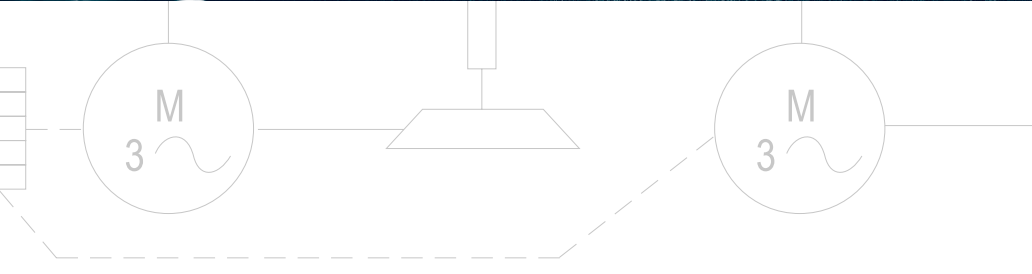


# Automation

## Drives & Controls



# LET'S START SOMETHING



## Power and Controls Products



## Variable Frequency Drives and Soft Starters



## OEM Solution Drives

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

### CFW100



#### Variable Speed Drive

- Power range: 0.18 kW, 0.25 kW and 0.75 kW (0.25, 0.50 and 1.0 hp)
- Single-phase
- Power supply voltage: 200-240 V
- Scalar (V/F) or sensorless (VVW)
- Plug-in modules: I/Os, USB, Bluetooth®, Infrared and Fieldbus communication
- SoftPLC function built-in
- HMI with 2 parameters built-in
- Ambient temperature 50 °C
- All the electronic boards are conformally coated classified as 3C2 according to IEC 60721-3-3
- Protection degree IP20
- External RFI filter (optional)
- Flash memory module: in few seconds, it is possible to download the programming from a CFW100 to others without powering them up
- SuperDrive G2 free softwares

### CFW00



#### Variable Speed Drive

- Power rating: 0.25 to 5 hp (0.18 to 3.7 kW)
- Single-phase or Three-phase supply
- Power supply: 110-127 Vac and 200-240 Vac
- Rated output voltage: 200-240 Vac three-phase
- 150% current overload capacity
- 2.5 to 15 kHz adjustable switching frequency
- V/F linear or quadratic control
- Ambient temperature: 50 °C
- EMC filters (optional)
- Compact dimensions, simplified installation and operation
- Speed adjustment via keypad - standard





# Machinery Drives

Advanced technology, developed for fast commissioning, providing great flexibility and competitive features while offering excellent performance and reliability. Designed for industrial use, it's perfect for OEM, system integrators, panel installers and End Users providing great benefits at a competitive price.

## CFW500



### Machinery Drive

- Power rating: .25 to 25 hp
- Single-phase and three-phase
- Power supply: 200-240 V, 380-480 V and 575 V
- Control modes: scalar (V/Hz) or voltage vector VVW
- LCD display with backlight and soft-keys
- SoftPLC function allows for ladder programming development
- Plug & Play accessories:
  - Communication modules for Modbus-RTU (RS232 or RS485), Profibus-DP, DeviceNet and CANopen
  - I/Os expansion modules
  - USB expansion module
  - Flash memory module





## General Purpose Drives

The CFW700 series is designed for general purpose applications covering power levels ranging from 1.5 to 180 hp.

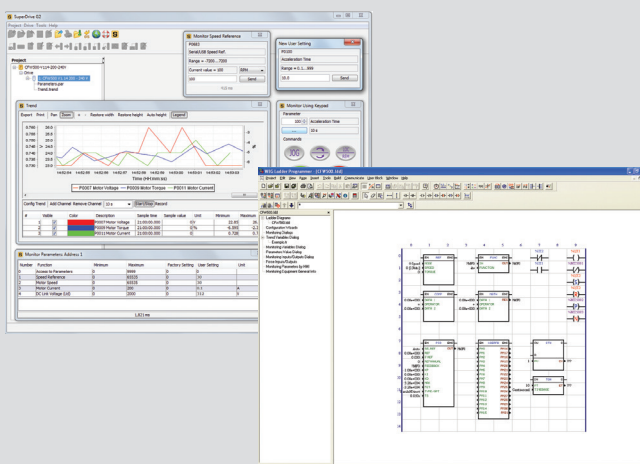
### CFW700



### General Purpose Drive

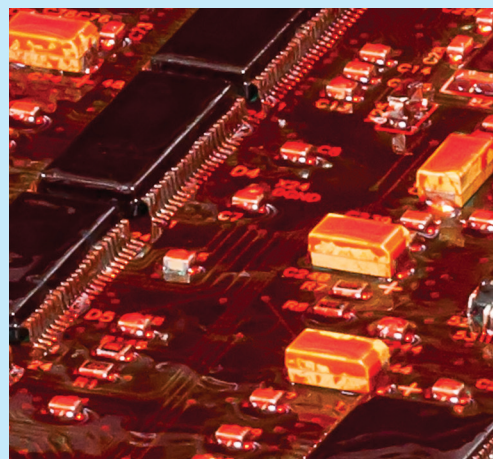
- Power rating: 0.75 to 132 kW (1.5 to 150 hp)
- Single-phase and three-phase
- Power supply: 200-240 V, 380-480 V and 500-600 V
- LCD display with backlight and soft-keys
- Plug & Play accessories
- Memory card (optional)
- Encoder interface built-in
- RS485 port available through terminals (Modbus ready)
- Communication modules Profibus-DP-01 and CANopen
- SoftPLC function allows for ladder programming development
- Smart motor and drive thermal management
- Normal and Heavy Duty ratings (ND/HD)
- DC choke built-in (no requirement for minimum power supply impedance)
- Safety stop board (EN 954-1/ ISO 13849-1 compliant)
- 24 V cd power supply board for control feeding
- There is no need to power up drive for configuration purpose
- I/O expansion module CCK-01 gives the drive 2 additional digital outputs, total of 3 relay outputs is offered with this board

### Programming, Control and Monitoring for Free



Software application of WEG for VFD, 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/editing 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



VFD lifespan is extended by a varnish with protection against dust, humidity, high temperatures and some chemicals. 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

The CFW11 Series is a System Drive designed with built in high-tech features. The VFD features Plug & Play technology and that can automatically recognize and setup accessories. The CFW11 is available in power ratings from 2 to 2500hp.

### CFW11



### Variable Speed Drive

- Power rating: 0.75 to 630 kW (1 to 900 hp)
- Power supply: 200-240 V, 380-480 V, 575 V and 690 V
- Human Machine Interface (HMI) with backlight, graphic display and soft-keys, and real time clock
- Plug & Play philosophy
- USB connection
- Memory card built-in
- Great variety of control accessories:
  - I/O expansion boards (digital and analog)
  - Incremental encoder interface and communication
- PLC board (positioning applications can be performed)
- Communication: Profibus, DeviceNet, CANopen, Ethernet / IP, Modbus-RTU (optional) and Profinet
- Intelligent thermal management
- Protections with failure and alarm warnings
- Normal Duty and Heavy Duty ratings to adapt optimally to all kinds of load
- IP20 enclosure
- IP21 (NEMA1) and IP54 (option)
- DC choke built-in (no requirement for minimum power supply impedance)



### CFW11M



### Modular Variable Speed Drive

- Power rating: 270 to 2,000 kW (350 to 2,500 hp)
- Power supply: 380-480 V, 500-600 V and 660-690 V
- Configurable rectifier unit for 6, 12, 18 pulses or even regenerative (AFE)
- Control board, Human Machine Interface (HMI) and control accessories common to entire CFW11 line
- Built-in input reactors, USB connection and memory card
- Up to 5 compact power units can be connected in parallel (easy servicing)
- Assembled the cabinet in IP41 as standard and IP42 as option 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)



## HVAC-R Solution

### CFW501 HVAC-R



### HVAC-R Variable Speed Drive

- Power rating: 0.18 to 7.5 kW (0.25 to 10 hp)
- Three-phase
- Power supply: 200-240 V and 380-480 V
- Control modes: scalar (V/Hz) or voltage vector VVW
- Normal Duty ratings (ND)
- Special electronic design - Better power factor and no requirement for minimum power supply impedance
- LCD display with backlight and soft-keys
- SoftPLC function allows for ladder programming development
- Plug & Play accessories:
  - Communication modules for Backnet, Modbus-RTU (RS232 or RS485), Profibus-DP, DeviceNet and CANopen
  - I/Os expansion modules
  - USB module
  - Flash memory module

### CFW701 HVAC-R



### HVAC-R Variable Speed Drive

- Power rating: 0.75 to 110 kW (1.5 to 150 hp)
- Single-phase and three-phase
- Power supply: 200-240 V, 380-480 V and 500-600 V
- LCD display with backlight and soft-keys
- Plug & Play accessories
- Memory card (optional)
- RS485 port available through terminals (Modbus-RTU, Metasys, BACnet, ready)
- SoftPLC function allows for ladder programming development
- Smart motor and drive thermal management
- Normal and Heavy Duty ratings (ND/HD)
- DC choke built-in (no requirement for minimum power supply impedance)
- RFI filter built-in for all frame sizes (C3 category compliant)
- 24 V cd power supply board for control feeding. There is no need to power up drive for configuration purpose
- IP20/21 and NEMA1 options
- Specific functionalities for HVAC applications:
  - Fire mode
  - Broken belt
  - Energy saving
  - Dry pump
  - Bypass
  - Engineering units available
  - 3 PID controllers



#### 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 to provide high performance in starting and stopping electric motors. The keypad offers a user-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: 220-575 V and 575-690 V
- Built-in bypass
- DSP control
- Remote keypad (optional)
- Built-in motor protections
- PID regulator
- DSP control
- Ambient temperature up to 55 °C (131 °F)

### SSW07



#### Soft-Starter

- Power ratings: 4.5 to 315 kW (6 to 450 hp)
- Voltage: 220-575 V
- Built-in bypass
- Built-in EMC filter
- SSW07 applied for heavy duty starts
- Three-phase controlled
- Integral motor and starter protections
- Programmable Kick Start function to start high break-away torque loads
- Remote HMI
- Very compact product
- It is able to operate in 55 °C without derating

### SSW06



#### Soft-Starter

- Power rating: 22 to 1,950 kW (30 to 2,650 hp)
- Power supply: 220-575 V and 575-690 V
- Built-in bypass
- Removable HMI with LED and LCD display
- Kick start function for loads with high inertia
- Pump control for intelligent pumping system control
- Full digital / 32 bits RISC microcontroller
- Electronic motor protection
- Ambient temperature up to 55 °C (131 °F)

## Assembled Solutions

The EDP11 and GPH2 are complete solutions usually available from stock. The EDP11 incorporates the CFW11 VFD mounted with its heat sink out the back of the cabinet. An incoming circuit breaker with handle through the door, control transformer, terminal blocks and start/stop operators devices complete the package. HOA and three contactor bypass are available as options. The GPH2 uses a SSW07 soft start along with a circuit breaker with handle through the door, control transformer, terminal blocks and start/stop operator devices. AC3 bypass (starting duty) and door mounted keypad are options.

### GPH2



CE EAC

### GPH2

- Soft Starter: SSW07 from 17 to 412 Amps (all models with integrated AC1 by-pass).
- Circuit Breaker with Through Door Disconnect
- Control Power Transformer
- Start/Stop Pushbuttons
- Fun/Fault Pilot Lights
- Rated for 450%
- 5 - 175HP at 230V
- 10 - 350HP at 460V
- Wall mounted enclosures for up to 125HP @ 230V
- Floor Mounted enclosure for up to 250HP @ 460V, 150 - 175HP @ 230V, 300 - 350HP @ 460V

### EDP11



EAC

### EDP11

- Power rating: 55 to 450 kW (75 to 600 hp)
- Power supply: 380-480 V
- Control board, Human Machine Interface (HMI) and control accessories common to entire CFW11 line
- Built-in DC choke
- Indoor compact cabinet, IP20/21 as standard
- High speed fuses and main switch-disconnector as standard configuration
- Easy to install and operate
- Normal Duty and Heavy Duty ratings
- Heat sink out the back
- NEMA 12 or 3R
- Optional bypass available



## 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 VFD

- 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

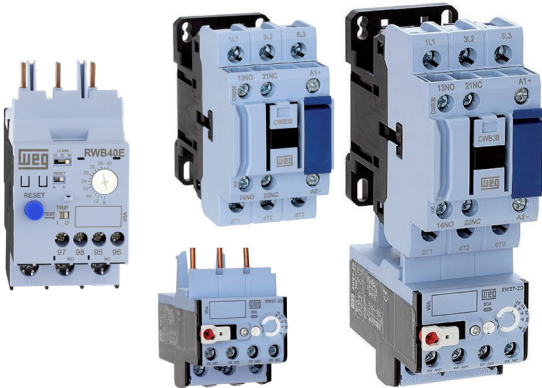
#### Main Characteristics of WEG SSW7000:

- 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



## Contactors and Overload Relays

### CWB and RW



### Contactors and Overload Relays

- Ranges 9 to 38 amps
- 45 mm wide, up to: 25 hp @ 460 V
- Built-in 1NO + 1NC auxiliary contacts
- Mechanical interlock: no additional side space
- Surge suppressor quick-and-easy tool-free front mounting
- Low consumption D.C. coils allow direct control through PLCs without the need for coupler relays
- Bi-metallic or solid state overload protection
- WEG's visual identity

### CWM and RW



### Contactors and Overload Relays

- Complete line from 40 to 800 A (AC-3)
- 3 pole
- Quick mounting on 35 mm DIN rail or screw mounting
- Coils available in AC and DC voltage
- Direct mounting on overload relays up to 105 A
- Bi-metallic or solid state overload protection
- Wide range of accessory
- Star-delta and reversing wiring kits (easy connection) allow fast mounting and reduce space in the panel
- Special contactors for capacitor switching available

### CWC0 and RW



### Compact Contactors and Overload Relays

- Compact Contactors and starters
- AC-3 operation up to 22 A
- Quick mounting on 35 mm DIN rail or screw mounting
- Built-in auxiliary contacts
- Low-consumption DC coil allowing direct connection with PLCs output
- Direct mounting on overload relays
- Fast mounting (clip on) of surge suppressors
- Miniature electronic timing with right-side fast mounting
- Front mounting and quick assembly of mechanical interlock and latch block
- Overload relays with phase failure sensitivity, according to IEC 60947-4-1 and tripping class 10

## Motor Protective Circuit-Breakers

### MPW



### Motor Protective Circuit-Breaker

- Rated currents up to 100 A
- Compact solution for electric circuit protection, motor starting/protection up to 50hp and 460 Vac
- Adjustable thermal tripping for motor overload protection with phase failure-sensitivity, according to IEC 60947-4-1, with tripping class 10
- Magnetic tripping (protection against short-circuit) fixed at  $13 \times I_n$
- High short-circuit breaking capacity
- Wide range of accessories

## Enclosed Starters

### ESW and PESW



### Enclosed Starters

- Three-phase and single-phase DOL starters up to 75hp @460Vac
- Thermoplastic and metallic enclosure
- Start/Stop and Reset or Reset only operators
- Contact factory for alternative operator configurations

## Pushbuttons and Pilot Lights

### CSW

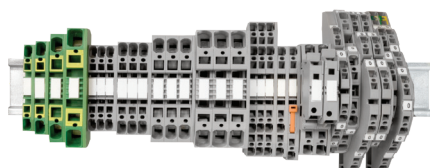


### Pushbuttons and Pilot Lights

- Pushbuttons, pilot lights, selector switches, mushroom and E-Stop pushbuttons
- Designed according to IEC/EN 60974-5-1
- Degree of protection IP66
- Pilot light blocks with integrated LED (high efficiency)
- Contacts blocks and flanges with quick and easy mounting system
- Self-cleaning contacts
- Wide range of accessories
- Control stations and emergency stop stations - PBW Line
- 30mm and 22mm versions

## Terminal Blocks

### BTW



### Terminal Blocks

- Complete line from 2.5 mm to 240 mm
- Screw or spring clamp connections
- Terminal block body in PA66 polyamide with excellent dielectric properties and high mechanical resistance
- Internal conductor element with high current conduction capacity
- Wide range of accessories

# Circuit Breakers

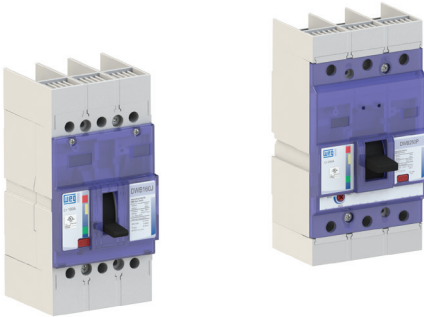
## UBW



### Molded Case Circuit-Breakers

- UL489
- 7 Frame Sizes - 15 to 2500 amps
- kA ratings of 35, 50, 65 and 100
- Rotary and flange handles 1/3R/12 and 4/4X
- Wide range of accessories
- Maintenance mode available on 1200 and 2500 frames

## DWB



### Molded Case Circuit-Breakers

- Rated currents:
  - 20 to 400 A in 4 frame size
- Short-circuit breaking capacity up to 35 kA @ 460 V
- Wide range of accessories
- Technical specifications according to UL489





## Circuit Breakers

### UMBW

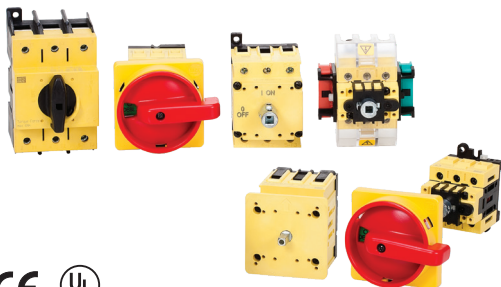


### Miniature Circuit-Breakers 10 kA

- Rated currents from 6 to 63 A
- Tripping characteristic curves B C and D
- MCB in 1, 2 and 3 poles
- UL489
- UL1077
- AC and DC Rated

## Disconnect Switches

### MSW



### Switch-Disconnectors

- Rated thermal current of 32, 40, 63, 80, 100, 125 and 160 A
- Door panel or base (DIN rail) mounting
- Rated insulation voltage of 690 V
- Wide range of accessories
- Designed according to IEC/EN 60974-3

## Electronic Relays

### RTW, ERWT, RPW, ERWM e RNW



### Electronic Timing and Monitoring Relays

- RTW timers up to 150 hours with 9 temporization functions
- RPW electronic monitoring relays for functions: phase loss, phase sequence, phase loss and sequence, undervoltage and overvoltage and temperature monitoring with PTC sensor
- RNW level relays - for filling or draining functions
- LEDs for status indication
- High reliability contacts
- Developed with high precision electronic circuit and line noise immunity
- Can be assembled on 35 mm DIN rail or with screws
- Compact, with a 22.5 mm width frame



# Power Factor Correction

## UCW



### Single-Phase Capacitive Units

- Power from 0.62 to 6.67 kvar at voltages 208 to 240 V, and from 0.62 to 10 kvar at voltages 380 to 480 V
- Capacitive units for mounting three-phase modules and banks
- Grounding guaranteed by the screw that fixes the capacitive unit to the mounting plate
- Replacement of expanded cells in modules and banks
- Fast-on, Philips and box terminals

## UCWT



### Three-Phase Capacitive Units

- Power from 0.37 to 20 kvar at voltages 208 to 240 V, and from 0.37 to 35 kvar at voltages 380 to 480 V
- Ideal for localized / individual motor correction
- Internally incorporated discharge resistors
- Protecting cover for connections
- Philips and box terminals
- Grounding guaranteed by the screw that fixes the capacitive unit to the mounting plate

## MCW



### Three-Phase Capacitor Module

- Power from 1.85 to 10 kvar at voltages 208 to 240 V, and from 1.85 to 15 kvar at voltages 380 to 480 V
- Power up to 60 kvar with 4 modules in parallel
- Internally incorporated discharge resistors
- Single-phase capacitive units connected in delta
- Equipped with discharge resistors (30s, 1/10 Un)

## CWMC



### Contactors for Switching Capacitors

- Available for switching capacitor banks up to 77 kvar at 480 V
- Mounting with screws or directly on 35-mm DIN rail
- Developed with pre-charge resistances to reduce high in-rush currents



WEG Electric Corp. offers the following products, and more! With a full range of IEC/NEMA Global Certifications and a full line of products, WEG can supply the right solution for your needs anywhere in the world. To learn more about WEG's products and solutions or to locate a Distributor near you, please call **1-800-ASK-4WEG** or visit **www.weg.net/us**.

**Low Voltage Motors, Single and 3-Phase, 1/8 – 700HP**

- General Purpose Motors
- Explosion Proof Motors
- Crusher Duty Motors
- IEC Tru-Metric Motors
- Pump Motors including JP/JM
- P-Base Pump Motors
- Oil Well Pumping Motors
- Pool & Spa Motors
- Brake Motors
- Compressor Duty Motors
- Farm Duty Motors
- Poultry Fan Motors
- Auger Drive Motors
- IEEE 841 Motors
- Stainless Steel Wash Down Motors
- Saw Arbor Motors
- Cooling Tower Motors
- Commercial HVAC Motors
- Pad Mounted Motors
- Vector Duty Motors

**Large Electric Motors**

- Low Voltage 3-phase motors up to 2,500HP
- Induction Motors up to 70,000HP and 13,200V
- Wound Rotor Systems (including starters) up to 70,000HP and 13,200V
- Synchronous Motors up to 200,000HP and 13,200V
- Explosion proof motors (Ex-d) up to 1,500kW and 11kV
- Ex-n, Ex-e, Ex-p motors

**Variable Frequency Drives**

- Low Voltage 1/4 to 2500HP, 230V – 480V
- Medium Voltage 500-10,000HP
- Multi-pump systems
- NEMA 4X
- Dynamic braking resistors
- Line and load reactors
- Plug and play technology
- Network communications: Profibus-DP, DeviceNet, Modbus-RTU
- PLC functions integrated
- Complete line of options and accessories

**Soft Starters**

- 3-1500HP
- Oriented start-up
- Built-in bypass contactor
- Universal source voltage (230-575V, 50/60Hz)
- Network communications: Profibus-DP, DeviceNet, Modbus-RTU
- Complete Line of options and accessories
- MV Soft-starter 3.3kV, 4.16kV: up to 3500HP, Withdrawable Power Stacks, & 8x PT100 Temperature monitoring

**Controls**

- Mini – Contactors
- IEC Contactors
- Thermal Overload Relays
- Manual Motor Protectors
- Molded Case Circuit Breakers
- Smart Relays
- Enclosed Starters: combination & non-combination
- Pushbuttons & Pilot Lights
- Timing & Motor Protection Relays
- Terminal Blocks

**Custom Panels**

- Custom configured to your specification.
- NEMA 1, 12, 3R, 4 and 4X cabinets
- Quick delivery of preconfigured drives and soft starters
- UL 508 certified
- Low Voltage (230-460)
- Made in the U.S.A.

**Generators**

- Brushless Synchronous Generators for diesel gen-sets up to 4,200kVA
- Hydro-generators up to 25,000kVA
- Turbo-generators up to 175,000kVA

**Power Transformers**

- Built and engineered in North America
- Voltages < 345kV
- Ratings 5-250MVA
- Station class, oil filled, round core, copper windings
- Special configurations and designs available!
- Ask your WEG Sales Representative for details.
- Designed, built, and engineered to ANSI standards.

**Custom Solution Package Sales**

- WEG can package any of its products for ease of sale! Enjoy a single point of contact for the entire package of products and assistance from quote through after-sales support. Ask your WEG Sales Representative for details.

US.MSW.DS | Rev. 01 | Date 5/2018  
The values shown are subject to change without prior notice.



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