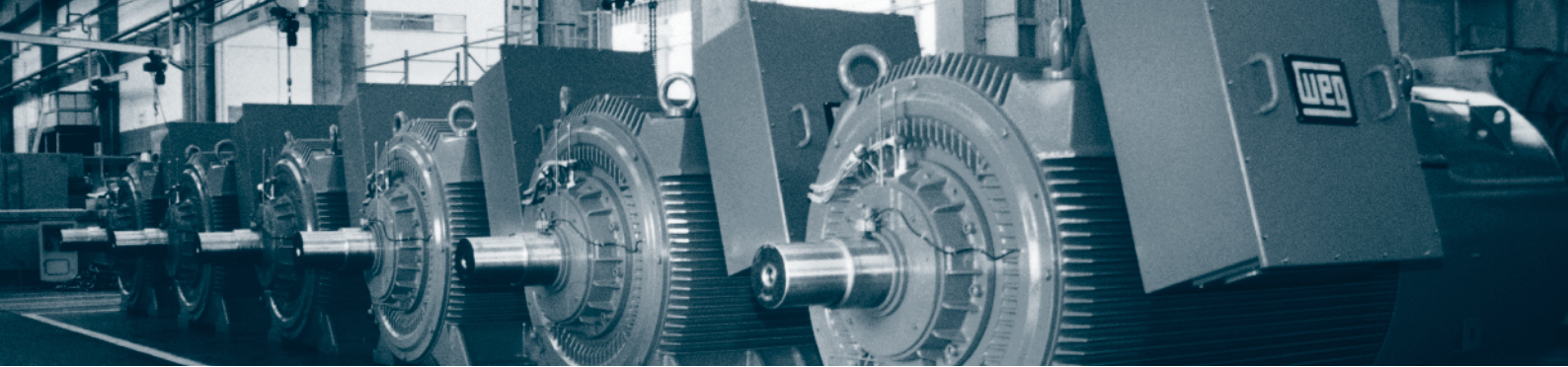
The company has the expertise to provide repair, commissioning and start-up services.

### **Service Range**

- DC motors and generators up to 10,000 kW
- Three-phase induction motors (squirrel cage) up to 50,000 kW (low, medium and high voltage)
- Synchronous motors (with or brushless) up to 50,000 kW (low, medium and high voltage)
- Turbo-generators up to 62,500 kVA
- Hydro generators up to 200,000 kVA
- Power transformers in voltage classes up to 550 kV







## Motors

Due to mechanical design flexibility, WEG motors can comply in a more suitable way to operational requirements for oil and gas applications resulting in easy interchangeability with existing motors, quick installation and low maintenance cost.

### Low and Medium Voltage Motors

#### M Line

- Power ratings up to 50,000 kW
- Voltages up to 13,800 V
- Speed: 300 to 3600 rpm

#### H Line

- Power ratings up to 3150 kW
- Voltages up to 11,000 V
- Speed: 600 to 3600 rpm

#### Applications

- Water Injection Pumps
- Crude Oil Exportation Pumps
- Sea Water Lift Pumps
- Fire Fighting Pumps
- Cooling towers pumps
- Compressors



### Synchronous Motors

Optimized designs, usually applied in pumps and high power compressors. Synchronous motors are used in the extraction, refinement and compression of oil and gas.

- Power ratings up to 50,000 kW
- Voltages up to 13,800 V
- Speed: 180 to 1800 rpm



### Explosion-Proof Motors W22XB and W22XC

Low and medium voltage motors, lines W22XB and W22XC offer a complete solution with 2, 4, 6 and 8 poles:

#### Ex-d / Ex-de - Group II B - Zone: 1, 2, 21 and 22

- Power ratings up to 1500 kW
- Voltages from 230 to 13,800 V

#### Ex-d / Ex-de - Group II C - Zone: 1,2, 22 and 21 (on request)

- Power ratings up to 1500 kW
- Voltages from 230 to 13,800 V



### Ex Motors to be used with Frequency Drives

Explosion-proof motors (Ex-d) and non Sparking (Ex-n) meeting the following characteristics:

- Speed range from 6 to 70 Hz (6 to 60Hz for 2 poles).
- Ex-d Motors for areas classified as Zone 1 (IEC), Group IIA/ IIB, temperature class T4 and ambient temperature up to 60°C.
- The Ex-n Motors can operate in areas classified as Zone 2, Group IIA / IIB / IIC - T3 (IEC), temperature class T3 and ambient temperature up to 40°C.



*Each design has its specialty and in most cases can be certified to meet explosive atmospheres and marine application.*

### In-Line Extra Thrust motors

Output ratings from 1 to 150 HP.



## Automation

Incorporating the most advanced technology available worldwide for speed variation and performance on start and stop of electric motors, WEG has the complete solution for several oil and gas applications allowing control, safety and easy operation.

### Medium Voltage Motor Control Center - MCCs

- Assembled and tested for voltages from 2.3 kV to 36 kV
- Main protection and shut down of plants and industrial facilities
- Pumping stations
- Medium voltage motors starting
- Substations
- Switchboard panels
- Fixed and variable bank of capacitors



### Low Voltage Motors Control Center

Designed with a high standardization level, this product allows easy assembly, installation, maintenance, future expansions and interchangeability of units of the same MCC model with same size and function.



### Medium Voltage Frequency Drive - MVW-01

The MVW-01 Frequency Inverter is designed with state-of-the-art technology and a multilevel structure with high voltage IGBTs (6.5 kV), thus reducing motor harmonic currents to extremely low levels. The MVW can be air or water cooled. It can also be used in special applications with sinusoidal filter for output cables of up to 15km such as ESP (Electric Submersible Pump)

### Low Voltage Modular Drive - CFW11

Available in power ratings from 400 up to 2500 HP and voltages from 380 up to 690 V with input rectifier of 6 pulses, 12 pulses or regenerative, the CFW-11M is the new generation of drives for high power ratings. The modular construction allows to configuration AFW-11M (modular drive) according to the power rating required by the customer. The concept used for modules in the book format (width much smaller than the depth) also allows high level of drive size reduction. It can be air or water cooled.



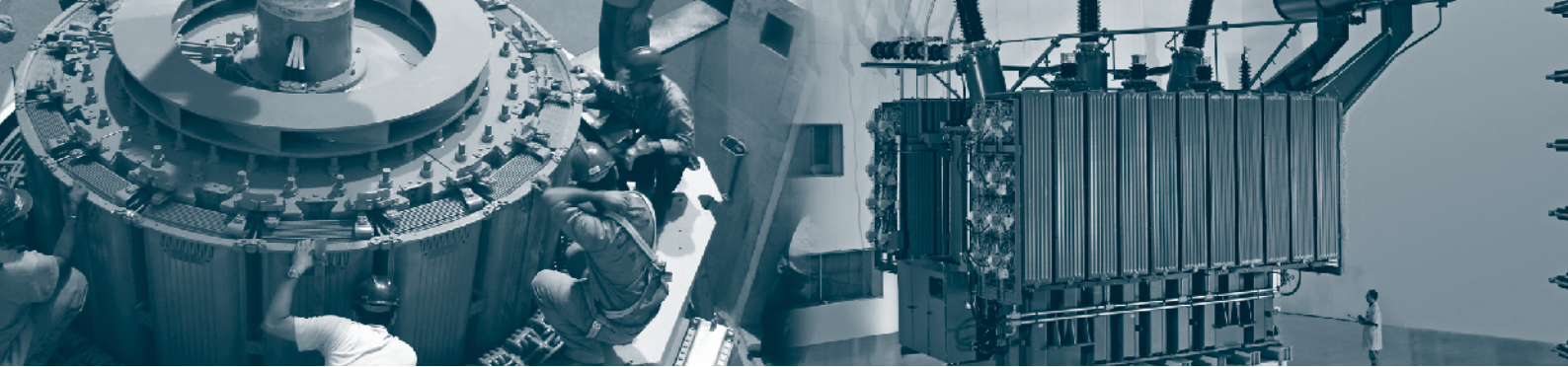
### Low Voltage Soft-Starter - SSW-06

The SSW-06 Soft-Starter series are static equipment for acceleration, deceleration and protection of three-phase induction motors. With the appropriate adjustment of the variables, the torque generated is adjusted to the load requirements, assuring that the required current is the minimum needed for starting.

### Motor - Circuit Breaker MPW16, MPW25, MPW65 and MPW100

- Solution for protection of the electrical circuit and starting/protection of motors up to 40 HP in 220 V and 75 HP with 380/440 V
- Adjustable thermal release for motor protection against overload with differential mechanism sensitive for single phase (IEC 60947-4-1)
- Magnetic trip (protection of short -circuit) fixed at 12xIn
- High interruption capacity





## Energy

WEG has the expertise of providing integrated solutions to drive all plant equipment which are developed with high quality of standards and state-of-the-art technology that is required worldwide for the oil and gas industry. Additionally the company can offer technical support in efficient solutions for power energy, in electric systems and high voltage substations in turn-key systems.

### Turbo-generators – S Line

On a modern laboratory with testing capacity up to 20,000 MVA and voltages from 2300 to 15,000 V, WEG can provide high precision computer monitored tests, fast results and analysis for continuous optimizations for our turbogenerators used in oil and gas industry.

#### Applications

- Main and Emergency Generators
- Power ratings: up to 62,500 kVA
- Voltages: up to 15,000 V, 50 or 60 Hz
- Degree of Protection: IP23 to IP56W
- Rotation: 1500 until 1800 rpm
- Mounting: Horizontals (B3, D5, D6)



## Transmission & Distribution

### Dry Transformers

With power ratings from 300 to 15,000 kVA and voltage class: 15; 24.2 or 36.2 kV the dry transformers are designed for environments that require reliability and safety.

#### Applications

- Main and Lighting Transformer
- Supply of motors and frequency drives
- Industrial, chemical and petrochemical plants
- Offshore platforms
- Vessels
- Water treatment units

### Oil Transformers

For generation, transmission and distribution of energy, WEG has oil transformers with voltage classes up to 550 kV.



## Companies that have approved WEG



# WEG Worldwide Operations

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