Drives & Motors

European Product Lines 2015

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.

Austria *Belgium* *France* *Germany* *Italy* *Netherlands* *Portugal* *Russia* *Spain* *Sweden* *United Kingdom*

What's **Coming** for **2015!**

W22 Brake Motor: New Platform, New Brake, Excellent Performance

In order to obtain productivity and high performance, a company must count on reliable equipment, operating in accordance with its purpose. That is the essence of the W22 brake motor: provide the production process with synergy and agility.

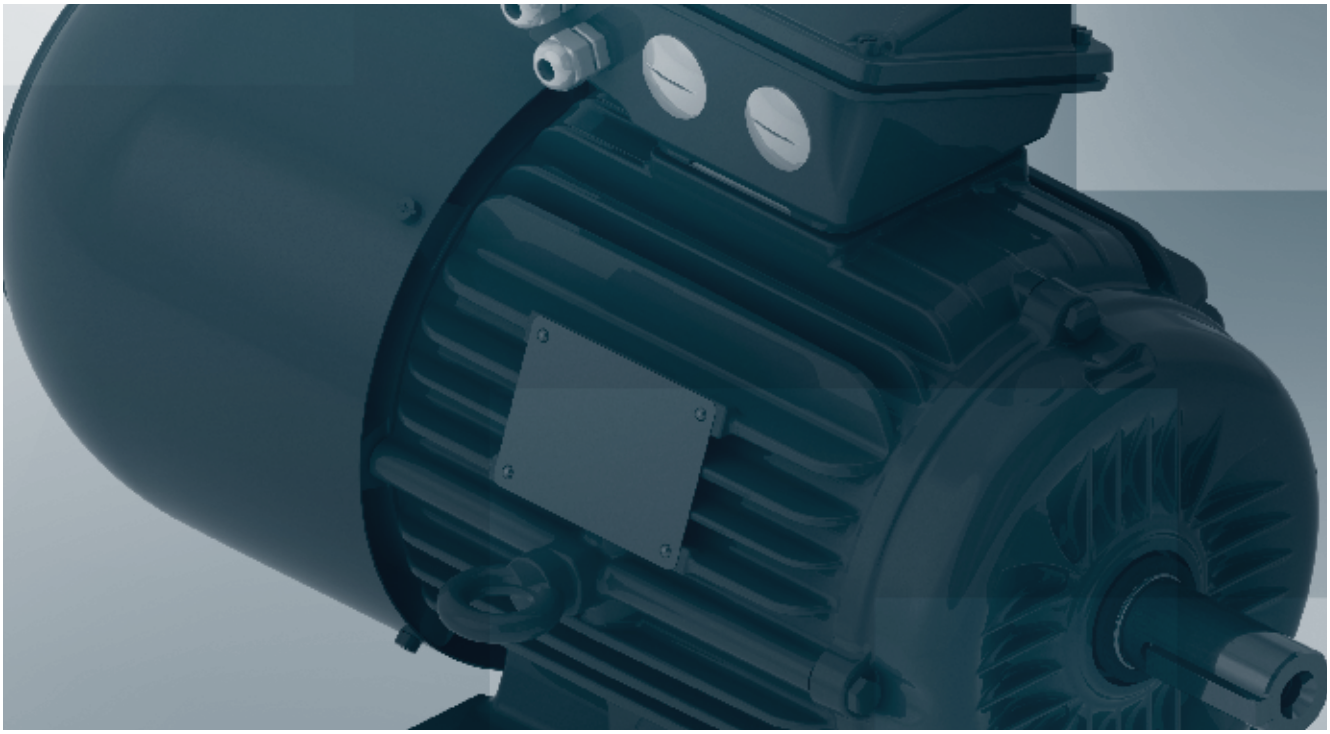
Featuring a new braking system, high torque and durability, the W22 brake motor is ideal for equipment that requires fast stop for safety, accurate positioning and time saving.

W22

Brake Motor

The new brake motor introduces new characteristics in the braking system and platform, wich now counts on the same innovative features that make the W22 line a great success:

- Frame structure that reduces air dispersion and improves the cooling
- Terminal box with greater internal space and easy handling
- Solid feet that simplify the motor alignment and installation
- Frame providing high mechanical strength and low vibration levels



What's **Coming** for **2015!**

The System Drive Expands the Power Range

CFW11

Frame H of CFW11 - System Drive

Our System Drive, the CFW11 has expand your power range reaching 630 kW (900 HP) on the frame size H. Carrying on the consolidated technology and reliability, the CFW11 line now can cover a complete range of application in a standalone product.

A Single Drive for Several Machines Type

CFW500

Frame D of CFW500 - Machinery Drive

Now on with the the frame size D, the CFW500 Machinery Drive switch-over the familiar CFW08 line for an endless possibility of application through multiples plug-in modules.

For an Robuster HVAC-R

CFW701 HVAC-R

IP54 over the CFW701 HVAC-R

A brand-new covering protection IP54 for the CFW701 HVAC-R lines brings a strongest protection degree, saving space and investments into a complete panel.

WEG Motor Drive

MW500

Frame A of MW500 - Decentralized Drive

The decentralized WEG VSD adds a great deal of flexibility, allowing the user to install the product near to the controlled motor, thus eliminating the necessity of long cables and panels, it is possible only through the high protection degree IP66 / NEMA 4X and dedicated features.

Solid-State Overload Relays

RW_E

Solid-State Overload Relays

The new RW_E is meant to assure increased reliability for protection of LV motors where reliability, low power dissipation and ease maintenance management are mandatory.
The RW_E offers adjustable trip class 10, 20 and 30 and wide adjustment current range (5:1) that leads to great reduction in inventory and flexibility on planning.
Additionally, the RW_E is self-powered and can be direct mounted on CWB9...38 and CWM9...105 contactors.

Motor Protective Circuit-Breakers

MPW80

Motor Protective Circuit-Breaker

With the audacious 80 A in a 54 mm frame and the same accessories of MPW18, MPW40 and the former MPW65, the MPW80 ensures reliability and excellent cost-benefit.
MPW80 is currently the most compact Class-10 motor circuit protective circuit breaker in the market and assures extraordinary short-circuit performance.
Additionally, as all WEG motor control and protection components, the MPW80 is suitable for IE3 efficiency motors.

VSD Comparison

				
		CFW11	**CFW700**	**CFW500**
Motor power		1.1 to 630 kW (1 to 900 HP)	0.75 to 110 kW (1.5 to 150 HP)	0.18 to 15 kW (0.25 to 20 HP)
Power supply	Single-phase voltage	200 - 240 V ac (+10%, -15%)	200 - 240 V ac (+10%, -15%)	200 - 240 V ac (+10%, -15%)
	3-phase voltage	220 - 230 V ac 380 - 480 V ac 500 - 600 V ac 660 - 690 V ac (+10%, -15%)	220 - 230 V ac 380 - 480 V ac 500 - 600 V ac (+10%, -15%)	220 - 230 V ac 380 - 480 V ac (+10%, -15%)
	Frequency	50 / 60 Hz (48...62 Hz)	50 / 60 Hz (48...62 Hz)	50 / 60 Hz (48...62 Hz)
	Cos φ (displacement power factor)	Greater than 0.98	Greater than 0.98	Greater than 0.97
Degree of protection	Drive	IP20 - IP21 - IP54 NEMA1 / IP20 NEMA1 / IP21	IP21 NEMA1 / IP21	IP20 / NEMA1
	Remote keypad	NEMA12 / IP54	NEMA12 / IP54	IP54
Flange mounting (through panel)	-	Yes	Yes	No
Control	Power supply type	Switched mode power supply	Switched mode power supply	Switched mode power supply
	Control type	V/F Voltage vector (VVW) Sensorless vector (without encoder) Vector with encoder	V/F Voltage vector (VVW) Sensorless vector (without encoder) Vector with encoder	V/F Voltage vector (VVW) PWM SVM (Space Vector Modulation)
	Switching frequency	Default 2/2.5/5 kHz (selectable 2.5 to 10 kHz)	2 to 10 kHz	Default 5 kHz (selectable 2.5 to 15 kHz)
	Output frequency	0 Hz to 300 Hz	0 Hz to 300 Hz	0 Hz to 500 Hz
Performance	Permitted overload	ND: 110% for 60s every 10min HD: 150% for 60s every 10min	ND: 110% for 60s every 10min HD: 150% for 60s every 10min	150% for 60s every 10min
	Efficiency	>97%	>97%	>97%
	V/F speed control	Regulation: 1% of rated speed Speed variation range: 1:20	Regulation: 1% of rated speed Speed variation range: 1:20	Regulation: 1% of rated speed Speed variation range: 1:20
	VVW speed control	Regulation: 1% of rated speed Speed variation range: 1:30	Regulation: 1% of rated speed Speed variation range: 1:30	Regulation: 1% of rated speed Speed variation range: 1:30
	Sensorless vector speed control	Regulation: 0.5% of rated speed Speed variation range: 1:100	Regulation: 0.5% of rated speed Speed variation range: 1:100	-
	Vector with encoder speed control	Regulation: 0.01% of rated speed with 14-bit analog input (IOA) Regulation: 0.05% of rated speed with 12-bit analog input	Regulation: 0.01% of rated speed with 14-bit analog input (IOA) Regulation: 0.05% of rated speed with 12-bit analog input	-
	Vector modes torque control	Regulation: 10% (sensorless) of rated torque (above 3 Hz) Regulation: 5% of rated torque (with encoder)	Regulation: 10% (sensorless) of rated torque (above 3 Hz) Regulation: 5% of rated torque (with encoder)	-
Inputs and outputs	Digital	6 isolated inputs, 24 V dc, programmable functions	8 isolated inputs, 24 V dc, programmable functions 4 open drain outputs (24 V / 80 mA)	4 insulated inputs. Programmable functions 1 insulated digital output open sink[1)]
	Relay	3 relays with NO / NC contacts, 240 V ac / 1 A, programmable functions	1 relay with NO / NC contacts, 240 V ac / 1 A, programmable functions	1 relay with NO / NC contacts, 240 V ac / 0.5 A, programmable functions[1)]
	Analog	2 differential inputs isolated by differential amplifier, programmable functions, 2 isolated outputs, programmable functions	2 differential inputs, programmable functions, 2 outputs, programmable functions	1 insulated input. Levels: (0 to 10) V or (0 a 20) mA or (4 to 20) mA. Programmable functions[1)] 1 insulated output. Levels (0 to 10) V or (0 to 20) mA or (4 to 20) mA[1)]

Note: 1) With CFW500-IOS accessory.

				
MW500	**CFW10**	**CFW100**	**CFW701**	**CFW501**
0.75 to 3.7 kW (1 to 5 HP)	0.25 to 4 kW (0.5 to 5 HP)	0.18 to 0.75 kW (0.25 to 1 HP)	0.75 to 110 kW (1.5 to 150 HP)	0.18 to 7.5 kW (0.25 to 10 HP)
200 - 240 V ac (+10%, -15%)	110 - 127 V ac 200 - 240 V ac (+10%, -15%)	200 - 240 V ac (+10%, -15%)	200 - 240 V ac (+10%, -15%)	200 - 240 V ac (+10%, -15%)
220 - 230 V ac 380 - 480 V ac (+10%, -15%)	200 - 240 V ac (+10%, -15%)	-	220 - 230 V ac 380 - 480 V ac 500 - 600 V ac (+10%, -15%)	380 - 480 V ac (+10%, -15%)
50 / 60 Hz (48...62 Hz)	50 / 60 Hz (48...62 Hz)	50 / 60 Hz (48...62 Hz)	50 / 60 Hz (48...62 Hz)	50 / 60 Hz (48...62 Hz)
Greater than 0.97	Greater than 0.97	Greater than 0.97	Greater than 0.97	Greater than 0.97
IP66 / NEMA 4x	IP20	IP20	IP20 - IP21 NEMA1 / IP21	IP20 / NEMA1
IP54	IP54	IP54	IP55	IP54
No	-	No	Yes	No
Switched mode power supply	Switched mode power supply	Switched mode power supply	Switched mode power supply	Switched mode power supply
V/F Voltage vector (VVW) PWM SVM (Space Vector Modulation)	V/F linear or quadratic	V/F Voltage vector (VVW) PWM SVM (Space Vector Modulation)	V/F Voltage vector (VVW) Sensorless vector (without encoder) Vector with encoder	V/F Voltage vector (VVW) PWM SVM (Space Vector Modulation)
Default 5 kHz (selectable 2.5 to 15 kHz)	2.5 to 15 kHz	Default 5 kHz (selectable 2.5 to 15 kHz)	2 to 10 kHz	Default 5 kHz (selectable 2.5 to 15 kHz)
0 Hz to 500 Hz	0 Hz to 300 Hz	0 Hz to 300 Hz	0 Hz to 300 Hz	0 Hz to 500 Hz
150% for 60s every 10min	150% for 60s every 10min	150% for 60s every 10min	ND: 110% for 60s every 10min HD: 150% for 60s every 10min	150% for 60s every 10min
>97%	>95%	>97%	>97%	>97%
Regulation: 1% of rated speed Speed variation range: 1:20	Regulation: 1% of rated speed Speed variation range: 1:20	Regulation: 1% of rated speed Speed variation range: 1:20	Regulation: 1% of rated speed Speed variation range: 1:20	Regulation: 1% of rated speed Speed variation range: 1:20
Regulation: 1% of rated speed Speed variation range: 1:30	-	Regulation: 1% of rated speed Speed variation range: 1:30	Regulation: 1% of rated speed Speed variation range: 1:30	Regulation: 1% of rated speed Speed variation range: 1:30
-	-	-	Regulation: 0.5% of rated speed Speed variation range: 1:100	-
-	-	-	Regulation: 0.01% of rated speed with 14-bit analog input (IOA) Regulation: 0.05% of rated speed with 12-bit analog input	-
-	-	-	Regulation: 10% (sensorless) of rated torque (above 3 Hz) Regulation: 5% of rated torque (with encoder)	-
4 insulated inputs. Programmable functions 1 insulated digital output open sink[1)]	4 programable isolated inputs	4 isolated inputs, 24 V dc, programmable functions	8 isolated inputs, 24 V dc, programmable functions, 4 open drain outputs (24 V / 80 mA)	4 insulated inputs. Programmable functions, 1 insulated digital output open sink (uses as reference the 24 V dc power supply)
1 relay with NO / NC contacts, 240 V ac / 0.5 A, programmable functions[1)]	1 programable output, reversible NO/NC contacts		1 relay with NO / NC contacts, 240 V ac / 1 A, programmable functions	2 relay output with NO / NC contacts, 240 V ac / 0.5 A, programmable functions
1 insulated input. Levels: (0 to 10) V or (0 a 20) mA or (4 to 20) mA. Programmable functions[1)] 1 insulated output. Levels (0 to 10) V or (0 to 20) mA or (4 to 20) mA[1)]	1 insulated input. Levels: (0 to 10) V or (0 a 20) mA or (4 to 20) mA.	-	2 differential inputs, programmable functions, 2 outputs, programmable functions	2 insulated input. Levels: (0 to 10) V or (0 a 20) mA or (4 to 20) mA. Programmable functions, 1 insulated output. Levels (0 to 10) V or (0 to 20) mA or (4 to 20) mA.

Note: 1) With CFW500-IOS accessory.

VSD Comparison

				
		CFW11	**CFW700**	**CFW500**
Communication	Built-in	Modbus-RTU	Modbus-RTU	Modbus-RTU (available for all plug-in modules)
	With accesories	Profibus-DP, DeviceNet, CANopen, Ethernet IP, USB	Profibus-DP, DeviceNet CANopen	CANopen, Profibus-DP and DeviceNet
Safety	Protections	Output overcurrent	Output overcurrent	-
		DC link under and overvoltage	DC link under and overvoltage	-
		VSD overtemperature	VSD overtemperature	Overcurrent/phase-phase
		Motor overload (i x t)	Motor overload (i x t)	Short circuit in the output
		External fault	External fault	Overcurrent/phase-ground
		Internal fault	Internal fault	Short circuit in the output
		Keypad connection fault	Keypad connection fault	Under/overvoltage
		Overtemperature in the VSD	Overtemperature in the VSD	Overtemperature in the heatsink
		Motor overload	Motor overload	Overload in the motor
		Output short-circuit	Output short-circuit	Overload in the power module (IGBTs)
		Ground fault	Ground fault	External alarm / fault
		Line and motor phase loss	Line and motor phase loss	Setting error
		Motor overspeed	Motor overspeed	-
		Motor and encoder connection fault	Motor and encoder connection fault	-
		Braking resistor overload	Braking resistor overload	-
Ambient	Temperature	0...60 ºC for frames A, B, C, D and E 0...55 ºC for frames F, G and H	0...60 ºC	0...60 ºC
		2% of current derating for each ºC above the specific operating temperature, limited to an increase of 10 ºC	2% of current derating for each ºC above the specific operating temperature, limited to an increase of 10 ºC	2% of current derating for each ºC above the specific operating temperature, limited to an increase of 10 ºC
	Humidity	5...90% without condensation	5...90% without condensation	5...90% without condensation
	Altitude	0...1,000 m (up to 4,000 m with 1% / 100 m in the output current)	0...1,000 m (up to 4,000 m with 1% / 100 m in the output current)	0...1,000 m (up to 4,000 m with 1% / 100 m in the output current)
Keypad	Control	Start/stop	Start/stop	Start/stop
		Up/down (speed)	Up/down (speed)	Up/down (speed)
		Parameter setting	Parameter setting	Parameter setting
		JOG, reverse and local/remote selection	JOG, reverse and local/remote selection	JOG, reverse and local/remote selection
	Monitoring	Motor output frequency	Motor output frequency	Motor output frequency
		Inverter status	Inverter status	Inverter status
		Digital input and output status	Digital input and output status	Digital input and output status
		Motor speed	Motor speed	Motor speed
		Motor output current (A)	Motor output current (A)	Motor output current (A)
		Motor output voltage (V)	Motor output voltage (V)	Motor output voltage (V)
		Load torque	Load torque	Load torque
		Relay output status	Relay output status	Relay output status
Features	Braking transistor	Standard in sizes A, B, C and D	Standard in sizes A, B, C and D	Standard in sizes B,C and D. For frame A "DB" models have to be used. A resistor must be fitted for dynamic braking capability
	DC braking	Yes	Yes	Yes
	Optimal braking	Yes	Yes	No
	+24 V dc source available	Yes	Yes	Yes
	Conformal coating	Yes	Yes	Yes
	PID	Yes	Yes	Yes

				
MW500	**CFW10**	**CFW100**	**CFW701**	**CFW501**
-	-	-	BACnet MS/TP, Metasys N2 and Modbus-RTU	BACnet MS/TP, Metasys N2 and Modbus-RTU
CANopen, Modbus-RTU, Profibus-DP and DeviceNet	-	CANopen and Modbus-RTU	-	-
-	-	-	-	-
-	-	-	-	-
Overcurrent/phase-phase		Overcurrent/phase-phase	Overcurrent/phase-phase	Overcurrent/phase-phase
Short circuit in the output	Output overcurrent	Short circuit in the output	Short circuit in the output	Short circuit in the output
Overcurrent/phase-ground	DC link under and overvoltage	Overcurrent/phase-ground	Overcurrent/phase-ground	Overcurrent/phase-ground
Short circuit in the output	VSD overtemperature	Short circuit in the output	Short circuit in the output	Short circuit in the output
Under/overvoltage	Motor overload (i x t)	Under/overvoltage	Under/overvoltage	Under/overvoltage
Overtemperature in the heatsink	External fault	Overtemperature in the heatsink	Overtemperature in the heatsink	Overtemperature in the heatsink
Overload in the motor	Internal fault	Overload in the motor	Overload in the motor	Overload in the motor
Overload in the power module (IGBTs)	Keypad connection fault	Overload in the power module (IGBTs)	Overload in the power module (IGBTs)	Overload in the power module (IGBTs)
External alarm / fault	-	External alarm / fault	External alarm / fault	External alarm / fault
Setting error	-	Setting error	Setting error	Setting error
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
0...60 ºC	0...60 ºC	0...60 ºC	0...60 ºC	0...60 ºC
2% of current derating for each ºC above the specific operating temperature, limited to an increase of 10 ºC	2% of current derating for each ºC above the specific operating temperature, limited to an increase of 10 ºC	2% of current derating for each ºC above the specific operating temperature, limited to an increase of 10 ºC	2% of current derating for each ºC above the specific operating temperature, limited to an increase of 10 ºC	2% of current derating for each ºC above the specific operating temperature, limited to an increase of 10 ºC
5...90% without condensation	5...90% without condensation	5...90% without condensation	5...90% without condensation	5...90% without condensation
0...1,000 m (up to 4,000 m with 1% / 100 m in the output current)	0...1,000 m (up to 4,000 m with 1% / 100 m in the output current)	0...1,000 m (up to 4,000 m with 1% / 100 m in the output current)	0...1,000 m (up to 4,000 m with 1% / 100 m in the output current)	0...1,000 m (up to 4,000 m with 1% / 100 m in the output current)
Start/stop	Start/stop	Start/stop	Start/stop	Start/stop
Up/down (speed)	Up/down (speed)	Up/down (speed)	Up/down (speed)	Up/down (speed)
Parameter setting	Parameter setting	Parameter setting	Parameter setting	Parameter setting
JOG, reverse and local/remote selection	Variable speed potentiometer	JOG, reverse and local/remote selection	JOG, reverse and local/remote selection	JOG, reverse and local/remote selection
Motor output frequency	-	-	Motor output frequency	Motor output frequency
Inverter status	Motor output frequency	Motor output frequency	Inverter status	Inverter status
Digital input and output status	Intermediate circuit voltage	Inverter status	Digital input and output status	Digital input and output status
Motor speed	Speed proportional value	Digital input status	Motor speed	Motor speed
Motor output current (A)	Heat sink temperature	Motor speed	Motor output current (A)	Motor output current (A)
Motor output voltage (V)	Motor output current (A)	Motor output current (A)	Motor output voltage (V)	Motor output voltage (V)
Load torque	Motor output voltage (V)	Motor output voltage (V)	Load torque	Load torque
Relay output status	Fault indication	Load torque	Relay output status	Relay output status
Yes	Frame sizes 2 and 3	No	Standard in sizes A, B, C and D	Standard in sizes B,C and D. For frame A "DB" models has to be used. An extra resistor must be fitted in for dynamic braking capability
Yes	Yes	Yes	Yes	Yes
No	-	Yes	Yes	No
Yes	-	No	Yes	Yes
Yes	Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes	Yes

Contactors and Overload Relays

CWB, CWM and RW

Contactors and Overload Relays

- Complete line of contactors and class 10 thermal overload relays from 9 to 800 A in AC-3 category
- Suitable for IE3 efficiency motor switching and protection
- Built-in auxiliary contacts, plug-in surge suppressors, tool-free mounting auxiliary contact blocks
- 3 and 4-pole contactors with ac and dc coil types available
- Certifications: UL, CE, Gost

CWC0

Compact Contactors

- Reliable compact contactors for AC-3 motor switching up to 22 A
- Suitable for IE3 efficiency motor switching
- Built-in auxiliary contacts
- Low consumption DC coils for direct connection to PLCs
- Certifications: UL, CE, Gost

Motor Protective Circuit-Breakers

MPW

Motor Protective Circuit-Breaker

- Compact solution for motor starting and protection up to 45 kW @ 415 V
- Class 10 adjustable thermal release for overload protection up to 100 A
- Magnetic tripping suitable for IE3 efficiency motors
- High short-circuit breaking capacity
- Certifications: UL, CE, Gost

Enclosed Starters

DLW, ETW, ESW, PESW

Enclosed Starters

- Three-phase and single-phase DOL starters up to 450 kW @ 400 V / 50 Hz and 600 HP @ 480 V / 60 Hz
- Star-delta starters up to 800 kW @ 400 V / 50 Hz and 1,250 HP @ 480 V / 60 Hz
- Reversing starters up to 355 kW @ 400 V / 50 Hz and 500 HP @ 480 V / 60 Hz
- Thermoplastic and metallic enclosure

Smart Relays

SRW01

Low Voltage Motor Protection and Monitoring Smart Relays

- Full motor protection and monitoring through current and voltage measurements
- Adjustable 5-45 trip class
- Communication protocols: DeviceNet, Modbus-RTU and Profibus-DP
- HMI for user-friendly configuration and operation
- Certifications: UL, CE, IRAM

Circuit-Breakers

DWA and DWB

Molded Case Circuit Breakers

- Molded case circuit breakers for electrical circuit, generator and motor branch circuit protection
- Rated currents from 16 to 1,600 A
- Short-circuit breaking capacity from 16 to 80 kA @ 380/415 V ac
- Wide range of accessories
- UL listed MCCB upon request

ACW

High Capacity Molded Case Circuit Breakers

- Modern and compact design
- Rated currents from 20 to 800 A
- Short-circuit breaking capacity from 85 to 150 kA @ 380/415 V ac
- Versions for electrical circuit and motor branch circuit protection
- Wide range of accessories
- UL listed MCCB upon request

ABW

Air Circuit Breakers

- Low voltage air circuit breakers with rated currents up to 6,300 A
- Short-circuit breaking capacity of up to 120 kA (380/415 V)
- Standard trigger unit with LSIG protection
- Fixed and withdrawable versions
- Complete range of accessories

Miniature Circuit Breakers

MDW and MDWH

Miniature Circuit Breakers

- Rated currents from 2 to 125 A
- Tripping characteristic curves B and C
- Available in 1, 2, 3 and 4 poles
- Short-circuit breaking capacity: 3/10 kA IEC 60898 and 5 /10 kA IEC 60947-2 at 400 V ac

Residual Current Devices

RDW

Residual Current Devices (Earth Leakage Switches)

- Protection against earth leakage conditions
- Rated residual operating current of 30 mA (life protection) or 300 mA (installation protection)
- Rated currents from 25 to 100 A
- Available in 2 and 4 poles
- Developed according to IEC 61008

Surge Suppressors

SPW

Surge Supressors

- Surge suppressors for protection of equipment and installation
- Protection level up to 1.5 kV for class I (direct discharges) and II (indirect discharges)
- Plug-in connection and remote status indication (optional)
- Developed according to IEC 61643

Switch Disconnectors

MSW

Compact Switch Disconnectors

- Compact switch disconnectors according to IEC 60947-3 standard requirements
- Rated currents from 12 up to 160 A
- Door panel or base (DIN rail) mounting
- Available in yellow-red and black-gray color versions
- Terminals IP20 and handle IP65 protection degree
- Certifications: CE, UL

FSW

Fuse Switch Disconnectors

- Fuse switch disconnectors for fuses size NH000, NH00, NH1, NH2 and NH3
- Rated thermal currents from 100 up to 630 A
- Transparent cover and voltage measure access without disconnecting the fuses
- Designed according to IEC 60974-3
- Certifications: CE

Fuses

FNH-aR

Semiconductor High Speed Fuses

- AR class, NH type: for semiconductor / electronic equipment
- Short-circuit protection up to 1,000 A at 690 V ac
- Short-circuit breaking capacity of 100 kA - 690 V ac
- Reduced I^2t values
- Designed and tested according to IEC 60269
- Certifications: CE

Eletronic Relays

ERWT, ERWM, RNW, RTW, RPW

Electronic Timing and Monitoring Relays

- Timing, monitoring, protection and level solid-state relays
- 22.5 mm width frame
- LED for status indication
- Multifunction three-phase monitoring relays and timer relays
- Certifcations: CE, UL, Gost, BV

Pushbuttons and Pilot Lights

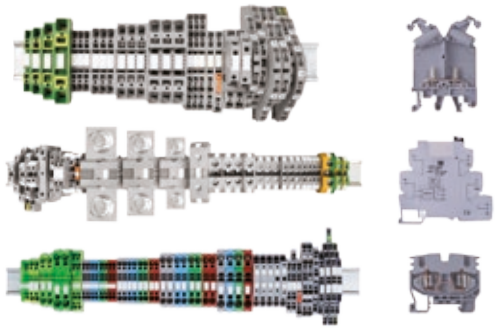
CSW

Pushbuttons and Pilot Lights

- Pushbuttons, selector switches and pilot lights
- IP66 protection degree
- Quick and easy assembly system
- Decentralized control stations and emergency-stop stations (PBW)
- Self-monitoring contact blocks for emergency pushbuttons
- Certifcations: UL, CE, Gost, RCC, IRAM, BV

Terminal Blocks

BTW



Electrical Connections: Terminal Blocks

- Complete range of terminals, mini terminals and relay terminals
- Connection options: screw, spring, push-in, ring and fork types
- Certifications: EX, UL, CE

Capacitors for Power Factor Correction

Manufactured According to Standards IEC 60831-1/2 and UL 810

- Coils produced with metalized polypropylene film, self-healing and dry dielectric
- Discharge resistors incorporated to three-phase units, modules and banks
- Dielectric losses lower than 0.2 W / kvar
- Anti-explosion protection device
- PCB free

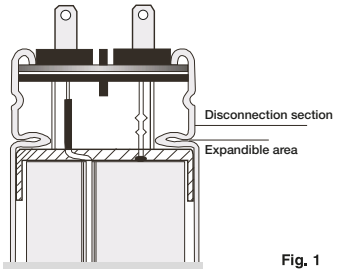


Fig. 1

Fig.1 UCW internal view

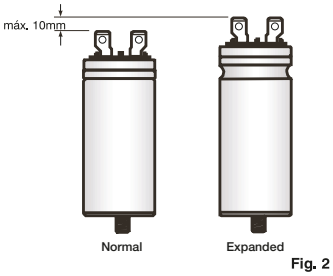


Fig. 2

Fig.2 UCW normal x expanded

UCW Line

Single-Phase Capacitive Units

- Capacitive units for mounting three-phase modules and banks
- Power of up to 10 kvar in 535 V
- Fast-on, philips and box terminals
- Certifications: UL, CE, IRAM, C-Tick

UCWT Line

Three-Phase Capacitive Units

- Ideal for localized/ lindividual motor power factor-correction
- From 0.5 up to 20 kvar at 220 V and up to 35 kvar at 380/440/480/535 V
- Built-in discharge resistors
- Certifications: UL, CE, IRAM, C-Tick

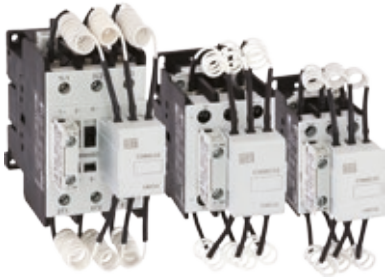
Capacitors for Power Factor Correction

MCW Line

Three-Phase Capacitor Module

- Power up to 60 kvar with 4 modules in parallel
- Built-in discharge resistors
- Single-phase capacitive units delta connected
- Certifications: UL, CE, IRAM, C-Tick

CWMC



Contactors for Capacitor Switching

- Switching of power factor correction capacitors up to 60 kvar at 380/415 V
- Developed with pre-charge resistances to reduce high in-rush currents

OEM Solution Drives

High technology for motors driving. WEG VSDs offer several features like easy installation and operation and compact size.

CFW100

Mini Drive

- Power rating: 0.18 to 0.75 kW (0.25 to 1 HP)
- Single-phase
- Power supply voltage: 200-240 V
- Scalar control (V/F) or vector control (VVW)
- Overload capacity: 150% current in 60s
- 2.5 to 15 kHz adjustable switching frequency
- Ambient temperature: -10 °C to 60 °C (14 °F to 140 °F)
- All the electronic boards are conformally coated, classified as 3C2 according to IEC 60721-3-3
- Protection degree IP20
- HMI with 2 variables monitoring at the same time
- SoftPLC function built-in
- Flash memory module: in few seconds, it is possible to download the programming from a CFW100 to others without powering them up
- Plug-in modules: I/Os, USB, Bluetooth®, Infrared and Fieldbus communication
- Communication protocols: Modbus-RTU (RS485) and CANopen
- WLP and SuperDrive G2 free softwares, available on *www.weg.net*

CFW10

Easy Drive

- Power rating: 0.18 to 3.7 kW (0.25 to 5 HP)
- Single-phase and three-phase
- Power supply voltage: 110-127 V and 200-240 V
- Scalar control (V/F) or vector control (VVW)
- Overload capacity: 150% current in 60s
- RFI filter built-in
- 2.5 to 15 kHz adjustable switching frequency
- Ambient temperature: -10 °C to 60 °C (14 °F to 140 °F)
- All the electronic boards are conformally coated, classified as 3C2 according to IEC 60721-3-3
- Protection degree IP20
- HMI built-in
- Cold plate version
- Compact dimensions, simplified installation and operation
- Speed adjustment via potentiometer version is available
- Four isolated programmable digital inputs
- Programmable relay output
- One isolated programmable analog input

Machinery Drives

Advanced technology, developed for fast commissioning, providing great flexibility and competitive advantage while offering excellent performance and reliability. Designed for exclusively industrial or professional use, is perfect for OEM, system integrators, panel installers and end users providing great benefit from the added value.

CFW500

Machinery Drive

- Power range: 0.18 to 15 kW (0.25 a 20 HP)
- Single-phase and three-phase
- Power supply voltage: 200-240 V and 380-480 V
- Scalar control (V/F) or vector control (VVW)
- Overload capacity: 150% current in 60s
- RFI filter built-in
- Ambient temperature: -10 °C to 60 °C (14 °F to 140 °F)
- All the electronic boards are conformally coated, classified as 3C2 according to IEC 60721-3-3
- Protection degree IP20 and NEMA1 (with accessory)
- SoftPLC function built-in
- HMI built-in
  - View three parameters at the same time, selected by the user
  - Oriented start-up: programming step by step
  - Easy and intuitive operation, quick parameters access
- Flash memory module: in few seconds, it is possible to download the programming from a CFW500 to others without powering them up
- Plug-in modules: I/Os, USB and Fieldbus communication
- Communication protocols: Modbus-RTU (RS485 available in all plug-in modules and RS232), Profibus-DP, DeviceNet and CANopen
- WLP and SuperDrive G2 free softwares, available on *www.weg.net*

CFW08

Variable Speed Drive

- Power range: 0.18 to 15 kW (0.25 a 20 HP)
- Single-phase and three-phase
- Power supply voltage: 200-240 V, 380-480 V and 500-600 V
- Scalar control (V/F) or vector control (VVW)
- Overload capacity: 150% current in 60s
- RFI filter built-in
- Ambient temperature: -10 °C to 60 °C (14 °F to 140 °F)
- All the electronic boards are conformally coated, classified as 3C2 according to IEC 60721-3-3
- Protection degree IP20, NEMA1 (with accessory) and IP66/NEMA 4x (wash duty version optional)
- Communication protocols: Modbus-RTU (built-in) and Profibus-DP, DeviceNet and CANopen as optionals

General Purpose Drives

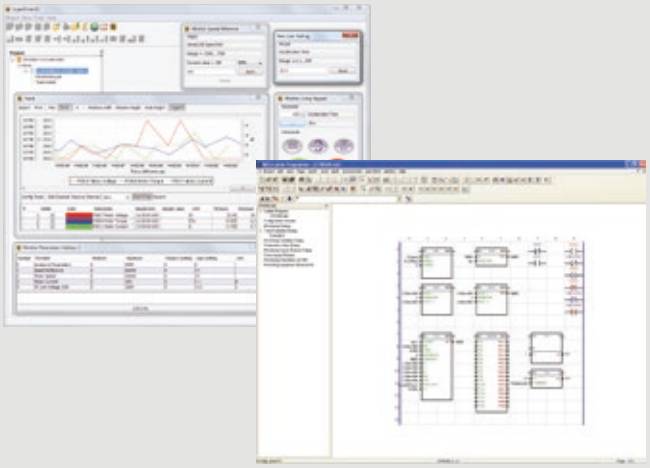
With main focus to attend requirements for general purpose applications, the CFW700 series was designed for exclusively industrial or professional use including many characteristics and features that are optional for other drives.

CFW700

General Purpose Drive

- Power range: 1.1 to 132 kW (1.5 to 150 HP)
- Single-phase and three-phase
- Power supply voltage: 200-240 V, 380-480 V and 500-600 V
- Scalar control (V/F), vector control (VVW), open loop vector sensorless and closed loop with incremental encoder
- Overload capacity: ND with 110% current or HD with 150% current in 60s
- RFI filter built-in
- DC link reactor built-in
- Safety stop board (EN 954-1/ ISO 13849-1 compliant)
- Ambient temperature: -10 °C up to 60 °C (14 °F up to 140 °F)
- All the electronic boards are conformally coated, classified as 3C2 according to IEC 60721-3-3
- Protection degree IP20 and NEMA1 (with accessory)
- SoftPLC function built-in
- Plug-in modules: I/Os and communication
- 24 V dc power supply board for control feeding
- USB port built-in
- Flash memory module: in few seconds, it is possible to download the programming from a CFW700 to others, without powering them up
- Communication protocols: Modbus-RTU (RS485 built-in), CANopen, DeviceNet and Profibus-DP
- WLP and SuperDrive G2 free softwares, available on *www.weg.net*

Programming, Control and Monitoring for Free



Software application for WEG VSDs, servo drives and soft-starters can be downloaded on the website for free. SuperDrives G2 is a powerful tool permitting parameter setting, command and monitoring simulating an oscilloscope. Also the WLP allows the creation/edition of applications for the SoftPLC being a smart and simple way to make your drive or soft-starter, motor and application work together.

Reliability as Standard

VSD lifespan is extended by a varnish with protection against dust, humidity, high temperatures and chemical substances. This process called **Conformal Coating** (tropicalization) is standard for all CFW, SSW, SCA and MW500 lines, classified as 3C2 according to IEC 60721-3-3.

System Drives

A WEG System Drive developed for the most complex and robust applications. Designed for exclusively industrial or professional use, it achieves through the Plug & Play technology a simple and quick start-up.

CFW11

Note: CE in process for frame H.

System Drive

- Power range: 1.1 to 630 kW (1.5 to 900 HP)
- Single-phase and three-phase
- Power supply voltage: 200-240 V, 380-480 V, 500-600 V and 660-690 V
- Scalar control (V/F), vector control (VVW), open loop vector sensorless and closed loop with encoder
- Overload capacity: ND with 110% current or HD with 150% current in 60s
- Optimal Braking®
- Optimal Flux®
- WMagnet Drive System®
- RFI filter built-in
- DC link reactor built-in
- Safety stop board (EN 954-1/ ISO 13849-1 compliant)
- Ambient temperature:
  - -10 °C up to 60 °C (14 °F up to 140 °F) for frames A, B, C, D and E
  - -10 °C up to 55 °C (14 °F up to 131 °F) for frames F, G and H
- All the electronic boards are conformally coated, classified as 3C2 according to IEC 60721-3-3
- Protection degree IP20 and NEMA1 (with accessory) or IP54 (optional)
- SoftPLC function built-in
- Local graphic HMI with real-time clock built-in
- Plug-in modules: I/Os, temperature sensor, encoder and communication network
- PLC built-in - PLC11-01 and PLC11-02 (accessory)
- 24 V dc power supply board for control feeding
- USB port built-in
- Flash memory module: in few seconds, it is possible to download the programming from a CFW11 to others without powering them up
- Communication protocols: Modbus-RTU (RS232 and RS485), CANopen, DeviceNet, Profibus-DP/DPV1, Profinet, Modbus-TCP, Ethernet/IP, Ethercat and BACnet
- WLP and SuperDrive G2 free softwares, available on www.weg.net
- Trace function by WEG software

UP11 / UR11 and UC11

Modular Drive

- Power unit (UP11) range: 270 to 2,000 kW (350 to 2,500 HP)
- Power supply voltage: 380-480 V, 500-600 V and 660-690 V
- Scalar control (V/F), vector control (VVW), open loop vector sensorless and closed loop with encoder
- Overload capacity: ND with 110% current or HD with 150% current in 60s
- Rectifer unit (UR11): 6 and 12 pulse as standard already available
- Control unit (UC11): configurable up to 5 power unities in parallel
- Regenerative braking system (AFE) is possible
- RFI filter built-in
- Input reactor built-in
- Safety stop board (EN 954-1/ ISO 13849-1 compliant)
- All the electronic boards are conformally coated, classified as 3C2 according to IEC 60721-3-3
- SoftPLC function built-in
- Local graphic HMI with real-time clock built-in same as CFW11 series
- USB connection
- Flash memory card
- Plug-in modules: I/Os, temperature sensor, encoder, PLC11 and communication network same as CFW11 series
- Designed to be assembled in a cabinet with high speed fuses, main circuit breaker and control power supply circuits (ready to run cabinet)

Power books	380/480 V	500/600 V	660/690 V
1	370 kW (500 HP)	400 kW (500 HP)	400 kW (500 HP)
2	700 kW (900 HP)	710 kW (900 HP)	800 kW (1,000 HP)
3	1,050 kW (1,400 HP)	1,120 kW (1,400 HP)	1,200 kW (1,500 HP)
4	1,400 KW (1,800 HP)	1,500 kW (1,800 HP)	1,600 kW (2,000 HP)
5	1,750 kW (2,300 HP)	1,850 kW (2,300 HP)	2,000 kW (2,500 HP)

Drives Assembled Solution

Complete solutions for induction motors, mounted electrical panels with variable speed drive CFW11 built-in. Designed for exclusively industrial or professional use, available in different versions: APW, with a discrete cabinet, AFW11, with complete drive and motor protection and AFW11M, with the same topology using a modular drive. Offering practicality and flexibility, with optional accessories available, as the need of the application.

APW11

Free Standing Drive

- Power range: 55 to 450 kW (75 to 600 HP)
- Power supply voltage: 380-480 V, 500-600 V and 660-690 V
- Overload capacity: ND with 110% current or HD with 150% current in 60s
- RFI filter built-in
- DC link reactor built-in
- Safety stop board (EN 954-1/ ISO 13849-1 compliant)
- All the electronic boards are conformally coated, classified as 3C2 according to IEC 60721-3-3
- Protection degree IP20 and IP21
- Local graphic HMI with real-time clock built-in same as CFW11 series
- USB connection
- Plug-in modules: I/Os, temperature sensor, encoder, PLC11 and communication network same as CFW11 series
- High speed fuses and main switch-disconnector as standard configuration
- Easy to install and operate

AFW11/AFW11C

Cabinet Built Industrial Drive

- Power range: 37 to 630 kW (50 to 900 HP)
- Power supply voltage: 380-480 V, 500-600 V and 660-690 V
- Overload capacity: ND with 110% current or HD with 150% current in 60s
- Multi-pulse solution (12 pulse) is available
- Harmonic passive filter (WHF) built-in
- Regenerative braking system (AFE) available from 132 kW (150 HP) on
- RFI filter built-in
- DC link reactor built-in
- Load reactor, dV/dt filter and sine wave filter available as optional
- Safety stop board (EN 954-1/ ISO 13849-1 compliant)
- All the electronic boards are conformally coated, classified as 3C2 according to IEC 60721-3-3
- Protection degree IP41, IP42 and IP54
- Local graphic HMI with real-time clock built-in, same as CFW11 series
- USB connection
- Plug-in modules: I/Os, temperature sensor, encoder, PLC11 and communication network, same as CFW11 series
- Ready to run cabinet with high speed fuses, main circuit breaker or switch-disconnector and control power supply circuit
- Customized solution that makes it flexible to customer needs

CE EAC

AFW11M

Cabinet Built Industrial Modular Drive

- Power range: 270 to 2,000 kW (350 to 2,500 HP)
- Power supply voltage: 380-480 V, 500-600 V and 660-690 V
- Overload capacity: ND with 110% current or HD with 150% current in 60s
- Multi-pulse solution (12 pulse) is available
- Harmonic passive filter (WHF) available
- Regenerative braking system (AFE) is possible
- RFI filter built-in
- Input reactor built-in
- Load reactor, dV/dt filter and sine wave filter built-in as optional
- Safety stop board (EN 954-1/ ISO 13849-1 compliant)
- All the electronic boards are conformally coated, classified as 3C2 according to IEC 60721-3-3
- Protection degree IP41 and IP42
- Water cooling configuration is available (increase the power range up to 2,800 kW)
- Local graphic HMI with real-time clock built-in, same as CFW11 series
- USB connection
- Plug-in modules: I/Os, temperature sensor, encoder, PLC11 and communication network, same as CFW11 series
- Ready to run cabinet with high speed fuses, main circuit breaker or switch-disconnector and control power supply circuit
- Customized solution that makes it flexible to customer needs

CE EAC

Decentralized Drives

The MW500 is a high performance product, with added features to allow decentralized installation on the motor and over the wall, covered by a high protection degree IP66/NEMA 4x. Designed for industrial or professional use, it is a great deal of flexibility, allowing the user to install the product near the controlled motor, thus eliminating the need for cables and cabinets.

MW500

Switch-Disconnector Built-In (Optional)

Easy and safe maintenance

Analog Potentiometer Built-In

No need for HMI to operate

Note: in process for frame A.

Decentralized Drives

- Power range: 0.75 and 3.7 kW (1 and 5 HP)
- Single-phase and three-phase
- Power supply voltage: 200-240 V and 380-480 V
- Scalar control (V/F) or vector control (VVW)
- Overload capacity: 150% current in 60s
- RFI filter built-in
- Switch-disconnector built-in (optional)
- Analog potentiometer and LED for status indicator built-in
- Ambient temperature: -10 °C up to 60 °C (14 °F up to 140 °F)
- All the electronic boards are conformally coated, classified as 3C2 according to IEC 60721-3-3
- Protection degree IP66 / NEMA 4x
- SoftPLC function built-in
- Flash memory module: in few seconds, it is possible to download the programming from a MW500 to others, without powering them up
- Plug-in modules: I/Os, USB and Fieldbus communication
- Communication protocols: Modbus-RTU (RS485 available in all plug-in modules and RS232), Profibus-DP, DeviceNet and CANopen
- WLP and SuperDrive G2 free softwares, available on *www.weg.net*

Wall mounting

HVAC-R Solution

In order to be present in the world's biggest drives market, WEG developed two products dedicated to heating, ventilation, air conditioning and refrigeration applications. Beyond a specific hardware designed for this purpose, the CFW501 and CFW701 also bring specific functions to perform according to market needs (fire mode, broken belt, energy saving, dry pump, bypass, extra PID controllers and more).

CFW501 HVAC-R

HVAC-R Variable Speed Drive

- Power range: 0.18 to 7.5 kW (0.25 a 10 HP)
- Three-phase
- Power supply voltage: 380-480 V
- Scalar control (V/F) or vector control (VVW)
- Overload capacity: 150% current in 60s
- RFI filter built-in
- HMT - Harmonic Mitigation Technology
- Ambient temperature: -10 °C up to 60 °C (14 °F up to 140 °F)
- All the electronic boards are conformally coated, classified as 3C2 according to IEC 60721-3-3
- Protection degree IP20 and NEMA1 (with accessory)
- SoftPLC function built-in
- Flash memory module: in few seconds, it is possible to download the programming from a CFW501 to others, without powering them up
- Plug-in modules: I/Os, USB and Fieldbus communication
- Communication protocols: Modbus-RTU, BACnet MS/TP and Metasys N2
- Special features required in the HVAC-R systems
- WLP and SuperDrive G2 free softwares, available on *www.weg.net*

CFW701 HVAC-R

HVAC-R Variable Speed Drive

- Power range 1.1 to 132 kW (1.5 to 150 HP)
- Single-phase and three-phase
- Power supply voltage: 200-240 V, 380-480 V and 500-600 V
- Scalar control (V/F), vector control (VVW) and open loop vector sensorless
- Overload capacity: ND with 110% current or HD with 150% current in 60s
- RFI filter built-in
- DC link reactor built-in
- Ambient temperature: -10 °C up to 60 °C (14 °F up to 140 °F)
- All the electronic boards are conformally coated, classified as 3C2 according to IEC 60721-3-3
- Protection degree IP20, NEMA1 (with accessory) and IP54 (optional)
- SoftPLC function built-in
- 24 V dc power supply board for control feeding
- USB port built-in
- Flash memory module: in few seconds, it is possible to download the programming from a CFW701 to others, without powering them up
- Communication protocols: Modbus-RTU, BACnet MS/TP and Metasys N2
- Special features required in the HVAC-R systems
- WLP and SuperDrive G2 free softwares, available on *www.weg.net*

Operator Interface

It is used for command, viewing and adjustment of parameters on the CFW701. Two operation modes are offered: monitoring and programming. The display is equipped with engineering units specifically developed for HVAC and status indication that make configuration and operation easier. It can be remotely mounted.

Soft-Starters

WEG soft-starters, microprocessor controlled and fully digital, have been designed for exclusively industrial or professional use, providing high performance in starting and stopping electric motors. The keypad offers a friendly interface for parameter adjustment, making the operation much easier.

SSW05

Soft-Starter

- Power rating: 0.55 to 55 kW (0.75 to 75 HP)
- Power supply voltage: 220-575 V
- Current rating: 5 up to 55 A
- Bypass built-in
- Ambient temperature: -10 °C to 55 °C (14 °F to 131 °F)
- Conformal coated, classified as 3C2 according to IEC 60721-3-3
- DIN rail or direct mount
- Remote keypad (accessory)
- Built-in motor protections
- Communication protocols: Modbus-RTU (RS232 built-in and RS485), DeviceNet and Profibus-DP

SSW07 and SSW08

Soft-Starter

- Power rating: 4 to 315 kW (6 to 450 HP)
- Power supply voltage: 220-575 V
- Current rating: 17 to 412 A
- Three-phase (SSW07) and two-phase (SSW08) controlled
- Bypass built-in
- Pump control for intelligent pumping system control
- Control board power supply has EMC filter (110 to 240 V ac)
- Ambient temperature: -10 °C to 55 °C (14 °F to 131 °F)
- Conformal coated, classified as 3C2 according to IEC 60721-3-3
- Protection degree IP20
- Built-in and remote keypad (accessory)
- Plug-in modules: I/Os, HMI and Pt-100 transducer
- Built-in motor protections
- Communication protocols: Modbus-RTU (RS232 and RS485), DeviceNet and Profibus-DP

SSW06

Soft-Starter

- Power rating: 2.2 to 1,800 kW (3 to 2,500 HP)
- Power supply voltage: 220-575 V and 575-690 V
- Current rating: 10 to 2,424 A
- Three-phase controlled
- 32 Bits RISC high performance microcontroller
- Built-in bypass up 820 A, providing size reduction and energy saving
- Three points torque and Pump control for intelligent system control
- Control board power supply has EMC filter (94 to 253 V ac)
- Ambient temperature: -10 °C to 55 °C (14 °F to 131 °F)
- Conformal coated classifed as 3C2 according to IEC 60721-3-3
- Protection degree IP20 (from 45 A on, need accessory)
- Detachable HMI with LED and LCD display
- SoftPLC function built-in
- Three wires or inside delta connection (six wires)
- Extra I/Os and Pt-100 transducer
- Built-in motor protections
- Communication protocols: Modbus-RTU (RS485 and RS232), Profibus-DP/DPV1, DeviceNet, Ethernet/IP and Modbus-TCP/IP
- WLP and SuperDrive G2 free softwares, available on www.weg.net

Servo System

High performance product that allows speed, torque and position control of three-phase servo motors. Designed for exclusively industrial or professional use, features excellent cost-beneft with PLC function, positioning blocks and CANopen included in the standard product.

SCA06

Servo Drive

- Power supply voltage: 220-230 V or 380-480 V
- Rated current:
  - Single-phase 220-230 V / 4 A
  - Three-phase 220-230 V / 5, 8, 16 and 24 A
  - Three-phase 380-480 V / 5.3 and 14 A
- RFI Filter built-in (optional)
- Safety stop board - EN 954-1/ ISO 13849-1 compliant (optional)
- Built-in PLC programmed via WEG Ladder Programmer (WLP) according to IEC 1131-3 standard
- USB port
- Real time clock
- Flash memory for backup of the SCA06 parameters and PLC program
- Communication protocols: Modbus-RTU, CANopen (built-in), Profibus or Ethercat
- WLP and SuperDrive G2 free softwares, available on *www.weg.net*
- Built-in trace function (digital oscilloscope)

SWA

Servomotors

- Torque: 0.8 up to 50 Nm
- IP65 protection degree
- Resolver feedback
- Medium inertia
- Low maintenance
- Low level of noise and vibration
- Electromagnetic brake (optional)

Servo Drive SCA06 + Module ECO1 (RS232/RS485)

Graphical HMI PWS 6400
3.3" Touch Screen Display

Medium Voltage Variable Speed Drive

MVW01

Medium Voltage Variable Speed Drive

- Motor voltage: 2.3 kV; 3.3 kV; 4.16 kV and 6.9 kV
- Power ratings: 400 kW to 16,000 kW (500 HP to 22,500 HP)
- Input rectifier: 12, 18 and 24 pulses (for the 4.16 kV line) and 36 pulses (for the 6.9 kV line)

The Highest Efficiency on the Market (>99% True Measurement with Rated Load)

Main Advantages of WEG MVW01 VSD

- Voltage Source (VSI) multilevel power topology (NPC 3/5 up to 4.16 kV and 5/9 up to 6.9 kV) with high dynamic performance
- Latest generation of power semiconductors with 6.5 kV IGBT's
- Use of dry-type plastic film power capacitors only (much longer life time than electrolytic capacitors)
- Reduced number of power and control components allowing high efficiency and reliability
- Withdrawable power cells for easy and fast servicing
- High security level with mechanical and electrical interlocking
- Phase shifting transformer for very low harmonics levels, higher incoming voltage installations and to eliminate common mode voltage problems increasing motor life time
- Flexibility for choosing the transformer (dry/oil type)
- Possibility of installing the transformer inside or outside the electrical room allowing energy and financial savings with the refrigeration system

Keypad - Human Machine Interface (HMI) with graphic display (3") and backlight

Medium Voltage Soft-Starter

SSW7000

IP41 Enclosure - IEC

NEMA 12 Enclosure

Medium Voltage Soft-Starter

- Motor voltage: 2.3 kV; 3.3 kV; 4.16 kV and 6.9 kV
- Power ratings: 560 kW to 3,300 kW (750 HP to 4,500 HP)
- Overload: 450% for 30s

Main Characteristics of WEG SSW7000

- Possibility of setting the best protection mode for the motor with thermal protections, alarm and fault notifications for current, voltage, temperature, etc.
- Totally Flexible Torque Control (TFTC) technology that uses WEG VFD's concept for controlling the motor torque
- High flexibility for choosing the control type: voltage ramp, current limiting, pump control and torque control (constant, linear or quadratic)
- Built-in input disconnect switch with medium voltage fuses, vacuum contactors (input and bypass) and independent withdrawable power modules (one per motor phase)
- Fieldbus communication protocols (DeviceNet, Profibus-DPV1, Ethernet/IP and Modbus-RTU, RS232 or RS485 interface)
- Keypad (HMI) with real time clock (RTC)
- SoftPLC function with USB programming interface

CFW11 frame size H + W50

The **strongest match** for high power, maximum efficiency and system control

High performance for your system

Increased reliability and ruggedness

More savings with complete package

Industrial Motors

W22

A high efficiency product, enhancing the productivity to generate the maximum benefit to the customer. This is the focus of the W22 Line, designed to provide not only significantly lower energy consumption, but lower noise and vibration levels, higher reliability, easier maintenance and lower cost of ownership.
A motor that anticipates the concepts about energy efficiency, performance and productivity.

Low Voltage Motors

Standard Features

- Output: 0.12 kW to 500 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 112 M and up)
- Frames: 63 to 355A/B
- Color: RAL 5009 - blue

Versions Available

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

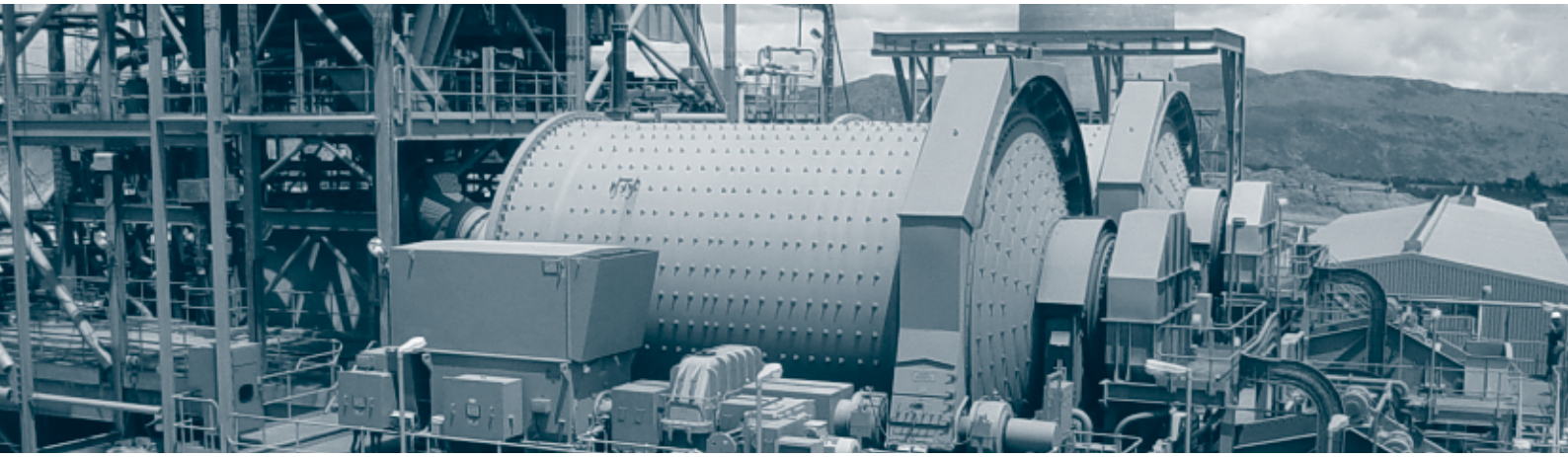
Applications

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

Features	Benefits
Efficiency levels	High Efficiency - IE2 - Meets or exceeds the IE2 efficiency levels specified in the IEC 60034-30-1 and the requirements of the the European Regulation, if driven by frequency inverter. Premium Efficiency - IE3 - Meets or exceeds the IE3 efficiency levels specified in the IEC 60034-30-1 to provide significant energy savings and a fast return on investment
New frame and endshields design	Higher mechanical stiffness and excellent heat dissipation
New terminal box design	Diagonally split oversized terminal box provides optimal conditions for operators to access main and accessories terminals Provides easy and fast modification to the terminal box mounting position (for frames 225S/M to 355A/B)
Low bearing operating temperature	Extended lubrication intervals and longer bearings lifetime
Exclusive WSeal® Sealing System	Preventing the ingress of contaminant agents into the motor interior (for frames 225S/M to 355A/B)
New ventilation system	Fins design allows an optimized air flow distribution over the frame and reduces the noise levels
Solid and integrated feet	Stiffness, easy alignment and installation
WISE® insulation system	Increases stator electrical strength and allows the motor operation by frequency inverters, without damage by voltage peaks[1)]

Note: 1) For more information about Frequency Inverter Operation, please see page 29.

Industrial Motors



W22

WEG presents its W22 Super Premium Efficiency motor line, meeting or exceeding the IE4 efficiency levels defined in IEC 60034-30-1. W22 IE4 presents electric losses 20 to 40% smaller in comparison to the conventional electric motors. High overall performance which is translated into a lower total cost of ownership, due to its reliability, easy maintenance and energy savings.

Super Premium Efficiency

Standard Features

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

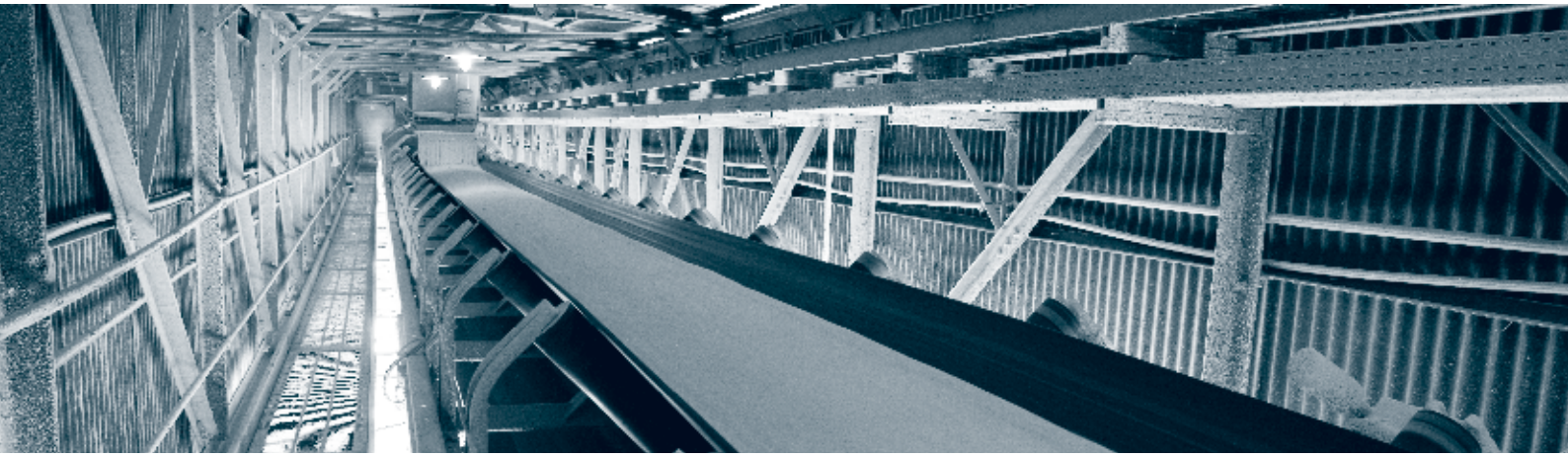
Applications

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

Features	Benefits
Efficiency level	Meeting or exceeding the IE4 Efficiency Levels defined in IEC 60034-30-1
W22 platform	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 frequency inverters, without damage by voltage peaks[1)]

Note: 1) For more information about Frequency Inverter Operation, please see page 29.

Industrial Motors



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 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 200M/L
- Color: RAL 5009 - blue

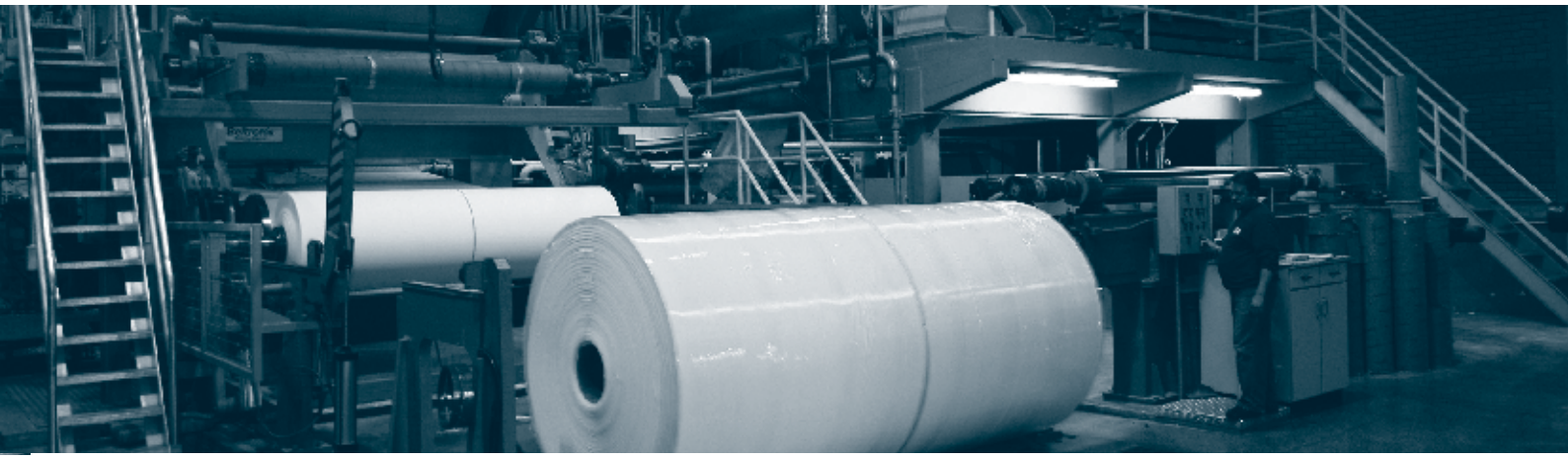
Applications

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	Benefits
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 Extended range	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) 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
Extended range	The introduction of the 160, 180 and 200 frames allow the W21 aluminium multimounting line to cover rated outputs up to 37 kW, enabling this line to cover even more applications
WISE® insulation system	Increases stator electrical strength and allows the motor operation by frequency inverters, without damage by voltage peaks[1)]

Note: 1) For more information about Frequency Inverter Operation, please see page 29.

Industrial Motors



W22 Magnet IE5

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 frequency inverter 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 W22 Magnet IE5

- Output: 7.5 to 315 kW
- Speed range: 3,000, 1,500 and 1,000 rpm
- Voltage: 400 V
- Frames: 132S to 315S/M
- Color: 091A.3145 - gray

Applications

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

Features	Benefits
Ultra premium efficiency levels	The motor efficiency meets the impending IE5 efficiency levels, 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
WISE® insulation system	Increases stator electrical strength and allows the motor operation by frequency inverters, without damage by voltage peaks[1)]

Note: 1) For more information about Frequency Inverter Operation, please see page 29.

Industrial Motors

W22

Using electrical design optimizations software and taking advantage of its technical know-how in manufacturing compact pre-formed coils, WEG developed the W22 High Voltage General Purpose Motors Line. The line counts on all innovative features introduced with the launch of the W22 Low Voltage Motors line and represents the best solution for cost-benefit ratio of General Purpose applications that requires High Voltage motors.

High Voltage Motors

Standard Features

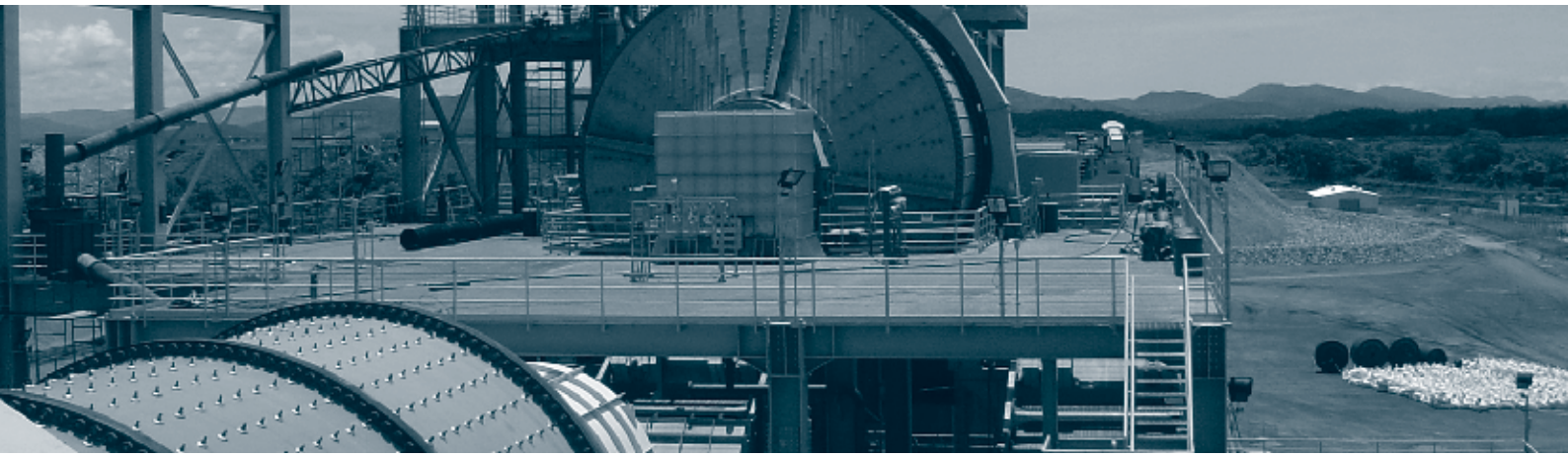
- Output: 90 kW to 400 kW
- Number of poles: 2, 4, 6 and 8
- Frequency: 50 Hz
- Voltage: 1.2 to 6.6 kV
- Frames: 315L and 355A/B
- Color: RAL 5009 - blue

Applications

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

Features	Benefits
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 accessories 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.
The W40 line meets or exceeds the efficiency levels determined by the International Standards and the minimum efficiency level programs in force worldwide.

Open Induction Motors

Standard Features

- Output: 11 kW to 1,400 kW
- Number of poles: 2 and 4
- Frequency: 50 Hz
- Voltage: 208 to 4,160 V
- Frames: 160L to 450 K/J
- Color: RAL 5009 - blue

Versions Available

- High efficiency - IE2
- Premium efficiency - IE3
- Close-coupled pump motors (JM/JP)

Applications

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

Features	Benefits
High performance	The open enclosure allows more compact design for the same output compared with totally enclosed motors, resulting in the most cost-effective option for the driven equipment
New IEC 355, 400 and 450K/J frame sizes	WEG is now introducing frames sizes 355, 400 and 450 in W40 portfolio. This represents an important improvement in the offered rated output, from the previous 370 kW to 1,400 kW in 50 Hz (600 to 2,250 HP in 60 Hz). This new range features an entirely new concept, offering low noise levels, improved mechanical stiffness and heat dissipation. The introduction of the design allowed WEG to offer the W40 motors in medium and high voltage ratings, being available up to 6.6 kV
Low noise levels	The innovative design of the new fans system combined with the new frame concept, ensure to the W40 motors maximum air flow with reduced noise levels
Modular construction	Easy and quick transformation among all possible configurations
WISE® insulation system	Increases stator electrical strength and allows the motor operation by frequency inverters, without damage by voltage peaks[1)]

Note: 1) For more information about Frequency Inverter Operation, please see page 29.

Industrial Motors

W50

The WEG W50 motor line is a product designed for industrial applications ensuring high performance and reliability even under the most severe operating conditions. The W50 motor complies with the strictest criteria of efficiency and safety.

Low and High Voltage Motors

Standard Features

- Output: 75 to 1,250 kW
- Number of poles: 2 to 12
- Frequency: 50 Hz and 60 Hz
- Voltage: 380 to 6,600 V
- Frames: 315H/G to 450J/H
- Color: RAL 5009 (blue)

Versions Available

- Standard
- W50 Mining
- W50Xn
- W50 API 541
- W50 IEEE 841

Applications

Cooling towers, pumps, mixers, agitators, compressors, grinders, conveyors and others.

Features	Benefits
New frame design	New frame design aimed at best equation between mechanical rigidity and thermal dissipation possible for enclosures, thereby reducing motor vibration and increasing lifetime
Low bearing temperature	Unique fin distribuition design which ensures excellent thermal performance
Low noise levels	The mounting system of the grid and internal baffle ensures low noise levels, even lower than noise levels established by the standards
Compact design	A high performance and robust product with a compact design
Reliability	Low vibration levels which increase lifetime
Electrical performance	WISE insulation on low voltage motors and VPI insulation for high voltage motors which increases stator electrical strength
Modularity	Can be provided with sleeve bearings, wide range of accessories, modular blower kit, oversized terminal box and others

Industrial Motors

Fan and Exhaust Motors

Suitable for the most demanding specifications of OEM's ventilation customers, the fan and exhaust design allows high output in light and compact frame sizes for several fan applications.

Fan and Exhaust Motors

Standard Features

- Output: 0.12 kW to 500 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 355A/B (for cast iron frames)
  - 63 to 132M (for aluminum frames)
- Color: RAL 5009 - blue

Versions Available

- High efficiency - IE2
- Standard efficiency - IE1
- 10 and 12 poles
- 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	Benefits
W22 platform	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 frequency inverters, without damage by voltage peaks[1)]

Note: 1) For more information about Frequency Inverter Operation, please see page 29.

Smoke Extraction Motors

Smoke Extraction Motors

Assuring safety in commercial and industrial facilities is one of the main concern of designers and company owners during the design of shopping centres, factories, warehouses, covered parking lots, tunnels and other places in which a large concentration of people are present. Smoke Extraction motors are suitable for extracting operation in high temperature and guarantee rapid smoke and heat extraction and delay in fire propagation, allowing free access to emergency exits.

Smoke Extraction Motors

Standard Features

- Output: 0.12 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)
- Color: RAL 9006 - aluminium

Versions Available

- TEFC (Totally Enclosed Fan Cooled) or TEAO (Totally Enclosed Air Over)
- Premium efficiency - IE3
- High efficiency - IE2
- Standard efficiency - IE1
- 10 and 12 poles
- Multi speed motors (Dahlander, Double Winding, etc.)
- F200 (200 °C/2 hrs), F300 (300 °C/2 hrs or 300 °C/1 h) and F400 (400 °C/2 hrs)
- F250 (250 °C/2 hrs)

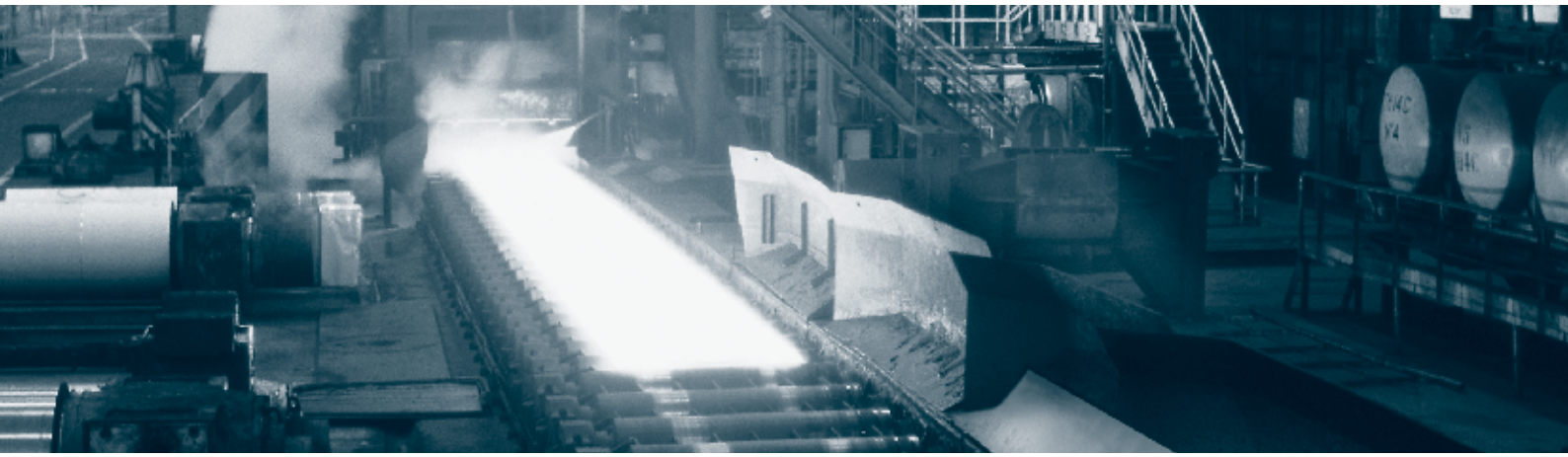
Applications

Fan and exhausters for: tunnels, metros, subways, shopping centres, car parks, supermarkets and other applications with large concentration of people.

Features	Benefits
Mounting flexibility	Fan and exhaust motors can be supplied with the following features: pad, foot or flange mounted Besides the mounting configurations the motor can be also supplied with T-box and terminal block or without T-box and loose cable leads allowing remote assembly of the T-box
W22 platform	Offers on all the innovative features of the W22 general purpose motors platform (for foot or flange mounted)
Special design for high ambient temperature	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	Increases stator electrical strength and allows the motor operation by frequency inverters, without damage by voltage peaks[1)]

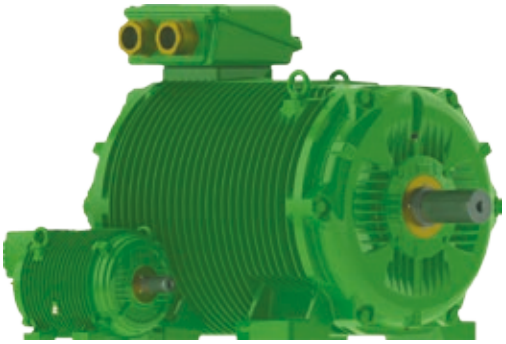
Note: 1) For more information about Frequency Inverter Operation, please see page 29.

Roller Table Motors



Roller Table Motors

Severe operating conditions require stronger motors. The Roller Table motor's frame is fitted with radial fins that prevent residue accumulation on the frame surface. The line is 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 18.5 kW
- Number of poles: 4, 6, 8, 10 and 12
- Frequency: 50 Hz
- Frames: 132 M to 200 L
- Voltage: 380-415/660 V
- Color: Ral 6003 - green

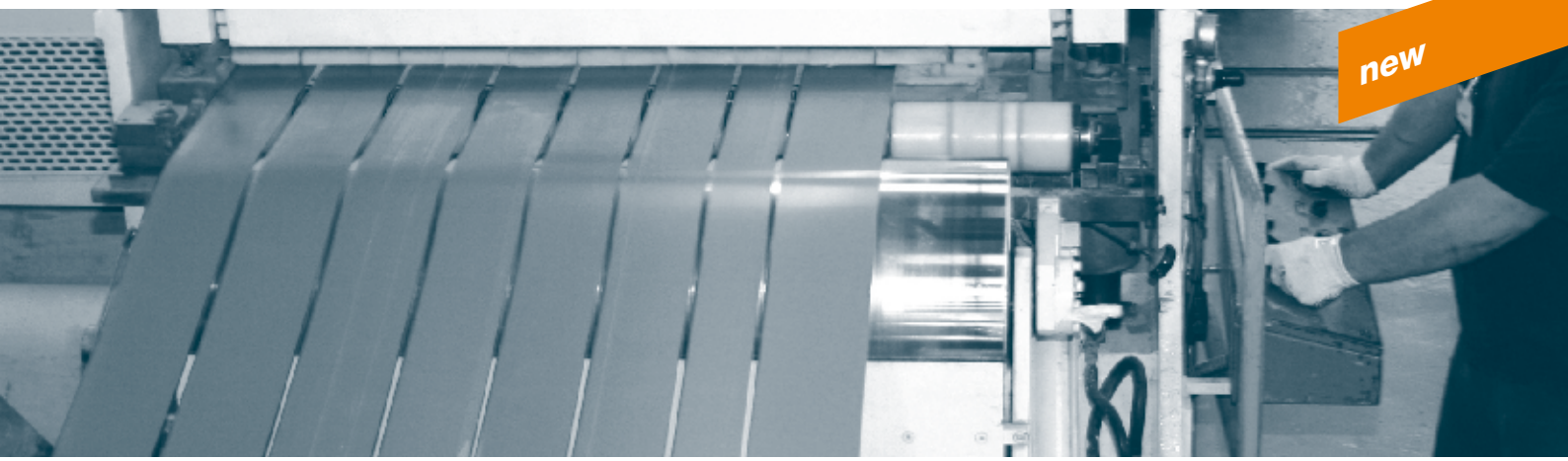
Applications

Roller tables and laminating machines for the steel industry.

Features	Benefits
Radial/circular fins	Prevent residue accumulation on motor frame
W3Seal® sealing system and IPW66 degree of protection	Protect the motor against the ingress of contaminants into the motor frame
Sealing at cable inlet and sealing between endshield and frame	Protect the motor against the ingress of contaminants into the motor frame
Shaft, bolts and nameplate are made of stainless steel	Provides high corrosion resistance
Internal epoxi anti-corrosion painting	Prevents corrosion of internal motor components and improves protection of windings
Painting plan for aggressive environments	Provides more resistance in corrosive environments
WISE® insulation system	Increases stator electrical strength and allows the motor operation by frequency inverters, without damage by voltage peaks[1)]

Note: 1) For more information about Frequency Inverter Operation, please see page 29.

Roller Table Motors



W22 Brake Motors

W22 Brake Motors are ideal for applications that require precise, fast and secure braking. The motors provide easy maintenance and can be supplied with micro-switches to monitor the brake (open/closed and wear).

Brake Motors

Standard Features

- Output: 0.12 to 75 kW
- Number of poles: 2, 4, 6 and 8
- 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)
- Color: RAL 5009 - blue

Applications

Packing equipment, conveyors, washing and bottling machines, overhead cranes, elevators, printing machines, gates, wood machinery, etc.

Features	Benefits
High performance braking system	Ensures quick and safe stops and accurate load positioning and requires low maintenance
Manual brake release	Possibility to keep the motor free during emergency situations or whenever necessary
New bridge rectifier	Heavy duty bridge rectifier
New brake	The friction element of the new brake provides less wear and more safety. The brake is according to platform of world class brake models (interchangeable).

Industrial Motors

W22Xd

The W22Xd line represents all that is most modern in driving equipment for explosive atmospheres. The mechanical design of the W22Xd line is based on the highly successful W22 general purpose motor range, with the incorporation of some innovative new features, including: modern frame design with new fins and feet to ensure higher mechanical rigidity and excellent heat dissipation; redesigned endshields to reduce bearing operating temperatures thus increasing the re-lubrication intervals; and an advanced cooling system to reduce noise levels and significantly improve heat dissipation.

Flameproof Motors

Standard Features

- Output: 0.12 to 37 kW
- Number of poles: 2, 4, 6 and 8
- Frequency: 50 Hz
- Voltage:
  - 220-240/380-415 V (up to 100 L)
  - 380-415/660-690 V (from 112 M and up)
- Frames: 71 to 200M/L
- Color: RAL 5009 - blue

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	Benefits
W22 platform	Offers on several innovative features of the W22 general purpose motors platform
New terminal box	The terminal box was designed with plenty of internal space, allowing easy access and safe handling of the power cables, even when large size cables are required
Wide range of certified accessories	The new W22X line offers a wide range of accessories affording suitability for a wide range of customer specifications, without losing focus on the safety of the application
Zone 21 and 22 certified	To enable a higher functionality to the W22X line, these motors will be also certified for applications in ambients where combustible dusts/fibers may be expected to be present
IIC group certified	Safety for hydrogen gases family hazardous areas
Protection	Motor suitable to operate in hazardous locations classified as zones 1 and 2
WISE® insulation system	Increases stator electrical strength and allows the motor operation by frequency inverters, without damage by voltage peaks[1)]

Note: 1) For more information about Frequency Inverter Operation, please see page 29.

Industrial Motors

Flameproof Motors with Brake

The installation of electric motors where flammable products are continuously handled, processed or storaged must comply with the most demanding safety standards in order to guarantee life protection, machines and environment. Following to highest safety standards, WEG explosion-proof motors (W21Xd) integrate the high performance of the brakes. An effective solution for equipment where fast safety stops are required, as well as precise positioning with safety in hazardous areas such as Zone 1 and Zone 2.

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
- Color:
  - High efficiency - IE2: RAL 5009 - blue
  - Standard efficiency - IE1: RAL 5009 - blue

Versions Available

- High efficiency - IE2
- Standard efficiency - IE1

Applications

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

Features	Benefits
High performance braking system	Ensures quick and safe stops and accurate load positioning and requires low maintenance
Manual brake release	Possibility to keep the motor free during emergency situations or whenever necessary
Modern flame retention system with robust frame, endshields and T-box	Avoid flame propagation from inside the motor to the external side, guaranteeing safety life protection, machines and environment
W3Seal® sealing system and IPW66 degree of protection	Protect against the ingress of contaminants inside the motor frame
Additional nameplate	Easy identification of the motors in the factory and traceability
Painting plan for severe environments	Special for industrial severe environments, sheltered or not, which may contain
Protection	Motor suitable to operate in hazardous locations classified as zones 1 and 2
WISE® insulation system	Increases stator electrical strength and allows the motor operation by frequency inverters, without damage by voltage peaks[1)]

Note: 1) For more information about Frequency Inverter Operation, please see page 29.

Industrial Motors

W22Xtb

The W22Xtb motor has been specially designed to maximize safety and quality of motors apllied in explosive atmospheres - Zone 21 (grain processing, cereals, textile fibers, powder coating, polymers, etc.) Reliability and safety is ensured at the presence of conductive dust suspension (cloud) or dust layer (up to 5 mm), according to IEC standards.

Dust Ignition Proof Motors

Standard Features

- Output: 0.12 to 450 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 112 M and up)
- Frames: 63 to 355A/B
- Color: RAL 5009 - blue

Applications

Sugar refining plants, breweries, cement plants, textiles, pharmaceutical, chemical, agricultural process industries and other applications in explosive atmospheres classified as Zones 21 and 22.

Features	Benefits
Reduced surface temperature	Safety, prevents the ignition of combustible dust or fibers in contact with the motor
Conductive material fan	Safety, avoiding sparks that could cause the ignition of the combustible material present on the environment
Degree of protection IP66	Protect against the ingress of contaminants inside the motor frame
Winding thermal protection	Protection the motor at abnormal operating conditions, preserving the designed surface temperature
WISE® insulation system	Increases stator electrical strength and allows the motor operation by frequency inverters, without damage by voltage peaks[1)]

Note: 1) For more information about Frequency Inverter Operation, please see page 29.

Industrial Motors

W22Xn

The installation of electric motors where a flammable mixture is not frequently present but may represent risks, must comply with the most demanding safety standards for life protection, machines and environment. Following to the highest safety standards WEG Ex nA/Ex tc motors are flexible to adapt to various applications allowing your company agility during installation, easy operation, low maintenance cost and safety.

Non-Sparking Motors

Standard Features

- Output: 0.12 kW to 500 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 355A/B
- Color: RAL 5009 - blue

Applications

Pumps, compressors, fans, mills, presses, elevators, machine tools, woodworking, grinders, looms, packaging machines, conveyors, bootling machines and other applications in explosive atmospheres classified as Zones 2 and 22.

Features	Benefits
Certifications	Guarantee of compliance with the tests of the world's most demanding certification bodies
Protection	Dual certification for zone 2 (gas) + zone 22 (non-conductive dusts)
Thermal protections	Safety, two sets of PTC's; one to prevent the ignition of gases present at the explosive atmosphere and other to ensure low motor surface temperature and the ignition of combustible dusts
Premium motor	IE3 efficiency level available for all motors range
WISE® insulation system	Increases stator electrical strength and allows the motor operation by frequency inverters, without damage by voltage peaks[1)]

Note: 1) For more information about Frequency Inverter Operation, please see page 29.

Industrial Motors

Water Cooled Motors

WEG Water Cooled motors can be used in a wide variety of applications and are mainly recommended where space and noise level reduction is required. Areas with difficult access for maintenance are also part of the scope of application of WEG Water Cooled motors.

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
- Color: RAL 5009 - blue

Applications

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

Features	Benefits
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 the access for maintenance operations
Pt-100 thermal detectors	Thermal resistances Pt-100 supplied in windings and bearings provide precise and constant temperature monitoring and a rapid detection of any abnormal operation condition
WISE® insulation system	Increases stator electrical strength and allows the motor operation by frequency inverters, without damage by voltage peaks[1)]

Note: 1) For more information about Frequency Inverter Operation, please see page 29.

Industrial Motors

Single-Phase Motors

Flexible and compact motors, designed with highest technological available tools and suitable for the most varied domestic, rural and industrial applications.

Single-Phase Motors

Standard Features

- Output: 0.12 kW to 7.5 kW
- Number of poles: 2 and 4
- Frequency: 50 Hz
- Voltage: 220 / 440 V
- Frames: 63 to 132M
- Color: RAL 5009 - blue

Versions Available

- Cast iron or aluminum enclosures
- Start and run capacitors or run capacitors

Applications

Fans, compressors, pumps, pulleys, cranes, continuous conveyors, silo unloaders, grinders and other general applications.

Features	Benefits
Performance	High starting and operating torques
Start capacitor	High starting torque for most varied severe applications
Run capacitor	Easy adaptation to for double frequency with low vibration and higher reliability
Easy installation and operation	Suitable for domestic and rural power supply conditions
Flexibility	Design adaptable for the most varied applications and needs. Several definite purpose lines are available. If further information about single-phase dedicated application motors is required, please contact WEG

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 table below:

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	≤1,800 V	≤6,500 V/µs		
575 V < rated ≤690 V	≤2,200 V	≤7,800 V/µs		

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

- *In order to protect the motor insulation system, the maximum recommended switching frequency is 5 kHz.*
- *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.*
- *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.*
- *General purpose motors of the dual voltage type, for example 380/660 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.*
- *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.*
- *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.*
- *For the application of motors for potentially explosive atmosphere with variable frequency inverters, please contact WEG.*

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