Automation & Motors

European Product Lines

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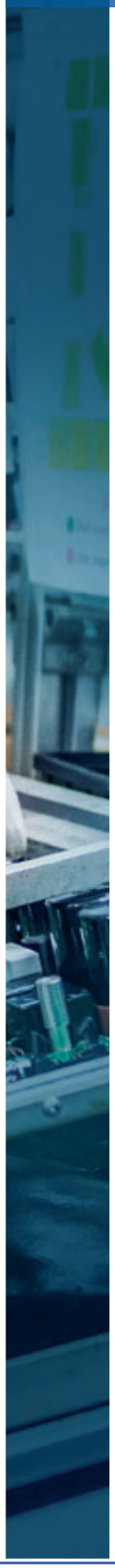


Summary

THE **WEG GROUP**

WEG is a global manufacturer of premium electric products for the industry. Counting on more than 30,000 employees all over the world and a daily production of 60,000 motors, WEG became the leading electric motor producer in the Americas and one of the largest suppliers of electric-electronic products and systems in the world.

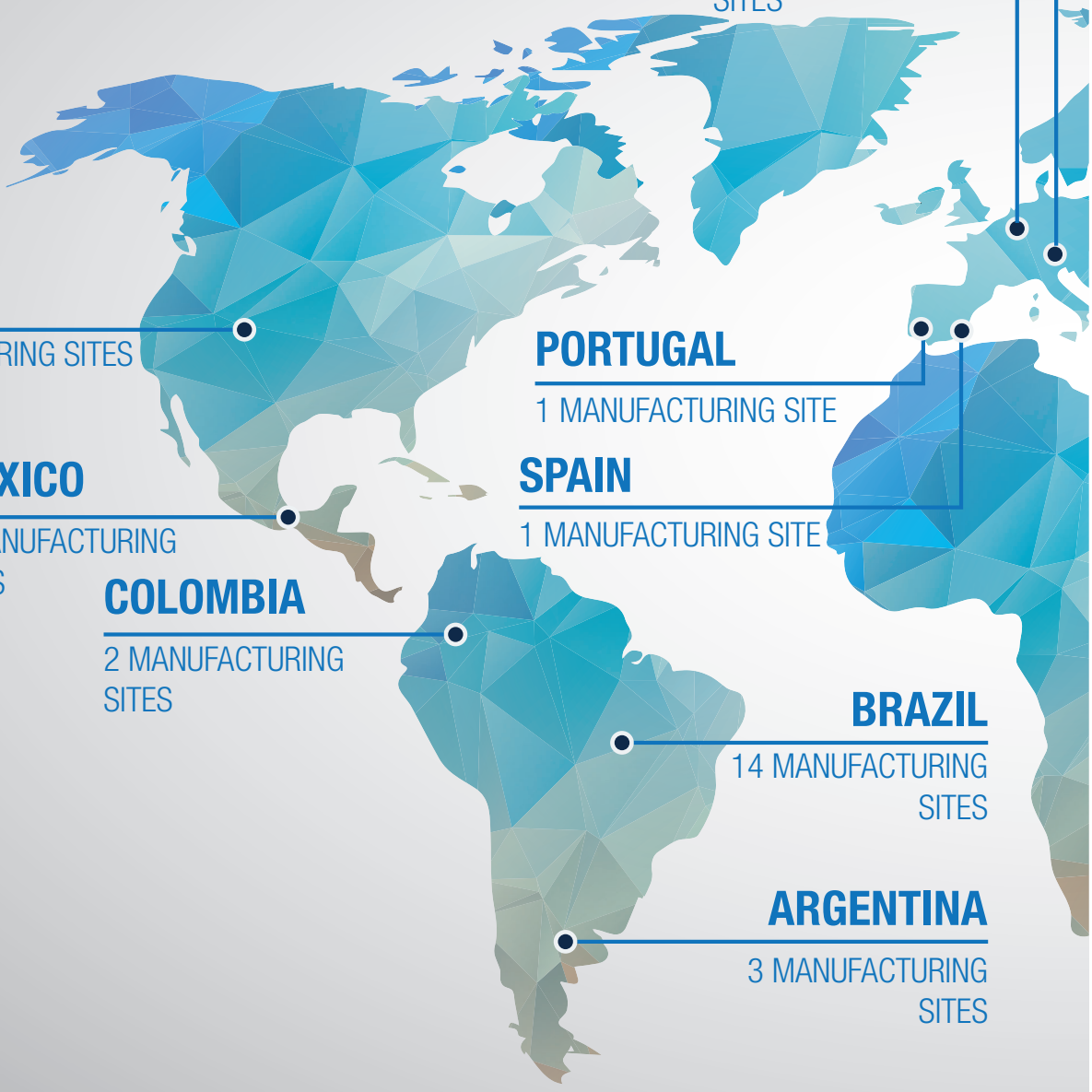
Doing business in over 135 countries, with revenues of about US$ 3.2 billion, WEG global presence is supported trough its branches established in 29 countries, manufacturing plants and a network of distributors and agents in the five continents. All WEG customers in many industry segments have a long-lasting relationship with the company due to the commitment and reputation the company has established with them in order to keep their industry operating.

Global Presence

WEG Serves you in Europe

Our global structure allows us to be closer to our customers. Over 32 subsidiaries established in key countries are prepared to provide you with technical and commercial support; our manufacturing plants strategically located in the main markets can serve you with short deliveries; and our network of over 1,250 authorized service agents located in the five continents are fully equipped to give you prompt after sales and service support.

MANUFACTURING SITES



GERMANY
2 MANUFACTURING SITES

USA
2 MANUFACTURING SITES

PORTUGAL
1 MANUFACTURING SITE

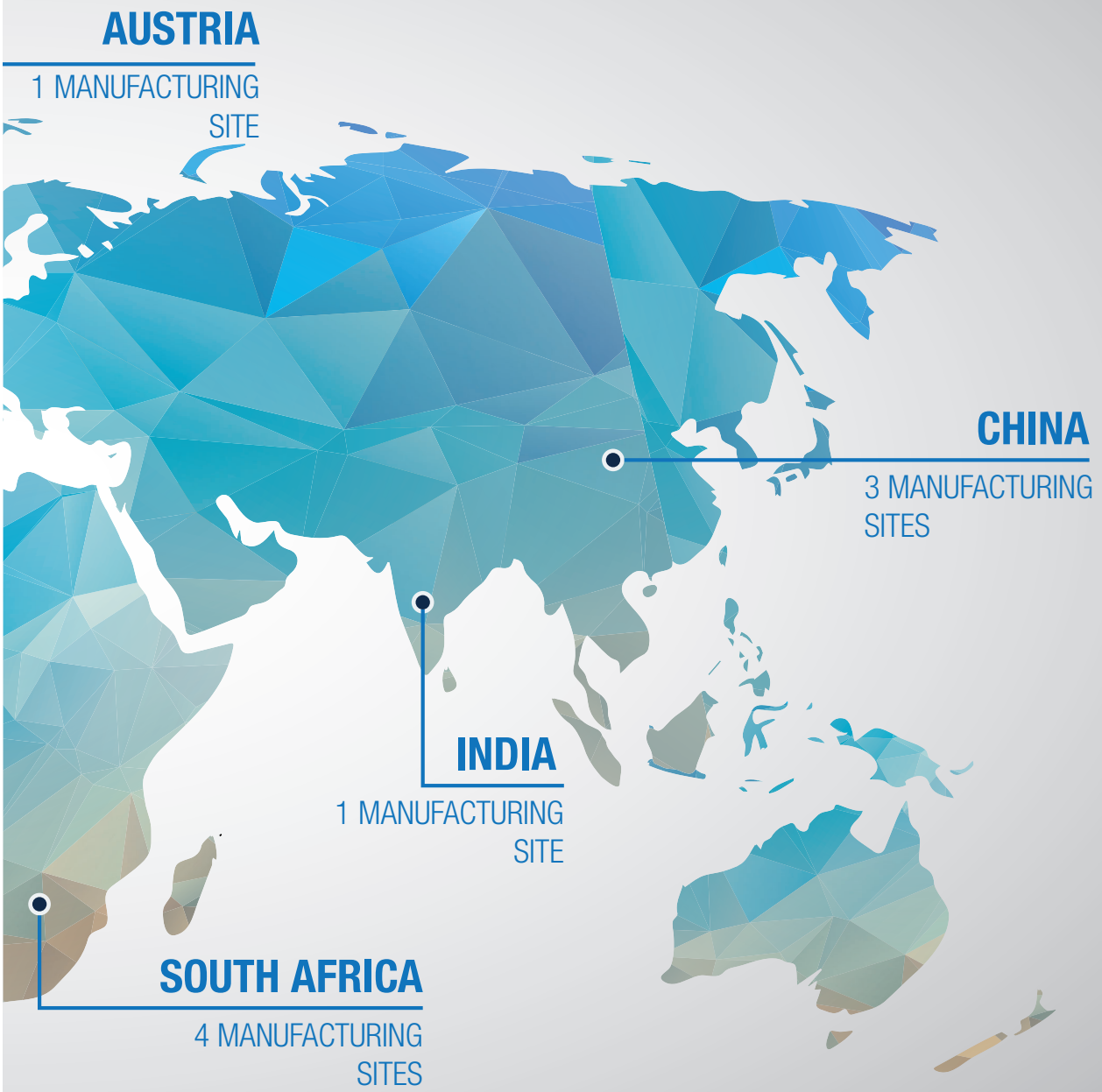
MEXICO
3 MANUFACTURING SITES

SPAIN
1 MANUFACTURING SITE

COLOMBIA
2 MANUFACTURING SITES

BRAZIL
14 MANUFACTURING SITES

ARGENTINA
3 MANUFACTURING SITES



Motor Start and Protection

CWB

Start with CWB contactor and MPW motor protective circuit breaker

Contactors

- Compact solution up to 38 A and 45 mm wide
- Built-in auxiliary contacts 1NO + 1NC
- Low energy consumption DC coils allow direct drive of the contactors via PLCs, inverter outputs or soft-starters without requiring an interface relay
- More compact assemblies of motor starters
- Developed according to IEC 60947 and UL 508 international standards
- Wide range of accessories

CWM

Modular Contactors

- Complete line from 9 to 800 A (AC-3)
- 3-pole and 4-pole contactors
- Quick mounting on 35 mm DIN rail or screw mounting
- Contactors available in several command voltages and frequencies (AC or DC)
- Direct mounting of contactors on overload relays up to 105 A
- Wide range of accessories
- Easy connection busbars for star-delta or reversing starters interconnection, allowing fast mounting and reducing space

CWC0

Compact Contactors

- Complete line from 7 to 22 A (AC-3)
- Quick mounting on 35 mm DIN rail or screw mounting
- Built-in auxiliary contacts up to 16 A
- Low-consumption DC coils, allowing direct connection to PLCs
- Direct mounting on RW17 overload relays
- Same dimensions (AC or DC coil) for models up to 16 A

RW

Thermal Overload Relays

- Current setting range from 0.28 to 840 A
- Tripping class 10
- Versions allowing direct mounting to compact contactors/ contactors, screw mounting or DIN rail mounting with accessory
- Adjustable multifunction key with HAND, AUTO, H or A functions
- Auxiliary contacts 1NO + 1NC

RW_E

Electronic Overload Relays

- Three-pole electronic overload relay with selectable trip class: 10, 20 and 30
- Phase loss protection (time delay <5 seconds)
- Phase unbalance protection (>40% between phases)
- Temperature compensated
- Manual or automatic reset
- Direct mounting on CWB9...38 and CWM9...105 contactors
- Allows individual mounting with accessories
- Auxiliary contacts 1NO + 1NC

MPW

Motor-Protective Circuit Breakers

- Motor-protective circuit breakers with high short-circuit breaking capacity up to 100 A ($U_e \leq 690$ V)
- Compact solution up to 40 A and 45 mm wide and up to 80 A 54 mm wide
- Motor start and protection up to 40 cv at 220 V and 75 cv at 380/440 V
- Adjustable thermal releases to protect the motor against overload
- Magnetic releases for short circuit protection fixed at 13xIn

DLW

Enclosed Starters

- Three-phase contactors in thermoplastic enclosures up to 40 cv at 220 V and 75 cv at 380/440 V, and single-phase contactors
- Star-delta starters in thermoplastic enclosures up to 20 cv at 220 V and 40 cv at 380 V
- Star-delta, reduced-voltage and series-parallel starters in metallic enclosure starting from 15 cv

RTW17, ERWT, RPW, ERWM and RNW

Electronic Relays

- LED status indicators
- Simple configuration and operation
- Adjustments via external selectors
- High-reliability contacts
- Excellent accuracy, repeatability and noise immunity
- Mounting on DIN rail or screw mounting
- Compact enclosure 22.5 mm and 17.5 mm wide
- Available models:
  - Timers: simple function and timing (RTW17), multi timing (RTW-MAT/MBT) or multifunction (ERWT)
  - RIEW digital impulse relay: control of automation systems in homes, hotels and commercial or residential buildings
  - Voltage monitoring relays: single monitoring (RPW) or multifunction (ERMW)
  - Level relays: filling and draining (RNW)

Motor Start and Protection

SRW01

Smart Relay

- Reliability and accuracy in monitoring, operation and protection of low voltage electric motors
- Supply voltage: 24 V ac / V dc or 110/240 V ac / V dc
- Plug & Play Philosophy
- Modular design
- Communication networks: Modbus-RTU, Profibus-DP, DeviceNet or EtherNet[1)]
- USB port
- Free WLP programming software (WEG Ladder Programming)

Optional Items:

- Operating interface (HMI) for cabinet door mounting: monitoring, parameterization and operation with copy function and serial communication
- Current and voltage or current measuring units
  - Current Measuring Unit (CMU): current monitoring on the three motor phases
  - Current and Voltage Measuring Unit (CVMU): current monitoring on the three motor phases, voltage monitoring up to 690 V, phase sequence, power factor and other motor powers, allowing the management of electric energy consumption in kW/h

Note: 1) EtherNet Modbus-TCP, available soon; please, wait!

Push Buttons and Pilot Lights

CSW

Pushbuttons, Selector Switches and Pilot Lights

- Developed for different applications, harsh and industrial environments
- Degree of protection IP66
- Illumination blocks with integrated LED (high efficiency)
- Quick and easy mounting system
- High-reliability auxiliary contacts
- Wide range of accessories

Switch-Disconnectors

MSW

Compact Switch-Disconnector

- Rated currents: 12 to 160 A
- Developed according to IEC 60947-3
- Compliance with the requirements of NR12 standard
- Modern and compact design for simple installation
- Complete line of accessories
- Terminals with degree of protection IP20
- Handle with degree of protection IP65
- Handles allow using up to 3 padlocks
- Handles allow door interlocking
- ON/OFF indication on the handle in Portuguese, as required by Brazilian NR12 standard
- Base mounting or top mounting

Electrical Circuit Protection

FU

aR Ultra-Fast Fuses

- Class aR - for semiconductor protection
- NH-type aR fuses with nominal currents from 20 to 1,000 A in four sizes
- High breaking capacity (type D = 50 kA, type NH = 120 kA)
- Technical specification according to IEC 60269 standard
- High breaking capacity

ABW

Air Circuit Breaker

- Rated currents: 800 to 6,300 A
- Available in two versions: fixed and withdrawable
- Short-circuit breaking capacity up to 120 kA (380/415 V)
- Standard protection units with:
  - LSIG protection
- Protection units with option of:
  - Earth leakage protection
  - Network communication
- Compact model
- Wide range of accessories
- More built-in protections as default
- Network communication: Modbus and Profibus (optional)

ACW

Molded-Case Circuit Breaker

- Rated currents: from 20 to 1,600 A
- Short-circuit breaking capacity up to 200 kA (200/240 V)
- Broad range of internal and external accessories
- Trigger options:
  - Adjustable thermal and fixed magnetic
  - Adjustable thermal and magnetic
  - Electronic
  - Magnetic only
- Technical specifications according to IEC/EN 60947-2

Electrical Circuit Protection

DWB

Molded-Case Circuit Breakers

- Rated currents: 16 to 1,600 A
- Short-circuit breaking capacity up to 80 kA (380/415 V)
- Models with thermal and adjustable magnetic triggers
- Broad range of internal and external accessories
- Technical specifications according to IEC/EN 60947-2
- DWB1000 and DWB1600 with LSI electronic protection

MDWH

Miniature Circuit Breakers 10 kA

- Curves B and C
- Rated currents: from 6 to 63 A
- 1, 2, 3 and 4 poles
- Breaking capacity:
  - 10 kA - NBR NM 60898 (residential purpose)
  - 10 kA - IEC/EN 60947 (industrial purpose)
- Side auxiliary contact block
- Possibility of padlock locking (optional)
- Undervoltage coil (optional)
- Side alarm contact block

MDW

Miniature Circuit Breakers 3 kA

- Curves B and C
- Rated currents: 2 a 125 A
- 1, 2, 3 and 4 poles
- High breaking capacity:
  - 3 kA - NBR NM 60898 (residential purpose)
  - 5 kA - IEC/EN 60947 (industrial purpose)
- Side auxiliary contact block (optional)
- Padlock (optional)

SIW

Switch-Disconnectors

- They disconnect electric circuits with rated currents up to 100 A
- 2, 3 and 4 poles
- According to standard IEC 60947-3
- Possibility of padlock locking (optional)
- Auxiliary contact block (optional)

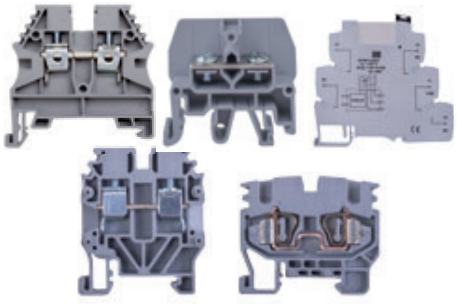
RDW

Residual Current Circuit Breakers

- Current leakage protection
- 30 mA sensitivity (life protection) or 300 mA (installation protection)
- 2 and 4 poles
- Rated currents: 25 to 100 A
- Padlock (optional)

Electrical Connectors

BTW



Terminal Blocks

- Screw line: cables from 0.5 to 240 mm^2
- Cage clamp line: cables from 0.5 to 10 mm^2
- Push-in line: cables 0.5 to 10 mm^2
- Lug line: cables 0.5 to 10 mm^2
- Relay line
  - Reversible contact
  - Plug-in relay
- Mini Terminal Screw Line: cables 0.5 to 4 mm^2
- Mini Terminal Cage Clamp Line cables: 0.5 to 2.5 mm^2
- Wide range of accessories
- Many options of identifiers and markers

Plotter

Plotter

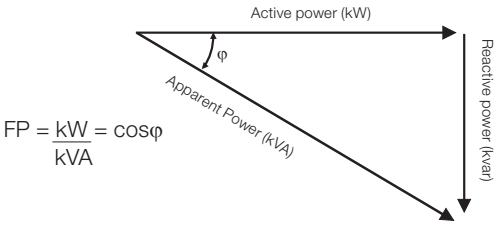
- A3 printing area (440 mm x 305 mm) and A4 (297 mm x 210 mm)
- Allows quick change of printing plates
- Able to print on elements up to 10.5 mm high
- Automatic calibration - prevents manual adjustments
- USB connection
- Complete line of accessories

Power Factor Correction

Power factor | *Energy efficiency factor*

In a three-phase power line, three quantities represents the electrical installation:

- Active power: kW (generates work)
- Reactive power: kvar (creates magnetic field)
- Apparent power: kVA (total power consumed)



(The more kvar circulates through the line and the transformer/generator, the higher the kVA consumed and the lower the power factor.)

Power Factor Correction Capacitors

- Coils produced with self-healing, dry dielectric, metalized polypropylene film
- Built-in discharge resistors in three-phase units, modules and banks
- Dielectric losses smaller than 0.4 W/kvar
- Manufactured in 50 and 60 Hz, in accordance with NBR IEC 60831
- Self-healing
- Explosion protection device

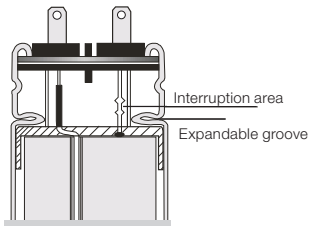


Fig. 1 Internal view of UCWs

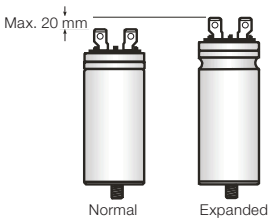


Fig. 2 UCW normal x UCW expanded

UCW

Single-Phase Capacitive Units

- Power up to 10 kvar, diameters from 40 to 75 mm and 535 V ac
- Capacitive units for mounting of modules and three-phase banks
- Replacement of expanded cells in the modules and banks
- Separate discharge resistors

UCWT

Three-Phase Capacitive Units

- Ideal for localized/individual motor correction:
  - 0.5 to 20 kvar at 220 V
  - 0.5 to 35 kvar at 380/440/480 V
  - 40 to 50 kvar at 380/440/480/535 V
- Built-in discharge resistors
- Protecting cover for connections
- Philips and box terminals

MCW

Three-Phase Capacitor Modules

- Power: up to 60 kvar and 480 V ac
- Single-phase capacitive units connected in delta
- Built-in discharge resistors
- You can associate up to 4 modules through interconnection busbars, reaching the equivalent powers to the banks (best cost-benefit)

CWMC

Contactors for Switching Capacitors

- Available for switching capacitor banks of up to 61 kvar at 400/415 V
- Direct mounting on DIN rail 35 mm or screw mounting
- Developed with pre-charge resistors to reduce high in-rush currents

Drives

CFW100

Variable Speed Drive

- Supply voltage: 200-240 V (single-phase)
- Rated currents: 0.18 to 0.75 kW (0.25 to 1 HP)
- Vector control (VVW) or scalar control (V/F)
- Plug & Play accessories
- Built-in operating (HMI) interface
- Surface or DIN rail mounting
- Protection degree IP20
- Removable fan
- Alarm or fault diagnosis
- Electronic protection against motor overload
- Remote operating (HMI) interface (accessory)
- Flash memory module (accessory)
- Communication RS485 (accessory)
- USB communication (accessory)
- Free programming software:
- SuperDrive G2 and WLP
- SoftPLC Function
- RFI footprint filter (accessory)

CFW300

Variable Speed Drive

- Supply voltage: 110 V or 230 V (single-phase or three-phase)
- Rated currents: from 1.6 to 15.2 A
- 4 PNP or NPN digital inputs
- 1 relay output 0.5 A/250 V ac
- 1 analog input 0-10 V dc / 4-20 mA
- 3C2 coating class (IEC 60721-3-3 on internal circuits)
- Easy installation
- Flash memory module (accessory)
- WPS software: on-line monitoring, programming and configuration of CFW300
- Built-in operating interface (HMI)
- Scalar (V/F) or vector (VVW) control modes
- SoftPLC: built-in software resource, equivalent to a small PLC
- Footprint RFI filter (accessory)
- Accessories for functionality expansion: RS485, RS232, CANopen, DeviceNet, Profibus-DP, USB, encoder, infrared remote control and sensor, input and output expansion

Drives

CFW500

Variable Speed Drive

- Power range: 0.18 to 15 kW (0.25 a 20 HP)
- Supply voltage: 200-480 V - single-phase or three-phase
- Rated currents: 1 to 56 A
- Controls: vector (VVW), scalar (V/F), vector sensorless or with encoder and energy saving mode (EOC)
- Built-in SoftPLC function
- Multipump applications
- Operating interface (HMI)
- RS485 port (built-in in any model of plug-in module)
- Plug-in cards for resource expansion[1)]
- Free programming software: WLP and SuperDrive G2
- Optional items:
  - RFI filter
  - USB communication port
  - Memory card: allows data transfer (parameters and SoftPLC) between inverters, without the necessity to energize them
  - Network communication: CANopen, DeviceNet, Profibus-DP, RS232, RS485, EtherNet-IP, Modbus-TCP and Profinet-IO

Note: 1) Select the plug-in module + CFW500 without plug-in module.

CFW700

Variable Speed Drive

- Power range: 1.1 to 132 kW (1.5 to 150 HP)
- Supply voltage: 200-600 V
- Rated currents: 2.9 to 211 A
- VVW Voltage Vector WEG, vector with and without encoder (sensorless)
- Plug & Play Philosophy
- Built-in SoftPLC function - adds the functionalities of a PLC to the CFW700
- Smart thermal management
- Degree of protection IP20, IP21, NEMA1 and IP55
- Incorporated DC link inductor
- Incorporated input for incremental encoder and RS485 communication port (Modbus)
- LCD operating interface (HMI) with backlight and USB port
- RFI filter according to EN 61800-3 (optional)
- Communication: CANopen, DeviceNet and Profibus-DP (optional)
- Safe Torque OFF Module (STO) for safety stop:
  - Category 3 PL e/SIL CL 2 certified by TÜV Rheinland® according to EN ISO 13849-1, IEC 61800-5-2, IEC 62061 and IEC 61508 standards
- Flash memory module (optional)
- Free WLP and SuperDrive G2 programming softwares

CFW501 HVAC

Variable Speed Drive

- Power range: 0.18 to 7.5 kW (0.25 a 10 HP)
- Supply voltage: 200-480 V
- Rated currents: 1.0 to 31 A
- Control types: scalar (V/F), vector (VVW) and energy saving (EOC)
- Harmonic Mitigation Technology (HMT) - reduces the quantity of harmonics emitted to the power line (with no need of an input reactance)
- Special functions:
  - Energy saving
  - Dry pump and broken belt to identify load anomalies
  - Short cycle protection to increase the service life of compressor applications
  - Bypass - allows the motor to be directly started from the power supply
  - Fire mode - ideal for applications with smoke exhausters and heating system exhaust fans
  - Sleep mode - optimizes the use of the motor
  - SoftPLC: adds the functionalities of a PLC to the CFW501 HVAC
  - Advanced PID
- Built-in accessories:
  - RFI filter
  - Operating interface (HMI) with specific units for HVAC applications
  - BACnet, Metasys N2 and Modbus-RTU communication protocols
  - SuperDrive G2 and WLP free software

CFW701 HVAC

Variable Speed Drive

- Power range 1.1 to 132 kW (1.5 to 150 HP)
- Dedicated to HVAC applications (heating, ventilation, air conditioning and refrigeration)
- Supply voltage: 200-480 V ac
- Rated currents: 3.6 to 211 A
- Degree of protection: IP20, IP21, NEMA1 and IP55
- RFI filter
- Inductor on the DC link
- Operating interface (HMI) with specific units for HVAC applications and USB communication port
- BACnet, Metasys N2 and Modbus-RTU communication protocols
- Accessories:
  - Flash memory module
  - Module with relay outputs
- Special functions:
  - Energy saving
  - Dry pump and broken belt to identify load anomalies
  - Short cycle protection to increase the service life of compressors
  - Bypass - allows the motor to be directly started from the power supply
  - Fire mode - ideal for applications with smoke exhausters and heating system exhaust fans
  - Sleep mode - optimizes the use of the motor
  - SoftPLC: adds the functionalities of a PLC to the CFW701 HVAC
- Optional:
  - Switch-disconnector incorporated to the product
- Free programming software:
  - WLP - for SoftPLC programming
  - SuperDrive G2 - for on-line parameterization, command and monitoring

Drives

CFW11

Variable Speed Drive

- Power range: 1.1 to 630 kW (1.5 to 900 HP)
- Supply voltage: 200-690 V
- Rated currents: 3.6-2,500 A
- Vectrue Technology® - linear and adjustable V/F scalar control, VVW (Voltage Vector WEG), vector sensorless (without encoder) and with encoder, vector WMagnet sensorless (without encoder) and with encoder
- Optimal Breaking® - WEG inverter breaking technology
- Optimal Flow® - for use in constant torque loads
- Smart thermal management
- Degree of protection: IP20, IP21, NEMA1 and IP55
- Built-in inductor on the DC link
- Single DC busbar
- Plug & Play Philosophy
- USB port
- Real time clock
- Built-in SoftPLC function - adds the functionalities of a PLC to the CFW11
- Operating interface (HMI) with graphic display and backlight
- Optional accessories:
  - Expansion boards of digital and analog inputs and outputs
  - Incremental Encoder Module
  - Safe Torque OFF Module (STO) for safety stop: category 3 PL and SIL CL 2 certified by TÜV Rheinland®, according to EN ISO 13849-1, IEC 61800-5-2, IEC 62061 and IEC 61508 standards
  - Communication modules: DeviceNet, EtherNet-IP, Profibus-DP, RS232, RS485, Modbus-TCP and Profinet-IO
- RFI suppressor filter (optional, except for sizes E, F, G and H which already have built-in RFI filter)
- Also available in modular versions
- Free SuperDrive G2 Software, for inverter parameterization, command and monitoring with USB connection

Note: 1) Models above 1,141 A are mounted on modular complete drive panels (AFW11M / W).

MW500

Motor Drive

- Power range: 0.75 and 3.7 kW (1 and 5 HP)
- Three-phase supply voltage: 220-480 V
- Rated currents: 4.3 to 10.0 A
- 4x/IP66 NEMA protection
- Adaptable to WEG W22 motor line or wall mounting (optional)
- Switch-disconnector
- LED operation indicators
- Compatible with the main accessories of the CFW500

AFW11

Complete Drive with Variable Speed Drive

- Power range: 37 to 630 kW (50 to 900 HP)
- Mounting on panel with degree of protection IP42
- Supply voltage: 380 to 480 V - 50/60 Hz
- Command voltage: 220 V ac - 50/60 Hz
- Optional accessories
- Ease of use

AFW11M/AFW11W

Modular Variable Speed Drive

- Power range: 270 to 2,000 kW (350 to 2,500 HP)
- Ideal solution to drive high-power motors
- Configuration through power modules (books)
- Modular structure - more compact
- Air-cooled (AFW11M)
- Input rectifier in 6 pulses, 12 pulses or regenerative
- Supply voltage 380-690 V
- Rated currents: 340 to 2,850 A
- Same optional items and accessories of the CFW11

MVW01

Medium Voltage Variable Speed Drive

- Motor voltages: 2.3 kV; 3.3 kV; 4.16 kV and 6.9 kV
- Power: 400 kW to 16,000 kW (500 HP to 22,500 HP)
- Power and control insulated by fiber optic
- Withdrawable power arms for quick and easy replacement
- Easy-to-use graphic operating interface (HMI)
- Compact model with standard 18-pulse rectifier
- Network communication: DeviceNet, Modbus, Profibus-DP and EtherNet
- Dry-type plastic film power capacitors with high reliability and long life
- Imposed voltage
- Air-cooling
- High efficiency (>99%)
- High power factor (>95%)
- Low noise level (<75 dB)
- Low heat dissipation

MVW3000

Medium Voltage Variable Speed Drive

- Motor voltage: 2.3 kV, 3.3 kV, 4.16 kV, 5.5 kV, 6 kV, 6.3 kV, 6.6 kV, 6.9 kV, 7.2 kV and 8 kV[1)]
- Motor current: up to 200 Amps[1)]
- Input voltage: 2.3 kV...13.8 kV[2)]
- Reliable air-cooled design
- Total harmonics compliance with IEEE 519

Notes: 1) Higher voltage/current under request.
2) Contact factory for voltages above 7.2 kV.

Drives

SSW05

Soft-Starter

- Power rating: 0.55 to 55 kW (0.75 to 75 HP)
- Rated currents: 3 to 85 A
- Voltage: 220 to 575 V
- Incorporated bypass
- Control with DSP
- Remote operating interface (HMI) (optional)
- Built-in motor protections
- Operation in environments up to 55 °C

SSW06

Soft-Starter

- Power rating: 2.2 to 1,800 kW (3 to 2,500 HP)
- Currents: 10 to 1,400 A (200-575 V) and 45 to 1,400 A (575-690 V)
- Incorporated bypass up to 820 A
- Allows motor inside delta connection (6 cables only for 220-575 V models) or standard connection (3 cables)
- Removable operating interface (HMI) with double display (LED/LCD)
- Kick-start function (torque pulse at starting)
- Pump control function for smart control of pumping systems
- Multimotor function
- Built-in motor protections
- Operation in environments up to 55 °C
- Torque control
- Built-in SoftPLC function - adds the functionalities of a PLC to the SSW06
- Input and output expansion module
- Modbus-RTU communication via RS232 (incorporated), Profibus-DP, DeviceNet, EtherNet/IP and Modbus/TCP, RS458 or USB (optional)
- Free SuperDrive G2 programming software

SSW07

Soft-Starter

- Power rating: 4 to 315 kW (6 to 450 HP)
- Rated currents: 17 to 412 A
- Voltage: 220 to 575 V
- Incorporated bypass
- High starting duty
- Total control on the three phases
- Built-in motor protections
- Kick-start function (torque pulse at starting)
- Local or remote operating interface (HMI) (optional)
- Operation in environments up to 55 °C (without current derating for all models)
- Interconnection with Fieldbus communication networks: Modbus-RTU, DeviceNet and Profibus-DP (optional)
- Free SuperDrive G2 programming software

SSW08

Soft-Starter

- Power rating: 4 to 315 kW (6 to 450 HP)
- Rated currents: 17 to 412 A
- Voltage: 220 to 575 V
- Incorporated bypass
- High performance
- Built-in motor protections
- Kick-start function (torque pulse at starting)
- Local or remote operating interface (HMI) (optional)
- Operation in environments up to 55 ºC (without current derating for all models)
- Interconnection with Fieldbus communication networks: Modbus-RTU, DeviceNet and Profibus-DP (optional)
- Free SuperDrive G2 programming software

SSW900

Soft-Starter

- Rated currents: 10 to 412 A
- Removable graphic HMI allows copying and downloading parameters from one SSW900 to another
- HMI with incorporated USB port for communication with the PC
- Monitoring of the variables in graphic mode and configurable initial screens
- Real time clock
- Four selectable languages
- Fault and alarm log saved with time and date, exportable to *.csv* file
- Supply voltage of 220 to 575 V
- Oriented start-up
- Standard connection (3 cables) or motor inside delta connection (6 cables)
- Control methods: voltage ramp, current limit, current ramp, pump control and torque control
- Pump control function for smart control of pumping systems that avoids hydraulic hammer and pressure overshoots on hydraulic piping
- Integral motor thermal protection
- Increased motor and equipment service life
- Limitation of voltage drops at the start
- Incorporated bypass, providing size reduction and energy savings
- Fire mode (emergency start)
- Operation in ambient temperature up to 55 °C without current derating
- Input for thermistor (PTC)
- Communication accessories: RS485, DeviceNet, Profibus-DP, EtherNet-IP, Modbus-TCP and Profinet-IO

Drives

SSW7000 / NEMA

Medium Voltage Soft-Starter

- Supply currents: 2.3 kV; 3.3 kV; 4.16 kV and 6.9 kV
- Power: 560 kW to 3,300 kW (750 HP to 4,500 HP)
- Rated currents: 125 A, 180 A, 250 A, 300 A, 360 A, 500 A and 600 A
- Degree of protection: IP41, NEMA12
- Operating interface (HMI) with graphic LCD
- Real time clock
- Main and bypass vacuum contactors
- Medium voltage fuses
- Input switch-disconnector
- Power and control insulated by fiber optic
- Flash memory module (optional)
- SoftPLC function
- Free WLP and SuperDrive programming software
- USB connection to PC
- Motor thermal protection - Pt-100 (optional)
- 5 starting modes
- Boards for network communication: DeviceNet, Profibus-DP, EtherNet and Modbus, RS232 or RS485 interfaces (optional)

SCA06

Servo Drive

- High-performance servoconverter for speed, torque and servomotor position control
- Supply voltage 220 or 380 V ac
- Precision of movement control
- Operation in closed loop
- Position feedback by resolver
- Independent control and power supply
- Flexibility and integration to drive
- HMI with six-digit LED display
- USB port
- CANopen / DeviceNet in the standard version
- 64-kbyte internal PLC with ladder programming language
- RFI filter (optional)
- Available communication networks: Modbus-RTU, Profibus, EtherCAT, EtherNet-IP and EtherNet-TCP-IP
- Safe Torque OFF Module (STO) of safety stop - Category 4, PLe / SIL CL3

SWA

Servomotors

- Supply voltage: 220 V ac or 380 V ac
- Torque: 0.8 to 40 Nm
- Servomotor option with electromagnetic brake at 24 V dc
- Degree of protection IP65
- Internal thermal Protector (PTC) 55°
- Rare earths magnets (neodymium, iron, boron)

CTW900

AC/DC Converter

- Drive and control of direct current (DC) motors
- Rated currents: 20 to 2,000 A[1)]
- Speed or torque control
- Simplified connections to power and control
- Internal supply for the field bridge
- Operating interface (HMI) with LCD display
- USB port for serial communication and software update
- SoftPLC function on the standard CTW900 to create specific programs
- Free programming and monitoring software
- Memory card for backup of parameters and software applications
- 3 options of speed feedback: incremental encoder, DC tachogenerator or counter-electromotive force (CEMF)
- Network communication: DeviceNet, Profibus-DP, EtherNet-IP, Modbus-TCP, Profinet0-IO, RS485 and RS232

Note: 1) Output currents 1,500 to 2,000 A available soon. Please wait!

Programmable Logic Controllers - PLC

PLC300

Programmable Logic Controller

- PLC with incorporated HMI, complete and expandable
- 10 digital inputs and 1 analog input
- 9 digital outputs (1 fast) and 1 analog output
- Battery voltage monitoring, informing the replacement moment without losing the application
- PWM ramp function
- Internal flash memory that enables the automatic recovery of the resource in case of battery fault
- 5 incorporated ports: EtherNet, CANopen, RS232, RS485 and USB
- Expansion of digital and analog inputs and outputs via CANopen or CFW11 modules
- SD memory card (Secure Device)[1)] for data, program and event log storage
- Programming in ladder language via WPS software (WEG Programming suite), according to IEC 61131-3
- Built-in encoder input (100 kHz)
- RUW01: 14 - DI and 10 - DO, PNP/NPN at 24 V dc
- RUW01-CN13DI: 13 - DI, PNP/NPN at 24 V dc
- RUW02: 7 - analog inputs 0 to 10 V dc or 4 to 20 mA 24 bits
- RUW04: 7 - J/K type thermocouple inputs 24 bits
- RUW06: 2 analog inputs for load cell
- RUW03-CN8AO: 8 analog outputs of 0 to 10 V dc or 4 to 20 mA
- RUW05-CN4RTD: 4 Pt-100 or Pt-1000 inputs

Note: 1) SD card not included.

Operating Interface

MT

Graphic Operating Interfaces (HMIs)

- Color graphic HMIs with touchscreen, available in 4, 3, 7, 10 or 15" models
- Modern visual with flexible and versatile programming software
- Application simulator software
- Degree of protection IP65
- USB, EtherNet, RS232, RS485 and RS422 communication ports

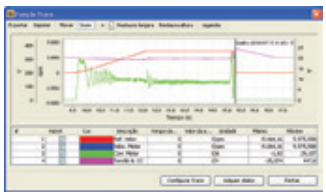
Free Software

WLP - WEG Ladder Programmer

- Development of software applications
- Function programming
- SoftPLC
- Ladder language
- Control mathematical PLC blocks
- On-line monitoring and help
- USB connection

SuperDrive G2

- USB connection to inverter, servoconverter and soft-starters
- Parameterization, command and signaling
- Recording of software application (via SoftPLC)
- On-line monitoring and help



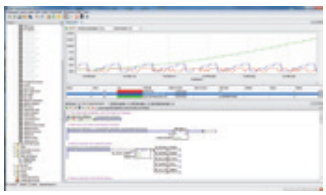
Trace Function

- Customizable tool that monitors and stores variable registers in the inverter memory, activated by the occurrence of an event (e.g., overload)
- Registration and graphic view of inverter variables
- Excellent tool for fault diagnosis in remote locations
- Simulates an oscilloscope
- Included in SuperDrive G2 software

Free Software

Dimensioning

- Soft-starters (SDW) and servo drives (DSW)
- Help with sizing and specifications
- Various application options
- Different starting conditions
- List of basic starting parameters



WPS Programming Software

- Ladder programming according to IEC 61131-3
- Integrated tool, same software, enabling screen edition of the HMI, PLC and configuration of the CANopen network
- On-line logic monitoring and charts, recipe edition, SD card file handling

Return On Investment with Variable Speed Drive

- Easy to use
- Pumps and fan applications
- Easy visualization of electrical energy savings
- Estimated return on investment

Available on website www.weg.net

Distribution and Command Electric Systems

MTW

Medium Voltage Switchgear

- Voltage class: 7.2 to 36 kV
- Short-circuit current: 25 / 31.5 / 40 / 50 kA
- Substation of utility companies
- Main disconnection and protection of manufacturing plants and industrial installations
- Pumping stations
- Railroad systems
- Thermal and hydroelectric plants for power generation
- Start of medium-voltage motors
- Unitary substations
- Load switch board panels
- Motor control center
- Internal arc resistant - Classification IAC BFALR/AFLR

CCW

Compact Medium Voltage Switching and Protection Set Up to 20 kA / 24 kV

- Compactness, operating safety and modularity are outstanding characteristics of the Medium Voltage Controlgear and Switchgear of the CCW series
- These arc proof and air insulated switchgear comply with NBR IEC 62271-200 and the requirements of NR10
- Its standardized columns provide versatility so as to economically fulfill a great variety of configurations, topologies and requirements of utility companies
- Modules with circuit breakers: rated current of 630 A
- Modules with switch-disconnectors: rated current of 630 A
- Internal arc resistant - Classification AFL/AFLR

LCW

Low Voltage Panels

- Lower risk of accidents with operators
- Fast and easy maintenance
- Modular system enables easy expansion
- Easy rear access to the electric cable terminals
- Greater reliability on the protection system
- Direct protection: through the tripping devices incorporated to the circuit breakers
- Secondary protection: through the secondary protection relays and CTs (IECs), which can be connected to network (Modbus, DeviceNet, Profibus, IEC 61850)
- Totally tested - TTA/PTTA (according to IEC 60439-1)
- Internal arc resistant
- Rated currents:
  - Main busbar up to 6,000 A
  - Vertical busbar up to 4,000 A
- Constructive form: 3b and 4b

MCC

Low Voltage Motor Control Centers

- User safety during operation, supervision and maintenance
- Installation in centralized locations to simplify operation and maintenance
- Versatility to command and protect a great number of motors
- Extremely compact design that enables maximum use of space
- Fast and easy maintenance, especially because of the extraction of the drawers and their interchangeability
- Modular system enables easy expansion
- High safety, because it allows the execution of maintenance and other services in a certain device without de-energizing other equipment
- Worldwide standardized Profibus-DP (non-proprietary network) or DeviceNet network
- Communication with other PLCs in open protocol network
- Electric arc resistant: on request
- Short-circuit current: 50/65/80 kA
- Main busbar up to 5,000 A (other on request)
- Vertical busbar: 630, 800, 1,000 and 1,200 A
- Constructive form: 2, 3 and 4b

Electrical Houses

E-Houses

- Reduction of the lead time to assemble the substation
- Greater control on the equipment testing process at the plant and single responsibility/guarantee on the process with a single supplier
- Flexibility for the installations and possibility of relocation without adding major costs
- Convenience for installation in the field (reduced civil works)
- Engineering consolidated in a single machine
- Easy customization to meet all customer needs

Industrial Motors

W22

W22 General Purpose motors are designed to provide not only significantly lower energy consumption, but lower noise and vibration levels, higher reliability, easier maintenance and lower total cost of ownership A motor line that addresses the concepts of energy efficiency, performance and productivity, generating maximum benefit to the customer.

General Purpose Low Voltage Motors

Standard Features IE4 Super Premium
- Output: 3 to 355 kW
- Number of poles: 2, 4 and 6
- Frequency: 50 Hz
- Voltage: 400/690 V
- Frames: 132S to 355A/B
- Colour: RAL 6002 - green

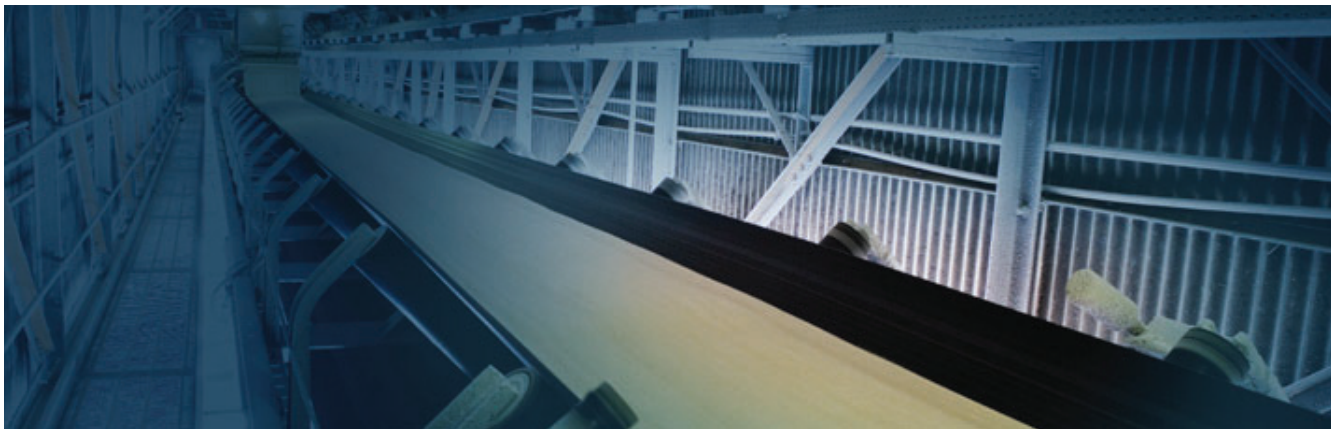
Standard Features IE3 Premium
- Output: 0,12 to 500 kW
- Number of poles: 2, 4, 6 and 8
- Frequency: 50 Hz
- Voltage: 220-240/380-415 V (up to 100L)
  380-415/660 V (from 112M and up)
- Frames: 63 to 355A/B
- Colour: RAL 5009 - Blue

Applications
Pumps, compressors, fans, crushers, conveyors, mills, centrifugal machines, presses, elevators, packaging equipment, grinders, etc.

Features & Bennefits

- Counts on all the innovative features of the W22 General Purpose motors platform
- Same output x frame ratio when compared to conventional induction motors - Totally interchangeable with existing induction motors
- WISE® Insulation System - Increases stator electrical strength and allows the motor operation by Variable Speed Drive, without damage by voltage peaks[1)]

1) *For more information about Frequency Inverter operation, please see page 23.*



W21

WEG Aluminium frame motors with removable feet were specially designed to meet market requirements in reference to mounting flexibility since they allow all mounting positions. The foot mounting system offers great flexibility and allows changing of the mounting configuration without requiring any additional machining process or modification to the motor feet. Motor terminal boxes can be rotated at 90 degrees allowing motor leads to be connected at any motor side. Besides that these motors are fully interchangeable with existing cast iron frame motors. Reduced stock is needed as only one motor is required for all mounting positions.

Aluminium Multimounting Motors

Standard Features

- Output: 0.12 kW to 37 kW
- Number of poles: 2, 4, 6 and 8
- Frequency: 50 Hz
- Voltage: 220-240/380-415 V (up to 100 L)
  380-415/660 V (from 112M and up)
- Frames: 63 to 200L
- Colour: RAL 5009 - blue

Versions Available

- Standard Efficiency - IE1
- High Efficiency - IE2
- Premium Efficiency - IE3

Applications

Pumps, compressors, air conditioning systems, fans, cranes, conveyors, machine tools, winding machines, drawing machines, presses, hoists, cranes, elevators, looms, grinders, injectors, extruders, cooling towers, packaging machines, etc.

Features & Bennefits

- Multimounting - Flexible and easy to change mounting configurations without requiring machining operations or additional changes to the motor feet.
- Aluminium frame provides high protection to the enclosures offering better heat dissipation.
- Definite purpose derived lines - W21 Aluminum Multimounting motors line counts on, besides the General Purpose line, several definite purpose derived lines, such as Brake Motors, Single-Phase Motors and Fan & Exhaust Motors (TEAO).
- Extended range - The introduction of the 160, 180 and 200 frames allow the W21 aluminum multimounting line to offer rated outputs up to 37 kW, enabling the line to cover even more applications.
- WISE® Insulation System - Increases stator electrical strength and allows the motor operation by Variable Speed Drive, without damage by voltage peaks[1)]

1) *For more information about Frequency Inverter operation, please see page 23.*

Industrial Motors

W22 Magnet

The motor with the greatest efficiency and savings on the market. The rotor with permanent magnets guarantees high performance, making it possible to draw more power per frame, reducing installation space and noise, in addition to guaranteeing efficiency levels greater than IE2, IE3 and IE4 motors defined by standards. The W22 Magnet is driven by a WEG Variable Speed Drive and offers constant torque in a wide speed range, guaranteeing operation at low speeds, with no need of a forced ventilation kit.

Permanent Magnet Motor

Standard Features

- Output: 7,5 kW to 315 kW (IE4 Efficiency)
  3 kW to 160 kW (IE5 Efficiency)
- Speed range: 180 to 3600 rpm
- Frequency: 50 Hz
- Voltage: 400 V
- Frames: 132S to 315S/M
- Colour: 091A.3145 - gray

Applications

Compressors, elevators, pumps, fans, exhausters, conveyors, electrical vehicles, textile industry machines and other applications where speed variation, high efficiency, low noise levels and reduced volume are necessary.

Features & Bennefits

- Super and Ultra Premium Efficiency Levels - The motor efficiency meets the IE4 or the impending IE5 levels of the IEC 60034-30-1, offering energy savings and reduction in CO_2 emissions.
- Rotor fitted with permanent magnets - Motor extended lifetime, higher output / frame size ratio, higher efficiency, higher power factor and reduced bearing and overall motor temperature.
- Synchronous operation - Easy speed synchronization with multiple motors fed by the same variable frequency inverter.
- Wide speed range with constant torque - Ensures operation at lower speeds with the same performance, without requiring a forced ventilation kit, demanding less floor space for motor and MCC installation
- WISE® Insulation System - Increases stator electrical strength and allows the motor operation by Variable Speed Drive, without damage by voltage peaks[1)].

1) *For more information about Frequency Inverter operation, please see page 23.*

W22

With technical know-how in the manufacture of compact pre-formed coils and access to the latest electrical design optimization software, WEG has developed the W22 High Voltage general purpose motors line.
The line has all of the innovative features incorporated in to the W22 Low Voltage motors range and represent an excellent cost-benefit solution for general purpose applications requiring High Voltage machines.

High Voltage Motors

Standard Features

- Output: 90 kW to 400 kW
- Number of poles: 2, 4, 6 and 8
- Frequency: 50 Hz
- Voltage: 1.2 to 6.6 kV
- Frames: 315L, 355M/L and 355A/B
- Colour: RAL 5009 - blue

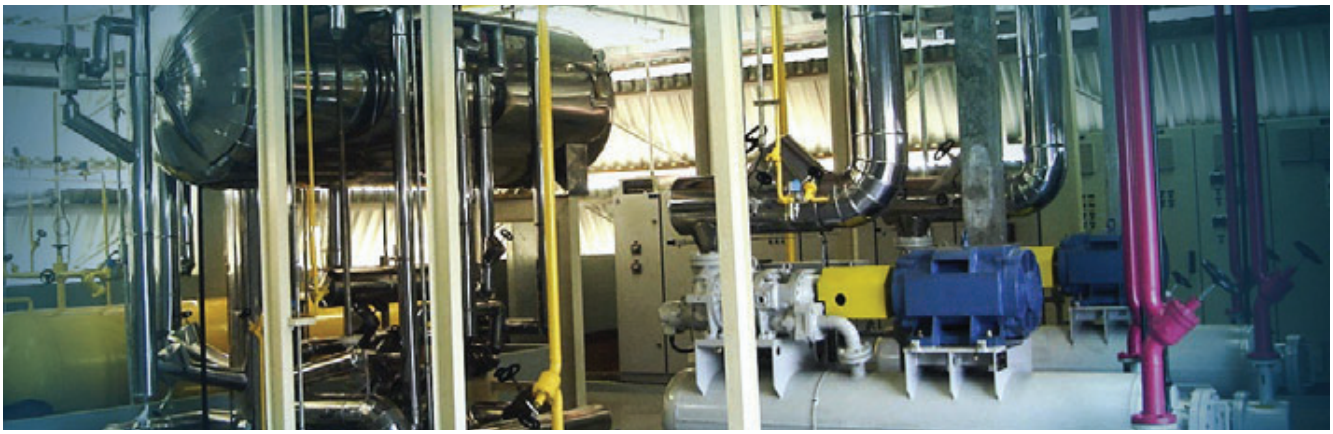
Applications

Pumps, compressors, fans, crushers, conveyors, mills, centrifugal machines, presses, elevators, packaging equipment, grinders, etc.

Features & Bennefits

- Compact construction - One of the most compact High Voltage machines available on the market.
- W22 Platform - Counts on all the innovative features of the W22 General Purpose Motors Platform.
- Accessories terminal box - Placed in the top of the frame close to the fan cover, provides easy and safe connection for acessories separated from main terminals, thus avoiding signal interference.

Industrial Motors



W40

The W40 motor is a general purpose line designed for environments where dirt and moisture are minimal. The W40 cast iron frame is designed to provide maximum ventilation and heat dissipation, offering low vibration levels, high mechanical stiffness and durability.

Open Induction Motors - Low and High Voltage

Standard Features - Low Voltage

- Output: 11 kW to 800 kW
- Number of poles: 2, 4 and 6
- Frequency: 50 Hz
- Voltage: 380-415 / 660 V (for frames 160M to 315G/F)
  400 V (for IE3 motors, frames 355J/H and 400J/H)
- Frames: 160M to 400J/H
- Colour: RAL 5009 - blue

Standard Features - High Voltage

- Output: 220 kW to 1500 kW
- Number of poles: 2 and 4
- Frequency: 50 Hz
- Voltage: 1,2 to 5,0 kV
- Frames: 280L to 450K/J
- Colour: RAL 5009 - blue

Applications

Pumps, compressors, fans, exhausters, kneader and mixer machines, presses, industrial machines, conveyors, blowers, cranes, chillers, packaging equipment and other sheltered and protected industrial applications.

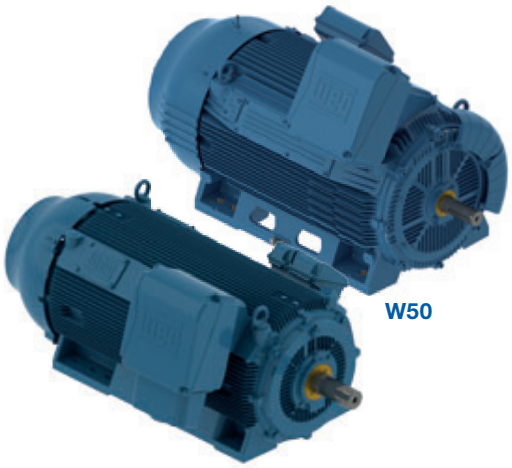
Features & Bennefits

- High performance - Due to its open enclosure, the motor design features higher rated output levels in comparison with totally enclosed motors, resulting in the most cost-effective option for the driven equipment.
- Fire pump certification available - The ODP line is UL certified for Fire Pump applications with the ambient temperature up to 50 °C.
- Compact construction - One of the most compact High Voltage machines available on the market interference.
- Additional terminal box for accessories fitted with two spare magazines (HV Motors) - Thermal detectors and space heaters leads are connected in different terminal boxes, avoiding any possible signal interference and providing easy and safe connections.
- WISE® Insulation System (LV Motors) - Increases stator electrical strength and allows the motor operation by Variable Speed Drive, without damage by voltage peaks[1)].

1) *For more information about Frequency Inverter operation, please see page 23.*

W50 and HGF

These motors are designed to address the most demanding technological standards available on the market, using modern computer software for mechanical, electrical and thermal analysis evidenced by performing rigid tests and checks.
The result of this innovative development is a flexible product, in compliance with the requirements of international standards and fully aligned with world market trends.



W50

HGF

Low and High Voltage Motors

Standard Features HGF
- Output: 75 to 2500 kW
- Number of poles: 2 to 12
- Frequency: 50 Hz
- Voltage: 380 to 6,6 kV
- Frames: 315 to 630
- Colour: RAL 5009 (blue)

Standard Features W50
- Output: 75 kW to 1000 kW
- Number of poles: 2 to 12
- Frequency: 50 Hz
- Voltage: 380 to 6,6 kV
- Frames: 315 to 450
- Colour: RAL 5009 (blue)

Versions Available
- Standard
- Non-Sparking (Ex nA)

Applications
Pumps, compressors, fans, crushers, conveyors, mills, centrifugal machines, presses, etc.

Features & Bennefits
- Frame design aimed at best equation between mechanical rigidity and thermal dissipation possible for enclosures, thereby reducing motor vibration and increasing lifetime.
- The fan cover was designed to direct airflow over the entire frame with minimal recirculation inside the motor, allowing maximum heat exchange and resulting in a cooler motor.
- The cooling system allows for sound pressure reductions up to 7 dB(A).
- Special painting plan for aggressive ambients - Higher resistance and painting durability, protecting the enclosure against corrosion and abrasion.
- Pt-100 thermal detectors - Thermal resistances (Pt-100) installed in the windings and bearings provide precise and constant temperature control to quickly detect any abnormal operating condition.
- Sleeve bearings available as optional features - Sleeve bearings require less maintenance due to the fact that the lubrication intervals are up to three times longer than the lubrication intervals of conventional bearings, and specially because they present a lifetime similar to, or longer than that of the motor itself.
- Thermal detectors and space heaters leads are connected in separate terminal boxes avoiding any possible signal interference and providing easy and safe connections.
- Motor design adaptable to the most varied applications and specific needs.

Industrial Motors

Fan and Exhaust Motors

Suitable for the most demanding specifications of ventilation OEM's, the Fan and Exhaust line delivers standard and high output designs in light and compact frame sizes particularly suited to axial fan applications.

Fan and Exhaust Motors

Standard Features
- Output: 0.12 kW to 500 kW
- Number of poles: 2 to 12
- Frequency: 50 Hz
- Voltage: 220-240/380-415 V (up to 100 L)
  380-415/660 V (from 112M and up)
- Frames: 63 to 355A/B (for cast iron frames)
  63 to 132M (for aluminum frames)
- Cooling method: TEAO or TEFC
- Colour: RAL 5009 - blue

Versions Available
- Premium Efficiency - IE3
- High efficiency - IE2
- Standard efficiency - IE1
- Multi speed motors (Dahlander, Double Winding, etc.)
- Cast iron or aluminium enclosures

Applications
Fan and exhausters for: tunnels, metros, subways, shopping centres, car parks, supermarkets, etc.

Features & Bennefits
- Mounting Flexibility - Fan and Exhaust motors can be supplied with the following features: foot, flange or pad mounting. Besides the mounting configurations the motor can be also supplied with terminal box and terminal block or with loose leads allowing remote assembly of the terminal box
- Premium Efficiency motor - IE3 efficiency level available across the range.
- WISE® Insulation System (LV Motors) - Increases stator electrical strength and allows the motor operation by Variable Speed Drive, without damage by voltage peaks[1)].

1) *For more information about Frequency Inverter operation, please see page 23.*

Smoke Extraction Motors

Smoke Extraction Motors

Assuring safety in commercial and industrial facilities is one of the main concerns of developers and owners during the design of shopping centres, hotels, theatres, cinemas, tunnels, car parks and other locations where large concentrations of people are present.
Smoke Extraction motors are suitable for both general ventilation and, under emergency conditions, at high temperatures to prevent or delay the spread of fires, assist firefighting operations, reduce smoke / heat damage and keep emergency exits and access routes free from smoke.

Smoke Extraction Motors

Standard Features

- Output: 0.18 kW to 500 kW
- Number of poles: 2, 4, 6 and 8
- Frequency: 50 Hz
- Frames: 80 to 355A/B
- Voltage: 220-240/380-415 V (up to 100 L)
  380-415/660 V (from 112M and up)
- Colour: RAL 9006 - aluminium

Versions Available

- TEFC (Totally Enclosed Fan Cooled) or TEAO (Totally Enclosed Air Over)
- Premium efficiency - IE3
- High efficiency - IE2
- 10 and 12 poles
- Multi speed motors (Dahlander, Double Winding, etc.)
- F200 (200 °C/2 hrs), F250 (250 °C/2 hrs), F300 (300 °C/2 hrs or 300 °C/1 h) and F400 (400 °C/2 hrs).

Applications

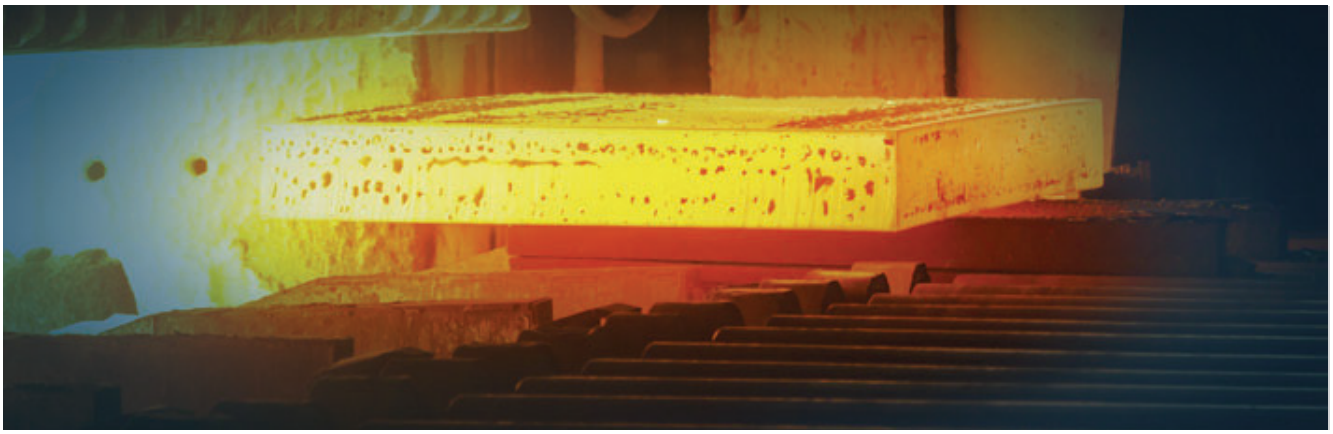
Fan and exhausters for: tunnels and metros, shopping centres, hotels, theatres, cinemas, enclosed or underground car parks and other installations where large concentrations of people are present.

Features & Bennefits

- Smoke Extraction motors can be supplied with the following features: foot, flange or pad mounting.
- Besides the mounting configurations the motor can be also supplied with terminal box and terminal block or with loose leads allowing remote assembly of the terminal box.
- W22 Platform - Offers on all the innovative features of the W22 General Purpose Motors platform (for foot or flange mounted).
- Components carefully designed to withstand the operation in extreme temperature conditions.
- Extensively tested and approved according to EN 12101-3 - Safety and reliability.
- WISE® Insulation System (LV Motors) - Increases stator electrical strength and allows the motor operation by Variable Speed Drive, without damage by voltage peaks[1].

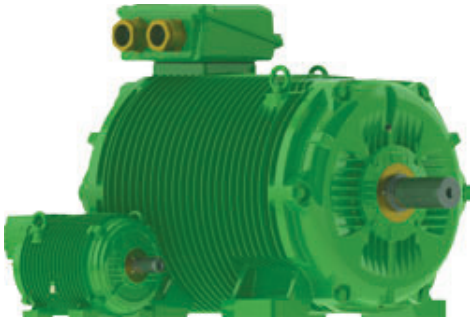
1) *For more information about Frequency Inverter operation, please see page 23.*

Roller Table Motors



Roller Table Motors

Severe operating conditions require more robust motors. The Roller Table motor's frame is fitted with radial fins that prevent residue accumulation on the frame surface. They are also fitted with an advanced sealing system, high protection against corrosion and high mechanical strength, thus requiring low maintenance and providing high durability and productivity.



Roller Table Motors

Standard Features

- Output: 1,1 kW to 260 kW
- Number of poles: 4, 6, 8, 10 and 12
- Frequency: 50 Hz
- Frames: 132M to 400
- Voltage: 400 V
- Colour: Ral 6002 - green

Versions Available

- Premium Efficiency - IE3

Applications

Roller tables and laminating machines for the steel industry.

Features & Bennefits

- Exceeds the IE3 efficiency levels specified in the IEC 60034-30-1 to provide significant energy savings and fast return on investment.
- Radial/circular fins - Prevent residue accumulation on motor frame.
- W3Seal® sealing system and IPW66 degree of protection
- Sealing at cable inlet and sealing between endshield and frame
- Shaft, bolts and nameplate are made of stainless steel
- Internal epoxy anti-corrosion painting
- Painting plan for aggressive environments
- WISE® Insulation System (LV Motors) - Increases stator electrical strength and allows the motor operation by Variable Speed Drive, without damage by voltage peaks[1)].

1) *For more information about Frequency Inverter operation, please see page 23.*

W22 Brake Motors

High-performance companies require equipment tailored to their needs.
WEG brake motors are suitable for equipment where rapid and safe stopping and accurate load positioning are required.
WEG braking solutions allow synergy in the production process, providing agility and safety.

Brake Motors

Standard Features

- Output: 0,12 to 75 kW
- Number of poles: 2 to 12
- Frames: 63 to 250S/M
- Frequency: 50 Hz
- Voltage: 220-240/380-415 V (up to 100 L)
  380-415/660 V (from 112M and up)
- Colour: Premium Efficiency - IE3: RAL 6002 - Green
  High Efficiency - IE2: RAL 5009 - Blue
  Standard Efficiency - IE1: RAL 5009 - Blue

Versions Available

- Premium Efficiency - IE3
- High Efficiency - IE2
- Standard Efficiency - IE1
- Cast Iron or Aluminium Enclosures

Applications

These motors are ideally suited for use on machinery requiring fast stops for safety, control or accurate positioning, such as: packing equipment, conveyors, washing and bottling machines, overhead cranes, elevators, printing machines, automatic gates, woodworking machinery, etc.

Features & Bennefits

- Ensures fast and safe stopping and accurate load positioning, whilst requiring low maintenance.
- Possibility to release the motor shaft during emergencies or power outages.
- Aluminium frame available - Lower weight with the same reliability.
- WISE® Insulation System (LV Motors) - Increases stator electrical strength and allows the motor operation by Variable Speed Drive, without damage by voltage peaks[1)].

1) *For more information about Frequency Inverter operation, please see page 23.*

Industrial Motors

W22Xd

Incorporating the same innovative concepts of the W22 General Purpose Motors, the W22X Line is an evolution on the market of classified area products offering high efficiency levels, energy saving, low operational costs, extended lifetime, low maintenance and assured safety.

Flameproof Motors

Standard Features

- Output: 0,12 to 370 kW
- Number of poles: 2, 4, 6 and 8
- Frequency: 50 Hz
- Voltage: High and Premium Efficiency:
  220-240/380-415 V (up to 100L)
  380-415/660-690 V (from 112M and up)
  Super Premium Efficiency: 400/690 V (All frames)
- Frames: 71 to 355M/L
- Colour:
  High and Premium Efficiency - IE2 and IE3: RAL 5009 - blue
  Super Premium Efficiency - IE4: RAL 6002 - green

Version Available

- Premium efficiency - IE3
- High efficiency - IE2
- Multi speed motors (Dahlander, Double Winding, etc.)
- 10 and 12 poles

Applications

Pumps, compressors, fans, blowers, conveyors and other sever duty applications in explosive atmospheres classifi ed as Zones 1 and 2, gas groups IIA, IIB or IIC.

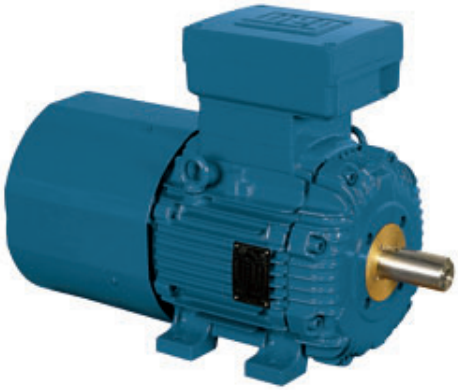
Features & Bennefits

- Incorporates several innovative features of the W22 General Purpose Motors platform
- Whilst EU Regulations do not apply to motors installed in potentially explosive atmospheres, since the introduction of the ATEX Directive there has been an increase in demand for these products.
- Zone 21 and 22 certified
- Offers users a wide range of certified accessories fulfilling a variety of specific customer requirements without losing the primary focus on the safety of the application
- WISE® Insulation System (LV Motors) - Increases stator electrical strength and allows the motor operation by Variable Speed Drive, without damage by voltage peaks[1)].

1) *For more information about Frequency Inverter operation, please see page 23.*

Flameproof Motors with Brake

The installation of electric motors where flammable products are continuously handled, processed or stored must comply with the most demanding safety standards in order to guarantee protection of people, machines and the environment.
Following the highest safety standards, these WEG flameproof motors integrate high performance brakes which provide an effective solution for equipment requiring fast stopping for safety, control or accurate positioning in Zone 1 or Zone 2 hazardous areas.



Flameproof Motors with Brake

Standard Features
- Output: 2.2 to 18.5 kW
- Number of poles: 2, 4, 6 and 8
- Frequency: 50 Hz
- Voltage: 380-415/660 V
- Frames: 132 S to 160 L
- Colour: RAL 5009 - blue

Versions Available
- High efficiency - IE2
- Standard efficiency - IE1

Applications
Cranes, winches, conveyors and other severe duty applications in potentially explosive atmospheres classified as Zones 1 and 2, gas groups IIA or IIB.

Features & Bennefits
- High performance braking system - Ensures fast and safe stopping and accurate load positioning, whilst requiring low maintenance
- Manual brake release - Possibility to release the motor shaft during emergencies or power outages
- Modern flame retention system with robust frame, endshields and T-box - Avoid flame propagation from within the motor to the external side, guaranteeing protection of life, machines and the environment
- W3Seal® sealing system - Degree of protection up to IPW66 to protect against the ingress of contaminants inside the motor frame
- Painting Plans for Severe Environments - Special painting plans up to C5/I or C5/M for arduous environments, sheltered or non-sheltered
- Motor suitable to operate in hazardous locations classified as Zones 1 and 2
- WISE® Insulation System (LV Motors) - Increases stator electrical strength and allows the motor operation by Variable Speed Drive, without damage by voltage peaks[1].

1) *For more information about Frequency Inverter operation, please see page 23.*

Industrial Motors

W22Xtb

W22Xtb motors are specially designed to maximise safety and reliability on installations in potentially explosive dust atmospheres classified as Zone 21 where conductive dusts either in the form of clouds (free suspension) or layers (up to 5mm thick) may be present.

Dust Ignition Proof Motors

Standard Features

- Output: 0.12 to 450 kW
- Number of poles: 2 to 12
- Frequency: 50 Hz
- Voltage: 220-240/380-415 V (up to 100 L)
  380-415/660 V (from 112 M and up)
- Frames: 63 to 355A/B
- Colour: RAL 5009 - blue

Version Available

- Premium efficiency - IE3
- High efficiency - IE2

Applications

Sugar refineries, breweries, cement plants, saw mills, textiles, pharmaceutical, chemical, agricultural process industries and other applications in potentially explosive atmospheres classified as Zone 21 or Zone 22.

Features & Bennefits

- Reduced surface temperature - Safety. Prevents risk of ignition of combustible dusts or fibres in contact with the motor
- Conductive fan material - Safety. Avoids sparks which could cause the ignition of combustible material present in the environment
- Degree of Protection IP66 - Restricts the ingress of contaminants inside the motor frame.
- Fitted with PTC's to provide protection of the motor under abnormal operating conditions, and safeguarding the surface temperature limit of the equipment.
- WISE® Insulation System (LV Motors) - Increases stator electrical strength and allows the motor operation by Variable Speed Drive, without damage by voltage peaks[1)].

1) *For more information about Frequency Inverter operation, please see page 23.*

W22XnCD

The installation of electric motors where a flammable mixture is unlikely to occur present but may represent risks, must comply with the most demanding safety standards for protection of people, machines and the environment. Following the highest safety standards WEG Ex nA/Ex tc motors are adaptable to various applications allowing your company flexibility during installation, easy operation, low maintenance cost and safety.

Non-Sparking Motors

Standard Features

- Output: 0.12 kW to 450 kW
- Number of poles: 2 up to 12
- Frequency: 50 Hz
- Voltage: 220-240/380-415 V (up to 100 L)
  380-415/660 V (from 112M and up)
- Frames: 63 to 355A/B
- Colour: RAL 5009 - blue

Version Available

- Premium efficiency - IE3
- High efficiency - IE2

Applications

Pumps, compressors, fans, mills, presses, winches, woodworking machinery, grinders, looms, packaging machines, conveyors and other applications in potentially explosive atmospheres classified as Zone 2 (gas) or Zone 22 (dust).

Features & Bennefits

- Dual certification for Zone 2 (gas) and Zone 22 (non-conductive dusts)
- Safety. Two sets of PTC's with tripping temperatures of 155°C for gas, and 140°C for dust, to provide protection of the motor under abnormal operating conditions, and safeguarding the surface temperature limit of the equipment.
- IE3 efficiency level available for all motors in the range
- WISE® Insulation System (LV Motors) - Increases stator electrical strength and allows the motor operation by Variable Speed Drive, without damage by voltage peaks[1)].

1) *For more information about Frequency Inverter operation, please see page 23.*

Industrial Motors

Water Cooled Motors

WEG Water Cooled motors are used in a variety of applications and are mainly utilised for installations where compact dimensions, low noise levels and ease of access for maintenance are required.

Water Cooled Motors

Standard Features

- Output: 18.5 kW to 450 kW
- Number of poles: 2, 4, 6 and 8
- Frequency: 50 Hz
- Voltage: up to 660 V
- Frames: 180L to 355M/L
- Colour: RAL 5009 - blue

Version Available

- Premium efficiency - IE3
- High efficiency - IE2

Applications

Compressors, injection machines, water treatment plants, textile industries, mining equipment, vacuum pumps, power train and marine equipment.

Features & Bennefits

- Cooling method IC71W - Water jacketed system offers excellent heat exchange, increasing bearing and motor lifetime.
- Higher output x frame ratio - Demands less space on plant, facilitating easier access for maintenance operations.
- Thermal resistances Pt-100 supplied in windings and bearings provide precise and constant temperature monitoring and a rapid detection of abnormal operation conditions.
- WISE® Insulation System (LV Motors) - Increases stator electrical strength and allows the motor operation by Variable Speed Drive, without damage by voltage peaks[1)].

1) *For more information about Frequency Inverter operation, please see page 23.*

Single-Phase Motors

Flexible and Compact Motors, designed with highest technologically available tools and suitable for a variety of domestic, rural and industrial applications.

Single-Phase Motors

Standard Features
- Output: 0.12 kW to 9,2 kW
- Number of poles: 2 and 4
- Frequency: 50 Hz
- Voltage: 230 V
- Frames: 63 to 132M/L
- Colour: RAL 5009 - blue

Versions Available
- Cast iron or aluminum enclosures
- Capacitor Start / Capacitor Run with start and run capacitors
- 230/460 V

Applications
Fans and blowers, grain driers, centrifugal pumps, compressors, high pressure washers, conveyors / materials handling, silo unloaders and augers, grinding machines etc.

Features & Bennefits
- High starting torques for severe applications.
- Suitable for domestic and rural power supply conditions.
- Adaptable design suitable for a variety of applications and needs.

Applying Motors with Frequency Drives

The stator windings of WEG motors are wound with class “F” insulation (class H optional) and are suitable for either DOL starting or via variable speed drive. They incorporate the WEG exclusive insulation system - WISE® (WEG Insulation System Evolution) - which ensures superior electrical insulation characteristics. The stator winding is suitable for variable speed drive application, taking into account the limits shown in the next table:

Motor rated voltage	Voltage spikes	dV/dt[1)]	Rise time[1)]	Time between pulses
	At motor terminals (phase-phase)			
Vrated < 460 V	≤1,600 V	≤5,200 V/µs	≥ 0.1 µs	≥ 6 µs
460 V ≤ rated < 575 V	≤2,000 V	≤6,500 V/µs		
575 V ≤ rated ≤ 1000 V	≤2,400 V	≤7,800 V/µs		

1) dV/dt and rise time definition according to NEMA Std. MG1 - part 30.

Notes: 1 - In order to protect the motor insulation system, the maximum recommended switching frequency is 5 kHz.
2 - If one or more of the above conditions is not met, a filter (load reactor or dV/dt filter) must be installed at the output of the VSD.
3 - General purpose motors with rated voltage greater than 575 V, which at the time of purchase did not have any indication of operation with VSD, are able to withstand the electrical limits set in the table above for rated voltage up to 575 V. If such conditions are not fully satisfied, output filters must be used.
4 - General purpose motors of the dual voltage type, for example 400/690 V, which at the time of purchase did not have any indication of operation with VSD, are able to be driven by a VSD in the higher voltage only if the limits set in the table above for rated voltage up to 460 V are fully attended in the application. Otherwise, a load reactor or a dV/dt filter must be installed in the VSD output.
5 - From frame size 315S/M upwards additional measures should be taken in order to avoid detrimental bearing currents. This can be accomplished by means of the use of an insulated bearing or an insulated hub endshield at the non drive end side and a shaft grounding brush mounted on the drive endshield.
6 - Motors operating with frequency inverters may present a higher temperature rise than when operating under sinusoidal supply due to the combined effects of the loss increase resulting from the PWM harmonics and the reduction in ventilation experienced by self-ventilated motors when operating at low frequencies. Under these conditions, please contact WEG.
7 - For the application of motors for potentially explosive atmosphere with variable frequency inverters, please contact WEG.

Global Presence

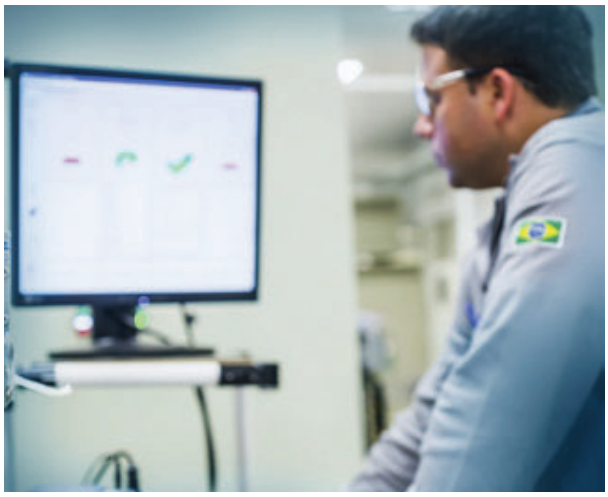
With more than 30.000 employees worldwide, WEG is one of the largest electric motors, electronic equipments and systems manufacturers. We are constantly expanding our portfolio of products and services with expertise and market knowledge. We create integrated and customized solutions ranging from innovative products to complete after-sales service.

WEG's know-how guarantees our ***Automation & Motors*** is the right choice for your application and business, assuring safety, efficiency and reliability.

Availability is to have a global support network

Partnership is to create solutions that suits your needs

Competitive edge is to unite technology and inovation



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The values shown are subject to change without prior notice.