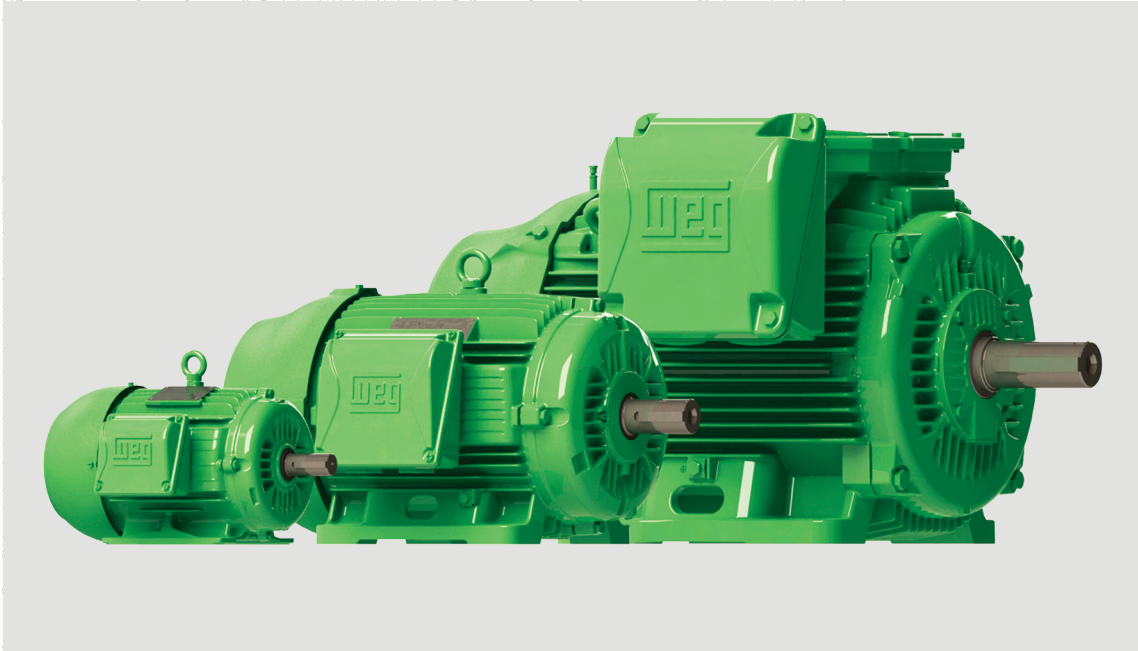
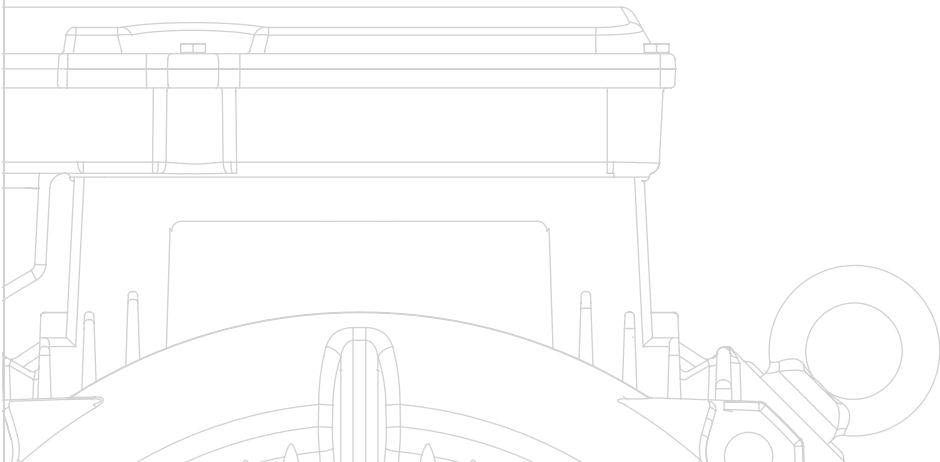


# Super Premium Efficiency

- Highest Efficiency
- Powerful
- Reliable
- Flexible

## Motors



# Super Premium Efficiency

## Motors

The revolutionary new W22 platform developed by WEG has allowed us to manufacture motors that run cooler and with higher efficiency levels. A result of these efforts is the launching of the Super Premium Efficiency line.

These motors have efficiency levels that exceed the NEMA Premium® efficiency levels and have a very low temperature rise, extending their useful life dramatically and allowing a service factor of 1.25 for all ratings up to 250 HP.

## Super Premium Motors can help you save money!

Saving money that you do not need to be spending is not only a wise idea but it also is a “green” idea to support the conservation of our environment.

You can learn more about ways to calculate your energy savings at

[www.weg.net/green](http://www.weg.net/green)

## Super Premium Efficiency

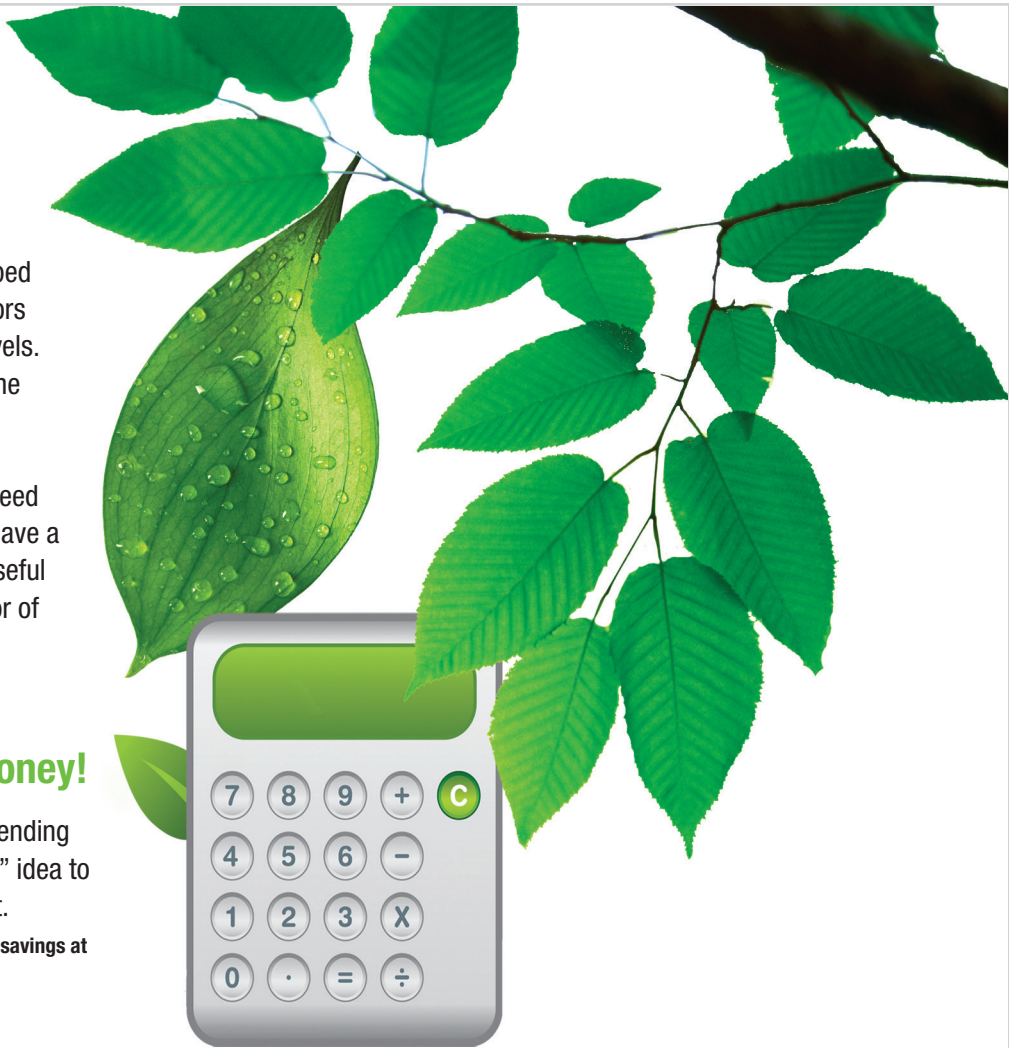
- Super Premium efficiency levels exceeding NEMA Premium levels with at least 20% fewer losses
- 1.25 service factor for all ratings
- Optimized cooling system and design for much cooler operation and extended useful life.

## Learn HOW YOU can save even more money by installing a Variable Frequency Drive

Typically applications do not run at full load all the time. Installing a VFD can help you save money by controlling the speed of your process and adjusting it to the specific load at any time. This is specifically true for variable torque applications like pumps and fans. You can calculate your savings when installing a VFD for pump and fan applications with our downloadable [Energy Savings Calculator for VFDs](#) (to calculate savings for multiple motors), or use our [online calculator](#) (to calculate savings for a single motor)

## Learn HOW YOU can save money by replacing one, a few, or all the motors in your facility with HIGHER efficiency products

Motors usually run for thousands of hours every year. Considering this, any gain in efficiency by replacing motors with higher efficiency versions, will translate into considerable savings which would pay for the investment in a few years and in some cases even months. You can calculate your energy savings, return of investment, reduction of CO2 emissions, and create reports and calculations for all the motors in your facility in one click using our [WEG Payback Tool for Electric Motors](#), also you can download this [calculator as Blackberry App](#) or if you prefer you can make a quick calculation for just one motor using our [Online Efficiency Calculator](#).



## Reliable and Efficient

The WEG Super Premium efficient AC motor raises the bar for customers who demand the best available efficiency. With 20% fewer losses than NEMA Premium® ratings, significant savings are possible when applied where power costs and/or operating hours are high. Additional benefits such as very high overload and expanded 50Hz rerate capabilities increase the value of the product beyond efficiency. The designs are based on the new W22 motor platform for outstanding reliability. Combine the Super Premium motor with an Electronic Soft Starter for additional system benefits and equipment reliability



**You can learn more about ways to calculate your energy savings at [www.weg.net/green](http://www.weg.net/green)**

### Key Characteristics of Super Premium motors

- Two efficiency bands over NEMA Premium® Motors
- High Torques ( 40 - 50% > High Eff. Exceed design C) – Great for hard to start or high overload applications
- 1.25 Service Factor through 250HP
- Very Low Noise
- Class I and Class II Division 2
- VFD rated as standard
- 50Hz without derating up to 447/9T and meet IE3 efficiencies @ 400V

### Why Use a Soft Starter?

- Reduce/limit motor starting torque
- Reduce mechanical stress on mechanics (belt wear, gear and bearing failures, pump impeller wear, water valve and pipe repair)
- Reduce/limit motor inrush current
- Reduce electrical stress on transformers, power lines, etc.
- No moving parts to break
- Provides a smooth/stepless ramping of the motor speed
- Reduction of shock and wear in mechanical components
- Gradually stop a load (avoid water hammer in pipe lines)
- All Silicon C4 coated lamination steel 254T and larger for reliability and repairability – withstands burnout temperatures of 500C(935F) without loss if insulating properties. This allows the motor to be rewound back to the original efficiency.
- Very cool operation for long insulation and bearing life
- **Design A (Locked Rotor Amps 15-25% over Design B limits) – review Starter/Protection sizing or use VFD or Soft start.**
- Productivity and uptime can be greatly increased by reducing the costs associated with maintenance, downtime and parts replacement.
- Monitoring motor parameters
- Current, kW, kVA, Power Factor
- Enhanced motor protection
- Overload, phase loss, locked rotor
- Load protection
- Phase sequence, instantaneous over current, under load
- Interfacing with process automation / PLC
- DC injection braking (requires external contactor)





## Benefits of the W22

Efficiency and reliability for industry

High performance with maximum energy efficiency is the goal of the new WEG electric motor. High efficiency and Low cost of Ownership throughout the entire motor lifetime have been the basis for the W22 development. A design created to maximize performance and energy savings.

### Lower total operational costs

A product that can operate most of its designed lifetime consuming the minimum possible energy, with high levels of reliability, generating the maximum value to the user – this is what is behind W22 new design.

### Inverter Duty applications

The exclusive WISE insulation system used on the W22 increases winding dielectric resistance, thus allowing VFD operation up to 575V without requiring further modification, resulting in flexibility and extended motor lifetime.

\* Voltages above 575 V, please contact our nearest sales office.

### Built to last

W22 motors are built using high quality FC-200 cast iron from WEG's own foundries, assuring maximum durability and high performance in aggressive conditions. The new fan cover design provides great impact resistance. Additionally the endshields have been designed for a better bearing heat dissipation and structural rigidity. Protected by our WEG coatings high performance paint system capable of passing a 240hr ASTM 117B salt fog chamber test.

### Range extensions for the future

Available as both NEMA and IEC standards. The W22 line, offering high efficiency and low lifetime costs, will be the basis for further WEG developments.

### Energy saving

Costs of energy correspond to approximately 90% of total operational costs throughout a motors lifetime. Acquisition, installation and maintenance cost are the other 10%. W22 new industrial motor platform is available with NEMA Premium® and Super Premium efficiencies, guaranteeing energy savings and reduced payback time.



**NEMA 143T-587 and IEC 100-355M/L**

#### W22, a new concept:

- Excellent cost benefit ratio
- Optimization of energy resources
- Updated electrical features
- Noise level reduction
- Vibration level reduction
- Easier maintenance



## Benefits of the W22

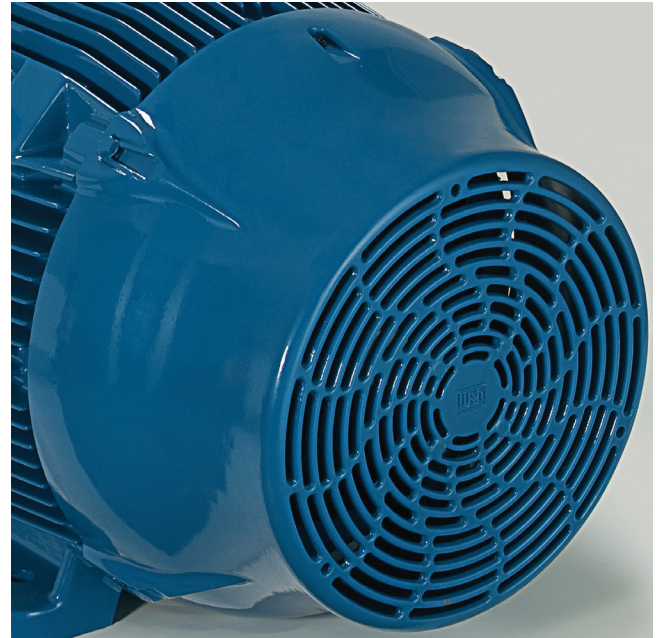
### Design Details

#### New cooling system

Redesigned to provide improved air flow through all motor frames keeping low operational temperatures and assuring reliability and extended lifetime. The aerodynamic design of the fan cover increases effective airflow, thus minimizing losses due to the recirculation of air between fan and fan cover. The fan was designed to provide strength and reduced noise level. Motor terminal box and eyebolts were repositioned on larger frames to allow better airflow.

The new W22 cooling system also contributes to:

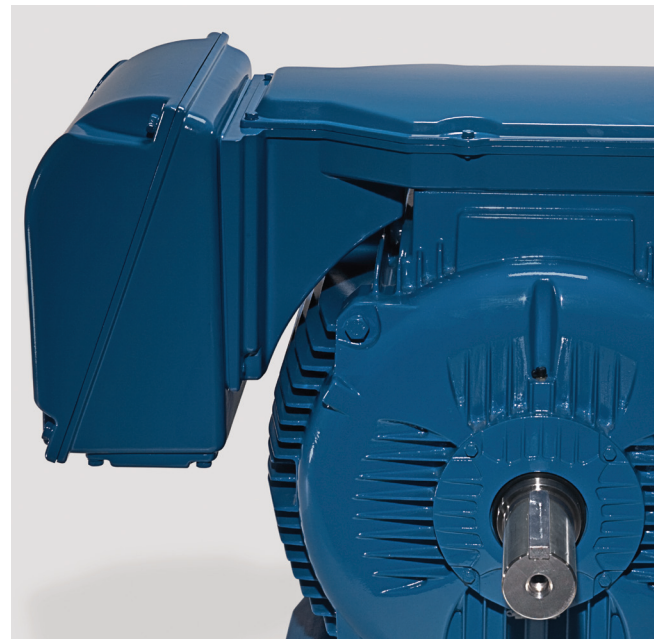
- Cooler bearing temperature extending relubrication intervals.
- Lower Noise Level fulfilling the most demanding Health & Safety regulations.
- Lower Overall Operational Temperature resulting in longer life.



#### Terminal box

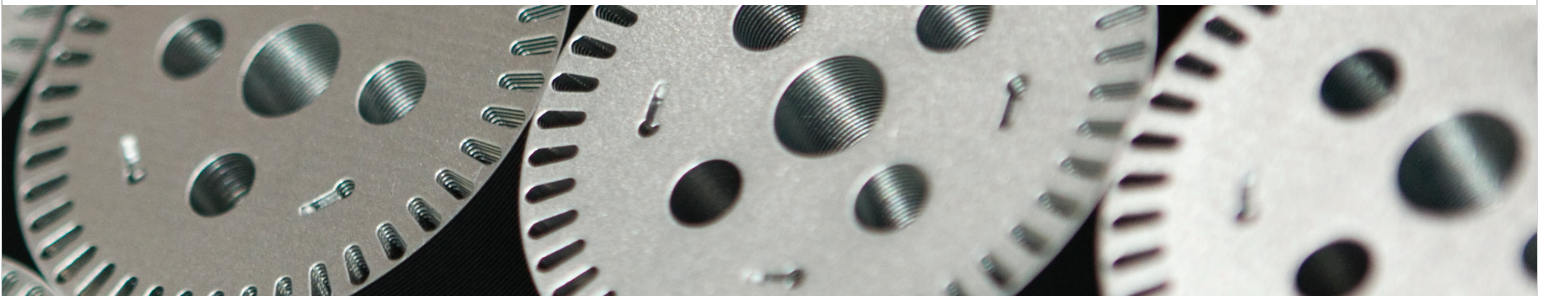
Increased internal space making connections more accessible to the user resulting in an easier cable handling and connection.

Terminal box can be mounted on top, left or right side of the motor using the same frame on the 447T and larger motors. Top mounting is optional on smaller frames.



#### Endless Possibilities

WEG Super Premium W22 motors are available with a variety of modifications to match the customers need. Flange mounting, space heaters, thermal devices etc are all available, through stock mods or special builds.







# Super Premium Efficiency Motors and Matched Controls



Select appropriate control to match motor performance

Sound Pressure dB(A)@ 1 Meter	SF	Motor	VFD	Soft Start	Across the line Starter		
					NO DISCONNECT METALLIC - NEMA 1	NO DISCONNECT NON METALLIC - NEMA 4X	MCCB DISCONNECT METALLIC - NEMA 4
					68	1.25	00136EG3E143T-W22
51	1.25	00118EG3EL143T-W22	CFW080016TGN1A1Z	-	ESW-9V47A-R24	PESW-9V47AX-R24	ESWC-25V47N4-R24
68	1.25	00156EG3E143T-W22	CFW080026TGN1A1Z	-	ESW-9V47A-R25	PESW-9V47AX-R25	ESWC-25V47N4-R25
51	1.25	00158EG3EL145T-W22	CFW080026TGN1A1Z	-	ESW-9V47A-R25	PESW-9V47AX-R25	ESWC-25V47N4-R25
68	1.25	00236EG3E145T-W22	CFW080026TGN1A1Z	-	ESW-9V47A-R26	PESW-9V47AX-R26	ESWC-25V47N4-R26
51	1.25	00218EG3EL145T-W22	CFW080026TGN1A1Z	-	ESW-9V47A-R26	PESW-9V47AX-R26	ESWC-25V47N4-R26
69	1.25	00336EG3E182T-W22	CFW080040TGN1A1Z	-	ESW-9V47A-R27	PESW-9V47AX-R27	ESWC-25V47N4-R27
56	1.25	00318EG3EL182T-W22	CFW080040TGN1A1Z	-	ESW-9V47A-R27	PESW-9V47AX-R27	ESWC-25V47N4-R27
55	1.25	00312EG3EL213T-W22	CFW080043TGN1A1Z	-	ESW-9V47A-R27	PESW-9V47AX-R27	ESWC-25V47N4-R27
69	1.25	00536EG3E184T-W22	CFW080065TGN1A1Z	-	ESW-9V47A-R28	PESW-9V47AX-R28	ESWC-25V47N4-R28
56	1.25	00518EG3EL184T-W22	CFW080065TGN1A1Z	-	ESW-9V47A-R28	PESW-9V47AX-R28	ESWC-25V47N4-R28
55	1.25	00512EG3EL215T-W22	CFW080100TGN1A1Z	-	ESW-9V47A-R28	PESW-9V47AX-R28	ESWC-25V47N4-R28
72	1.25	00736EG3E213T-W22	CFW080100TGN1A1Z	-	ESW-12V47A-R30	PESW-12V47AX-R30	ESWC-25V47N4-R30
58	1.25	00718EG3EL213T-W22	CFW080100TGN1A1Z	-	ESW-12V47A-R30	PESW-12V47AX-R30	ESWC-25V47N4-R30
59	1.25	00712EG3E254T-W22	CFW080100TGN1A1Z	-	ESW-12V47A-R30	PESW-12V47AX-R30	ESWC-25V47N4-R30
72	1.25	01036EG3E215T-W22	CFW080130TGN1A1Z	SSW070017T5SZ	ESW-18V47A-R32	PESW-18V47AX-R32	ESWC-25V47N4-R32
58	1.25	01018EG3EL215T-W22	CFW080130TGN1A1Z	SSW070017T5SZ	ESW-18V47A-R32	PESW-18V47AX-R32	ESWC-25V47N4-R32
59	1.25	01012EG3E256T-W22	CFW080130TGN1A1Z	SSW070017T5SZ	ESW-18V47A-R32	PESW-18V47AX-R32	ESWC-25V47N4-R32
72	1.25	01536EG3E254T-W22	CFW080240TGN1A1Z	SSW070024T5SZ	ESW-25V47A-R33	PESW-25V47AX-R33	ESWC-25V47N4-R33
64	1.25	01518EG3E254T-W22	CFW080240TGN1A1Z	SSW070024T5SZ	ESW-25V47A-R33	PESW-25V47AX-R33	ESWC-25V47N4-R33
59	1.25	01512EG3E284T-W22	CFW080240TGN1A1Z	SSW070024T5SZ	ESW-25V47A-R33	PESW-25V47AX-R33	ESWC-25V47N4-R33
72	1.25	02036EG3E256T-W22	CFW080240TGN1A1Z	SSW070024T5SZ	ESW-32V47A-R34	PESW-32V47AX-R34	ESWC-40V47N4-R34
64	1.25	02018EG3E256T-W22	CFW080240TGN1A1Z	SSW070030T5SZ	ESW-32V47A-R34	PESW-32V47AX-R34	ESWC-40V47N4-R34
59	1.25	02012EG3E286T-W22	CFW080240TGN1A1Z	SSW070030T5SZ	ESW-32V47A-R34	PESW-32V47AX-R34	ESWC-40V47N4-R34
72	1.25	02536EG3E284TS-W22	CFW080300TGN1A1Z	SSW070030T5SZ	ESW-40V47A-R35	PESW-40V47AX-R35	ESWC-40V47N4-R35
64	1.25	02518EG3E284T-W22	CFW080300TGN1A1Z	SSW070045T5SZ	ESW-40V47A-R35	PESW-40V47AX-R35	ESWC-40V47N4-R35
62	1.25	02512EG3E324T-W22	CFW110031T40N1Z	SSW070045T5SZ	ESW-40V47A-R35	PESW-40V47AX-R35	ESWC-40V47N4-R35
72	1.25	03036EG3E286TS-W22	CFW110038T40N1Z	SSW070045T5SZ	ESW-40V47A-R35	PESW-40V47AX-R35	ESWC-40V47N4-R35
64	1.25	03018EG3E286T-W22	CFW110038T40N1Z	SSW070045T5SZ	ESW-40V47A-R35	PESW-40V47AX-R35	ESWC-40V47N4-R35
62	1.25	03012EG3E326T-W22	CFW110038T40N1Z	SSW070045T5SZ	ESW-40V47A-R35	PESW-40V47AX-R35	ESWC-40V47N4-R35
75	1.25	04036EG3E324TS-W22	CFW110058T40N1Z	SSW070061T5SZ	ESW-65V47A-R39	PESW-65V47AX-R39	ESWC-65V47N4-R39
65	1.25	04018EG3E324T-W22	CFW110058T40N1Z	SSW070061T5SZ	ESW-65V47A-R39	PESW-65V47AX-R39	ESWC-65V47N4-R39
64	1.25	04012EG3E364T-W22	CFW110058T40N1Z	SSW070061T5SZ	ESW-65V47A-R39	PESW-65V47AX-R39	ESWC-65V47N4-R39
75	1.25	05036EG3E326TS-W22	CFW110070T40N1Z	SSW070061T5SZ	ESW-80V47A-R41	PESW-80V47AX-R41	ESWC-65V47N4-R41
65	1.25	05018EG3E326T-W22	CFW110070T40N1Z	SSW070061T5SZ	ESW-80V47A-R41	PESW-80V47AX-R41	ESWC-65V47N4-R41
64	1.25	05012EG3E365T-W22	CFW110070T40N1Z	SSW070061T5SZ	ESW-80V47A-R41	PESW-80V47AX-R41	ESWC-65V47N4-R41
78	1.25	06036EG3E364TS-W22	CFW110070T40N1Z	SSW070085T5SZ	ESW-95V47A-R43	PESW-95V47AX-R43	ESWC-105V47N4-R43
70	1.25	06018EG3E364T-W22	CFW110070T40N1Z	SSW070085T5SZ	ESW-95V47A-R43	PESW-95V47AX-R43	ESWC-105V47N4-R43
64	1.25	06012EG3E404T-W22	CFW110088T40N1Z	SSW070085T5SZ	ESW-95V47A-R43	PESW-95V47AX-R43	ESWC-105V47N4-R43
78	1.25	07536EG3E365TS-W22	CFW110088T40N1Z	SSW070085T5SZ	ESW-105V47A-R44	PESW-105V47AX-R44	ESWC-105V47N4-R44
70	1.25	07518EG3E365T-W22	CFW110088T40N1Z	SSW070130T5SZ	ESW-105V47A-R44	PESW-105V47AX-R44	ESWC-105V47N4-R44
64	1.25	07512EG3E405T-W22	CFW110105T40N1Z	SSW070130T5SZ	ESW-105V47A-R44	PESW-105V47AX-R44	ESWC-105V47N4-R44
78	1.25	10036EG3E405TS-W22	CFW110142T40N1Z	SSW070130T5SZ	-	-	ESWC-150V47N4-R48
70	1.25	10018EG3E405T-W22	CFW110142T40N1Z	SSW070130T5SZ	-	-	ESWC-150V47N4-R48
69	1.25	10012EG3E444T-W22	CFW110142T40N1Z	SSW070130T5SZ	-	-	ESWC-150V47N4-R48
79	1.25	12536EG3G444TS-W22	CFW110142T40N1Z	SSW070171T5SZ	-	-	ESWC-150V47N4-R49
72	1.25	12518EG3G444T-W22	CFW110180T40N1Z	SSW070171T5SZ	-	-	ESWC-150V47N4-R49
69	1.25	12512EG3G445T-W22	CFW110180T40N1Z	SSW070171T5SZ	-	-	ESWC-150V47N4-R49
79	1.25	15036EG3G445TS-W22	CFW110180T40N1Z	SSW070171T5SZ	-	-	ESWC-180V47N4-R49
72	1.25	15018EG3G445T-W22	CFW110180T40N1Z	SSW070200T5SZ	-	-	ESWC-180V47N4-R49
69	1.25	15012EG3G447T-W22	CFW110211T4SZ	SSW070200T5SZ	-	-	ESWC-300V47N4-R50
81	1.25	20036EG3G447TS-W22	CFW110242T4SZ	SSW070255T5SZ	-	-	ESWC-300V47N4-R50
75	1.25	20018EG3G449T-W22	CFW110242T4SZ	SSW070255T5SZ	-	-	ESWC-300V47N4-R50
69	1.25	20012EG3G449T-W22	CFW110242T4SZ	SSW070255T5SZ	-	-	ESWC-180V47N4-R50
81	1.25	25036EG3G447TS-W22	CFW110312T4SZ	SSW070312T5SZ	-	-	ESWC-300V47N4-R51
75	1.25	25018EG3G449T-W22	CFW110312T4SZ	SSW070312T5SZ	-	-	ESWC-300V47N4-R51





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**.

**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
- Motors up to 70,000HP and 13,200V
- Wound Rotor Systems (including starters) up to 70,000HP and 13,200V
- Synchronous Motors up to 70,000HP 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 500-8000HP
- 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)

**Generators**

- Brushless Synchronous Generators for diesel gen-sets up to 4,200kVA
- Hydro-generators up to 25,000kVA Turbo-generators up to 62,500kVA

**Power Transformers**

- Built and engineered in North America
- Voltages < 500kV
- Ratings 5-300MVA
- 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.



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