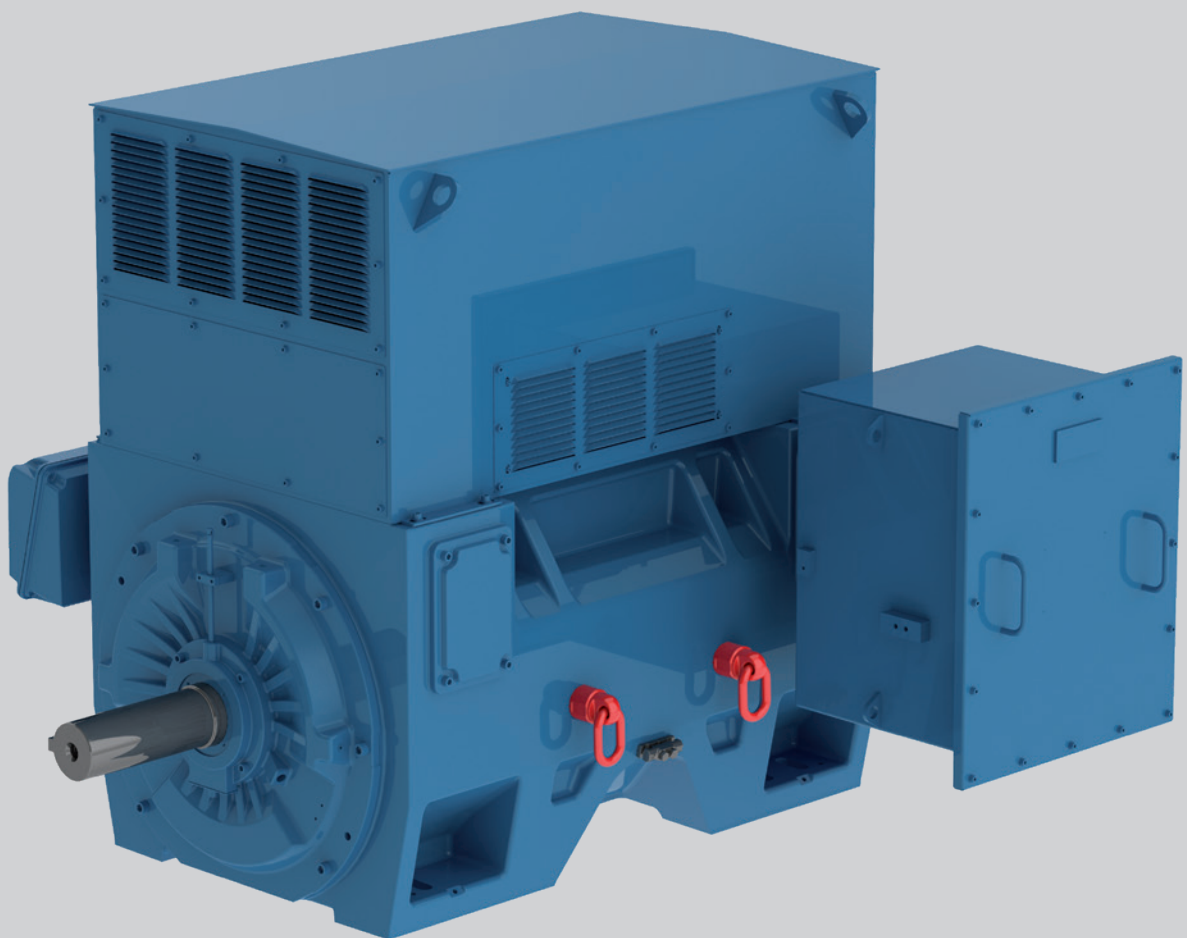


W60

Three-Phase Induction Motor
Technical Catalog
NEMA Market



Motors | Automation | Energy | Transmission & Distribution | Coatings

WEG **W60** INDUCTION MOTOR line is designed for industrial applications such as compressors, pumps, fans and others, ensuring high performance and reliability even under the most severe operating conditions.



FLEXIBILITY IS THE KEY

W60 motors are available on three different configurations allowing it to be designed as an open, self-ventilated (WP-II) motor, or an enclosed, air-air cooled (TEAAC) or air-water cooled (TEWAC) motor.



COMPACT DESIGN

With its compact design, lightweight components, reduced dimensions and footprint that saves valuable space on the skid or base where the motor is installed, the W60 is the most compact modular motor in the market.



SEVERE DUTY IS STANDARD FOR W60

A rugged motor made with high quality cast iron frame and end shields fitted with antifriction bearings up to 7,000 HP, NEMA 88 frame guarantees the lowest vibration and noise levels. On larger frames, the same results is achieved by means of a dedicated steel fabricated frame, associated with carefully selected sleeve bearings.



OUTSTANDING IN THE MARKET

WEG engineers have developed a unique product that combines the latest technology of high quality rotor and stator lamination, low losses fans and optimized heat exchanger, increasing considerably the power density rate (output per weight). This combination makes the W60 your best choice for an energy efficient motor.



RELIABILITY WHERE YOU NEED IT

Designed to operate continuously without interruption, the W60 was conceived with unique characteristics: easy to build, easy to assemble, easy to install.



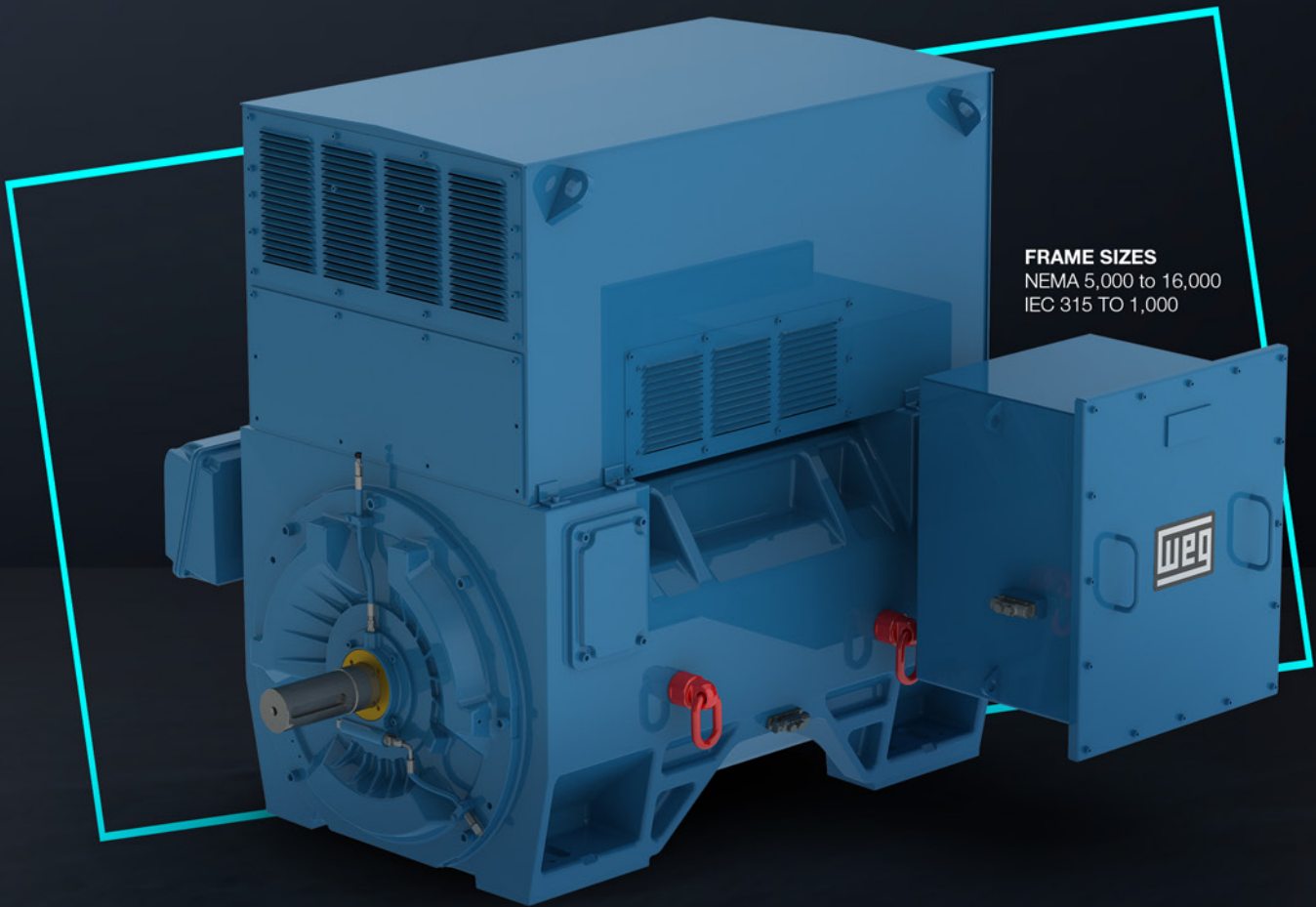
VFD FRIENDLY

The W60 adapts easily to any medium voltage VFD in the market. Suitable to operate with no speed limitation up to rated speed by standard design. An optimized insulation is available when combined with WEG medium voltage variable frequency drive.

W60

INDUCTION
MOTOR

COMPACT
— in size —
GIANT
in performance



FRAME SIZES
NEMA 5,000 to 16,000
IEC 315 TO 1,000

HIGH ENERGY EFFICIENCY LEVELS

- Optimized mounting design
- Low vibration levels
- Compact design
- Optimized air flow
- Low noise levels



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1. GENERAL FEATURES

1.1. Standards

The W60 motors meet the requirements and regulations of the current versions of the following standards:

NEMA MG 1 - Motors and Generators
UL 1004-1 - Rotating Electrical Machines - General Requirements
CSA C 22.2 N° 100 - Motors and Generators

1.2. Standard Features

- Rated output: 250 up to 21,250 HP
- Number of poles: 2 up to 12
- Frame sizes: NEMA 5010/11 up to 160
- Voltage: 380 up to 13,800 V
- Frequency: 60 Hz
- Mounting: Horizontal
- Cooling method: WP11, TEAAC, TEWAC
- Degree of protection: IP24W up to IP55
- Starting: DOL or VFD
- RTD Pt-100, two per phase
- RTD Pt-100, one per bearing
- Space heater

1.3 Certification

- Safe Area Certification:
cCSAus / cULus



2. W60 MOTORS (FRAMES 50 TO 68)

The information included in this document refers to standard construction features and the most common variations for W60 motors in low and medium voltage for general applications in frame sizes 5010/11, 5810/11, L5810/11 and 6810/11.

W60 motors for special and/or customized applications are available on request.

For more information, please contact your WEG office or distributor.

2.1. Construction Details

2.1.1 Frame

The W60 frame (Figure 1) is manufactured in FC-200 cast iron to withstand high mechanical impacts and have high mechanical rigidity although to minimize vibrations even from the external environment. The frame was designed to have flexibility to meeting different cooling systems, open or closed.

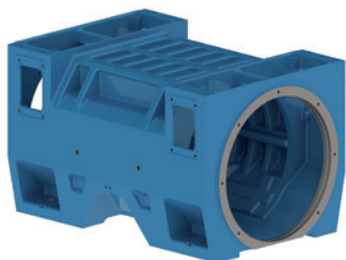


Figure 1 - Frame of the W60 motor.

As optional, the frame can be supplied with a guide pin and levelling screws to facilitate the installation and maintenance.

2.1.2 Eyebolts

To enable lifting, the W60 motors have four points for fixing suspension eyebolts. During lifting, all supplied eyebolts should be used simultaneously, as shown in Figure 2.

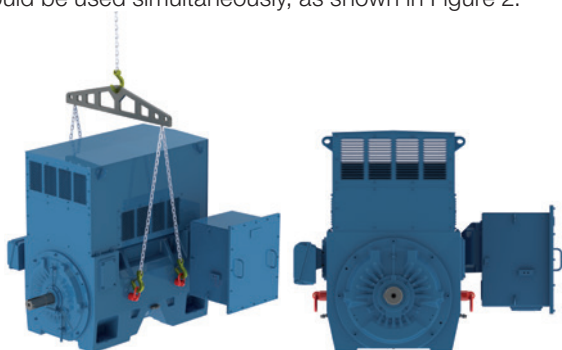


Figure 2 - Lifting with parallel chains

It is recommended to use a spreader bar to keep the lifting element (chain or cable) on the vertical axis and prevent damage to the motor surface.

2.1.3 Grounding Terminals

Grounding terminals are responsible to equalize electrical potential and provide greater safety for operators. The W60 motors are fitted with grounding terminals on the frame (see Figure 3) and inside the main terminal box. These terminals can be positioned on the right or left side of the frame and have cross-section from 25 to 185 mm².



Figure 3 - Detail of the standard grounding terminal for the main terminal box and frame.

For connecting boxes that require the connection of ground cables with different gauges, under request, special terminals can be provided.

2.1.4 Grounding Brush

The motors can also be supplied with a grounding brush on the drive end as an optional item. For operation with variable frequency inverter, W60 motors are always fitted with shaft grounding brush at motor drive end (see Figure 4) and insulated non-drive end bearing to avoid current flow along the motor shaft, across the bearing and return to the frame thus preventing premature bearing wear and failure due to electric currents flowing through them.

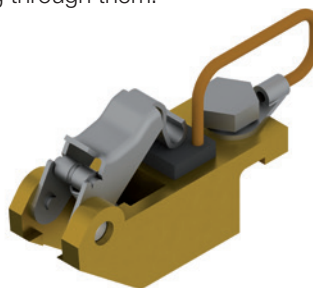


Figure 4 - Shaft grounding brush for bearing.

The motors can optionally be supplied with an AEGIS shaft grounding ring (see Figure 5) installed on the inner bearing cap. A version designed for external use can be supplied on request.



Figure 5 - AEGIS grounding ring.

Note:

The incorrect specification and/or inadequate use of the grounding devices can cause serious damage to the machine and people involved in the operation of the motor. Before powering up the motor, ensure that it is properly grounded and that all grounding components are in perfect operating conditions.

2.1.5 Terminal Box

The W60 line has specific terminal boxes for motor power cables and accessory cable connections.

2.1.5.1 Main Terminal Box

It can be manufactured in steel plate as standard, and in cast iron FC-200 as optional. Due to its mounting it can be rotated in steps of 90°.

The terminal box is provided with a pressure relief device that ensures component integrity and user safety in case of short circuit.

Note:

In case of activation of the pressure relief device, please contact WEG authorized servicing center. For safety reasons, this device must never be reassembled and never operate the motor without this safety device installed.

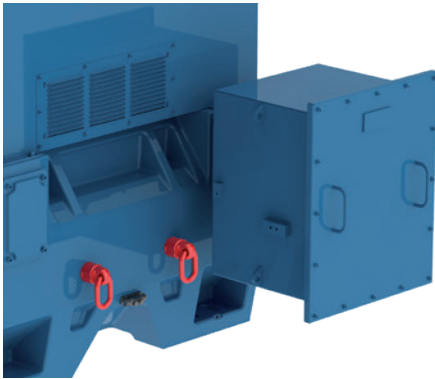


Figure 6 - Main terminal box

On request, W60 motors can also be supplied with an additional terminal box mounted on the opposite side of the main terminal box to enclosure the star point.

For motors supplied with insulation and connecting bar, necessarily use a connection box made of welded steel. Adequate cable glands should always be used to prevent moisture or debris from entering the terminal box and motor. W60 motors can be supplied with a surge arrester per phase and/or a surge capacitor per phase assembled in main terminal box (see Section 2.10. Special accessories).

2.1.5.2 Accessory Terminal Box

The W60 motors have a specific terminal box for connecting accessories. The accessories terminal box is generally used for connecting the temperature sensors of the windings and bearings and the space heaters. The number of accessories terminal boxes in the motor can change according to the number of accessories and customer needs. This box is also manufactured in cast iron FC-200 and comprises two compartments (see Figure 7).

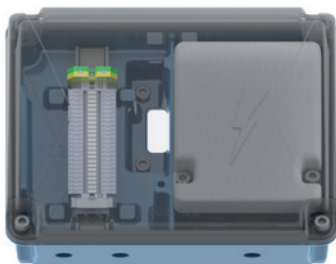


Figure 7 - Accessories terminal box.

2.1.6 Power Supply Connection Leads

W60 motors are supplied with three connection cables. Under request, can be supplied with screws or terminal block (Figure 8), which facilitates their installation.

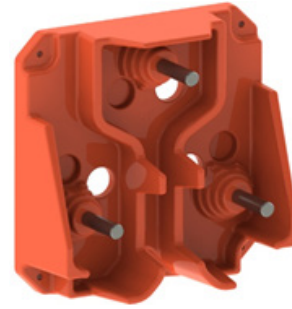


Figure 8 - Terminal block for W60 motors with three connection points

2.1.7 Stator Winding

The stator windings of the W60 motors, regardless of voltage, are supplied with Class F insulation system and Class B temperature rise (80 K).

Optionally, the motors can be supplied with Class H insulation system and Class B temperature rise (80 K). Other insulation system combinations can be supplied on request. To monitor the motor heating, the windings are fitted with two sets of Pt-100 and with a set of space heaters in order to prevent water condensation inside the motor.

Since the lifetime of the motor is influenced by the temperature at which it operates, thus it is important to constantly monitor the winding temperature.

Note:

The space heaters must always be switched on when the motor is out of service for long periods and switched off when the motor is running, thereby preventing the deterioration of motor components and possible overheating.

The W60 High Voltage motors insulation systems are designed with mica tape layers and impregnated with epoxy resin through VPI (Vacuum Pressure Impregnation) process and carefully manufactured and tested at factory thus ensuring a end product with high levels of reliability, preventing contamination of the impregnation varnish and ensuring void-free impregnation of windings.

For motors that operate with a non sine wave frequency inverter, insulation systems are reinforced to prevent accelerated aging of insulation (available on request).

2.1.8 Endshields

To improve heat dissipation and ensure lower operating temperatures on the bearing, the DE endshield is provided with fins uniformly distributed to ensure higher heat exchange efficiency of the bearings and motor. The endshields are manufactured in cast iron FC-200 and fastened with 8 bolts to ensure maximum rigidity (see Figure 9).

As standard, W60 motors with bearings have the NDE bearing insulated and the DE bearing can receive a grounding brush, which prevents electric current flowing from the rotor to the motor endshield through the bearing, preventing premature wear of the bearings by electric discharges.

Motors with sliding bearings are not insulated in the endshields, and this is done directly on the bearings. To facilitate on-site balancing, the endshields of these motors have windows at the top. For rolling bearings this option is available upon request. These characteristics make it possible to use the W60 motors with frequency inverters without damaging the bearing life.

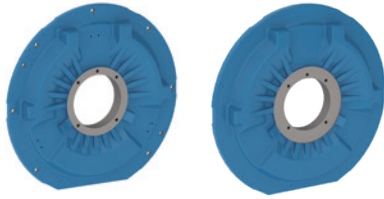


Figure 9 - DE endshield (left) and NDE endshield (right).

Depending on its mounting, the W60 can be provided with flange type “D”, as shown in Figure 10.

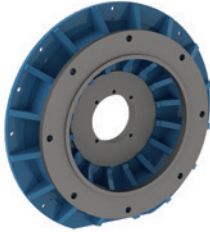


Figure 10 - Flange “D”

2.1.9 Drains

The frame have holes for drainage of water that may condense inside of the frame or undesired entry into the motor, thereby preventing corrosion or damage to internal motor components. These holes are supplied with rubber drain plugs, in accordance with figure 11. These plugs leave the factory in the closed position and must be opened periodically to allow the exit of condensed water. In case of open drains, the integrity and operation of these devices must be checked during motor maintenance.

The drain characteristic may vary depending on the motor application. For motors requiring degree of protection IP65 or IP66 (available under request), a closed plastic drain is used. The rubber drain plugs are placed in the lower part of the frame (Figure 2.11). If any change in the assembly is made in relation to the standard position provided by the factory, the positions of the drains must be checked.

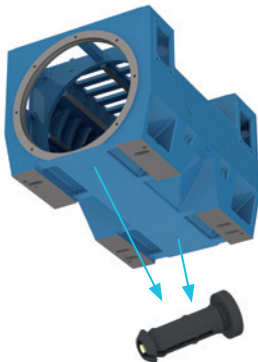


Figure 11 - Drain positions for horizontal assemblies

2.1.10 Nameplate

The motors can be supplied with three types of nameplate: main, additional and warning nameplate. All nameplates are made of AISI 304 stainless steel and the main and additional plates are laser engraved.

2.1.10.1 Main Nameplate

The main nameplate provides information describing the mounting features and motor performance. It also provides

the motor serial number and its year of manufacture. Figure 12 shows the layout of the nameplate on the W60 motor.

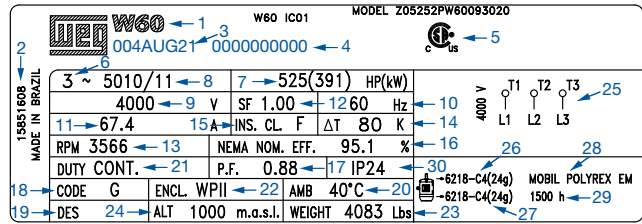


Figure 12 - Main nameplate of the motor.

1	Motor line
2	Motor code
3	Manufacturing date
4	Serial number
5	Certifications
6	Number of phases
7	Output power
8	Frame model
9	Rated voltage
10	Frequency
11	Rated current
12	Duty factor
13	Speed
14	Temperature rise of the windings
15	Insulation class
16	Efficiency
17	Power factor
18	NEMA code letters for locked rotor kVA
19	Design
20	Ambient temperature
21	Duty cycle
22	Enclosure type
23	Weight
24	Altitude
25	Wiring diagram
26	DE bearing and grease quantity
27	NDE bearing and grease quantity
28	Grease type used on the bearings
29	Bearing's Relubrication interval (in hours)
30	Degree of protection

Table 1 - Description of the items on the motor main nameplate.

2.1.10.2 Additional Nameplate

To indicate the available accessories, the W60 motors are supplied with additional nameplates that contain informations on temperature sensors (see Figures 13 and 14), space heaters (see Figure 15), and other accessories supplied on customer request. Also, if required, these nameplates can be used to show the TAG codes specific to the motor.

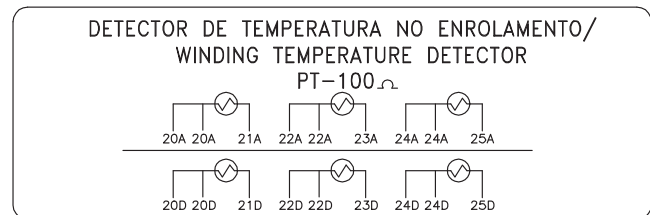


Figure 13 - Additional nameplate for winding temperature detectors (Pt-100).

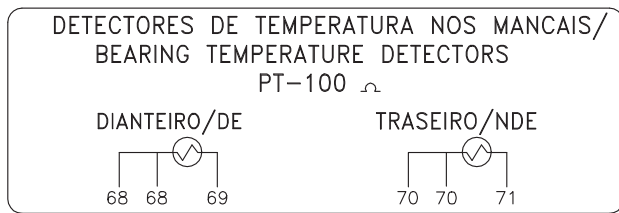


Figure 14 - Additional nameplate of the temperature sensor (Pt-100) for the bearings.

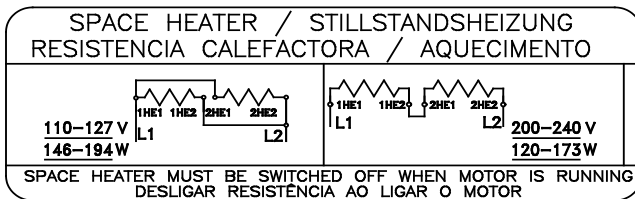


Figure 15 - Additional nameplate for the space heater.

Note:

- When motor is fitted with dual voltage space heaters, WEG supplies the motor connection set for 127 V. If required to connect to 220 V, the wiring diagram must be changed as shown on the additional nameplate of the space heater.

2.1.10.3 Warning Plate

Motors with rated voltage above 1 kV are supplied with two warning nameplates (see Figure 16), indicating the presence of high voltage on the motor. Never touch any energized circuits or rotating parts of the motor. Maintenance, installation and any interventions must be performed by qualified staff with appropriate tools only. For more details contact WEG technical support.

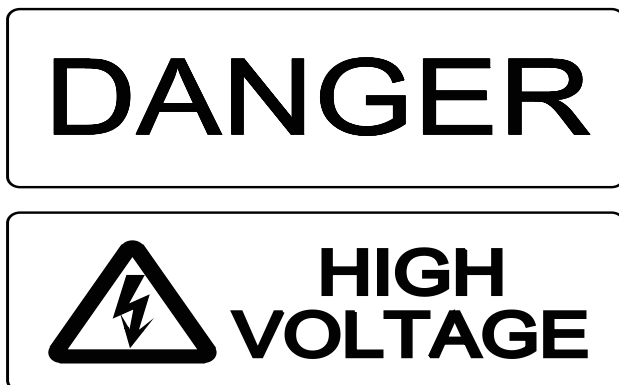


Figure 16 - Warning plates for motors above 1 kV.

2.1.10.4 Direction of Rotation Plate

W60 motors are provided with a nameplate to indicate the direction of rotation, avoiding the incorrect installation of the motor.

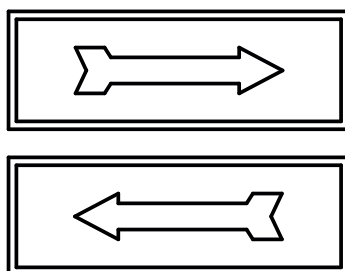


Figure 17 - Direction of rotation nameplate

2.2. Ventilation / Noise / Vibration

2.2.1 Ventilation System

The W60 platform has the concept of modular motor, then, from the same frame it is possible to build three different cooling systems:

- WPII: Self-ventilated open motor;
- TEAAC: Self-ventilated closed motor with air-air heat exchanger;
- TEWAC: Self-ventilated closed motor with air-water heat exchanger.

Under request, a forced ventilation system can be supplied.

2.2.1.1 Self-ventilated open motor – WPII (IP24)

On Self-ventilated open motors, the cooling fluid is freely withdrawn from the surrounding environment, carries out the cooling of the electric motor and then returns directly to the environment (open circuit).

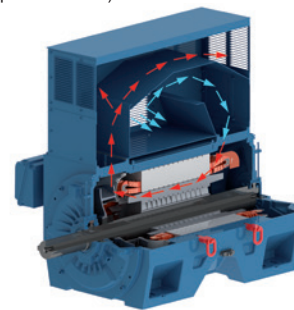


Figure 18 – W60 - Self-ventilated open motor – WPII (IP24)

2.2.1.2 Self-ventilated closed motor with air-air heat exchanger – TEAAC (IP55)

In this concept, the motor is totally enclosed and uses an air-air heat exchanger that has tubes to perform the thermal exchange, having two thermal circuits, one internal and one external. In both circuits, the cooling fluid is air. The primary (internal) coolant circulates in an enclosed circuit and transfers its heat through a heat exchanger constructed as an integral part of the electric motor to the secondary (external) coolant fluid, which is the surrounding environment.

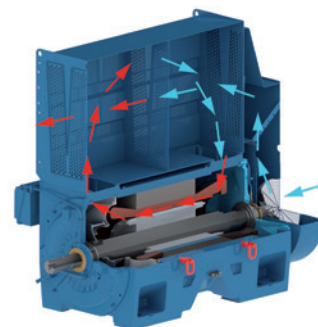


Figure 19 – Self-ventilated closed motor with air-air heat exchanger – TEAAC (IP55)

Under request, it is possible to use noise attenuation in both the inlet and the air outlet of the external circuit and also the use of the seal between the fan and shaft protection box.

2.2.1.3 Self-ventilated closed motor with air-water heat exchanger – TEWAC (IP55)

The motor is also fully enclosed and fitted with air-to-water heat exchanger. This cooling system is very efficient, allowing to obtain the same capacity of thermal exchange of an open motor. It is normally used in applications where the ambient temperature is above 40 °C and / or space restriction (compact motors).

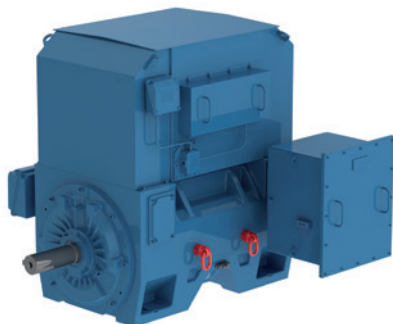


Figure 20 – W60 - Self-ventilated closed motor with air-water heat exchanger – TEWAC (IP55)

The radiators are specified with raw material according to the application. Table 2 lists the materials.

Working fluid	Materials			
	Tubes	Flange, mirrors and heads	Fins	
			Standard air	Sea air
Fresh water	Copper	Carbon steel	Aluminium	Copper
Sea water	CuNi 90/10	Carbon steel with internal coating		
Water with ammonia	AISI 316	Carbon steel	Aluminium	Aluminium
Demineralized water	AISI 304	AISI 304		

Table 2 - Raw materials list

As standard, motors with TEWAC cooling system are supplied with water leakage sensors (Figure 21).



Figure 21 – Water leakage sensor

2.2.1.4 Fans

The fans are made of aluminum or steel and they are unidirectional, so the motors of the W60 line requires the direction of rotation shall be informed at the time of purchase. This information will be supplied throughout a direction rotation nameplate on the motor. The fans can, optionally, receive epoxy paint to prevent chemical attack and corrosion.

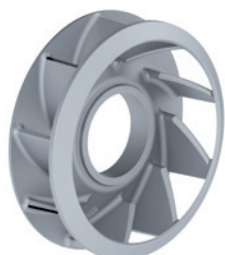


Figure 22 - Axial internal fan

TEAAC motors have external fan to guarantee adequate air flow for the heat exchanger.

2.2.2 Noise Level

The performance of the W60 motors with respect to their noise levels is represented in the table below. The data refers to motors operating in vacuum with sinusoidal supply at 50 Hz and 60 Hz. For polarities over eight poles it is necessary to refer to WEG.

Frame	Sound pressure level dB(A) - 50 Hz				Sound pressure level dB(A) - 60 Hz			
	2P	4P	6P	8P	2P	4P	6P	8P
5010/11	77	77	77	77	79	77	77	77
5810/11	80				85	81	77	77
L5810/11	84	79	77	77	88	84		
6810/11								

Table 3 – Sound pressure level for WPII motors in 50 and 60 Hz without attenuation

Frame	Sound pressure level dB(A) - 50 Hz				Sound pressure level dB(A) - 60 Hz			
	2P	4P	6P	8P	2P	4P	6P	8P
5010/11	86	82	77	77	90	87	77	77
5810/11	90	85			94	90	81	
L5810/11	93	88	80	77	98	93	84	78
6810/11								

Table 4 – Sound pressure level for TEAAC motors in 50 and 60 Hz without attenuation

Frame	Sound pressure level dB(A) - 50 Hz				Sound pressure level dB(A) - 60 Hz			
	2P	4P	6P	8P	2P	4P	6P	8P
5010/11	77	77	77	77	77	77	77	77
5810/11					78			
L5810/11					80	79		
6810/11								

Table 5 – Sound pressure level for TEWAC motors in 50 and 60 Hz

Under load, there is an increase in sound pressure values as

Frame	2P	4P	6P	8P
5010/11	2	3	5	6
5810/11				
L5810/11				
6810/11				

Table 6 - Maximum expected increase for the sound pressure level for motors operated under load

The increase in sound pressure levels for motors driven by frequency inverters depends on the switching frequency of the inverter, which can reach up to 11 dB (A).

As optional, it is possible to achieve lower values using noise attenuators. Below, there is a table showing the noise levels when noise attenuators are used.

Frame	Sound pressure level dB(A) - 50 Hz				Sound pressure level dB(A) - 60 Hz			
	2P	4P	6P	8P	2P	4P	6P	8P
5010/11	77	77	77	77	77	77	77	77
5810/11	80				84			
L5810/11	80				84	79		
6810/11								

Table 7 – Sound pressure level for WPII motors in 50 and 60 Hz with attenuation

Frame	Sound pressure level dB(A) - 50 Hz				Sound pressure level dB(A) - 60 Hz			
	2P	4P	6P	8P	2P	4P	6P	8P
5010/11	79	77	77	77	81	77	77	77
5810/11	81				86	81		
L5810/11	85	80			89	84		
6810/11								

Table 8 – Sound pressure level for TEAAC motors in 50 and 60 Hz with attenuation

Noise levels lower than those above can be obtained under request.

2.2.3 Vibration

The vibration of an electrical machine is directly related to its installation conditions. For this reason, it is extremely important that the customer ensures a sturdy base and the required dimensional tolerances.

To prevent equipment damage, vibration levels should be monitored regularly and any abnormal behavior must be immediately reported to the nearest authorized repair shop and/or to WEG. Motors with rolling bearings are highly sensitive to vibrations, and can suffer premature wear if exposed to vibrations above the acceptable limits.

It is recommended that vibration measurements be always performed before and after any maintenance or intervention on the equipment. Whenever possible, the vibrations generated only by the motor must be evaluated by no-load tests, following the procedures described in NEMA MG 1 Part 7.

According to Table 9 the limits of maximum vibration magnitude in displacement, velocity and acceleration defined by NEMA MG 1 Part 7 for motors operating at no-load are classified into vibration grade A and B.

Vibration grade	Mounting	Displacement (mils) (peak to peak)	Velocity (in/s) (peak)	Acceleration (in/s ²) (peak)
A	Resilient	2.4	0.15	0.61
	Rigid	1.9	0.12	0.49
B	Resilient		1.6	0.10
	Rigid	2, 4 and 6 poles		
		8, 10 and 12 poles	1.3	0.08

Table 9 - Limits of maximum vibration magnitude in displacement, velocity and acceleration.

The vibration levels applied to each type of machine are described in Table 10. All rotors are dynamically balanced with a half key. W60 motors, as standard, are supplied in conformance with vibration grade A, while motors in conformance with vibration grade B will be supplied only on request.

Frame	Standard vibration requirements		Special vibration requirements	
5010/11	A	Resilient	B	Resilient or rigid
5810/11				Only resilient
L5810/11				Resilient or rigid
6810/11				Resilient or rigid

Table 10 - Vibration levels met by the frame

According to standard IEC 60034-14, standard motors have balancing degree of G2.5. For vibration levels different than A, G1.6 balancing degree is applied.

W60 motors were designed in accordance with NEMA standard and meet the requirements of Table 11.

Rated speed (rpm)	Rotational frequency (Hz)	Vibration speed limit (zero-peak)	
		in/s	mm/s
3600	60	0.15	3.8
1800	30		
1200	20		
900	15	0.12	3.0
720	12	0.09	2.3
600	10	0.08	2.0

Table 11 - Vibration levels according to NEMA standard

2.2.3.1 Points for Vibration Monitoring

To allow easy maintenance, specifically for vibration testing,

the endshields, including flanges, are designed with M8 threaded holes on both ends for better placement of the accelerometer (figure 23). As an option the M8 threaded holes can be supplied with a threaded adapter for coupling the SPM vibration sensors or still, vibration sensors can be supplied with the motor.

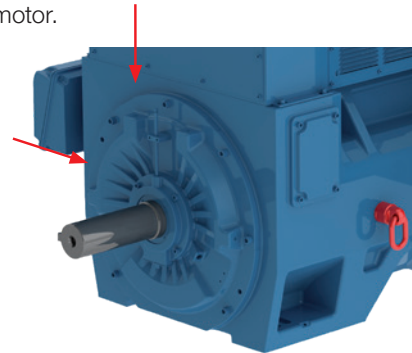


Figure 23 - M8 threaded holes for sensor placement.



Figure 24 - SPM Sensors.



Figure 25 - Threaded adapter for vibration measurement.

2.2.3.2 Shaft Relative Vibration Limits

For machines with sleeve bearings with speed over 1,200 rpm and at rated power over 1,000 kW, NEMA MG 1 Part 7 recommends relative shaft vibration measurements (see Table 2.11). As optional, motors can be supplied with locations for fitting proximitors.

Sensor readings may be affected by mechanical and magnetic anomalies of the shaft, commonly referred to as runout.

The NEMA MG-1 standard indicates that shaft runout measurement should be done at low rotations (100 to 400 rpm), since under these conditions, the shaft imbalance forces are negligible. The relative shaft vibration displacement limits are specified in Table 12.

Vibration grade	Speed range (rpm)	Max. displacement (mils) (peak to peak)	Max. combined mechanical and electrical run-out (mils)
A	> 1,800	2.6	0.65
	≤ 1,800	3.5	0.88
B	> 1,800	1.5	0.45
	≤ 1,800		

Table 12 - Maximum relative shaft displacement.

Note:

In accordance with NEMA MG-1, shaft vibration limits are only applicable on machines equipped with non-contact proximity sensors. Shaft vibration limits for standard and special machines are shown in the tables below.

For good measurement, the shaft runout should not exceed 6.4 μm peak-to-peak (0.005 ") or 25% of the relative vibration limit, whichever is greater.

2.2.3.3 Limits for standard machines

The shaft vibration limit for sleeve bearing machinery, including shaft runout, shall not exceed the limits in Table 13.

Synchronous speed (rpm)	Maximum relative shaft vibration [peak – peak]
1801 – 3600	0.0028" (70µm)
≤ 1800	0.0035" (90µm)

Table 13 - Maximum relative shaft vibration for standard machines.

2.2.3.4 Vibration limits for special machines

Motors with special vibration levels can be supplied upon request. In these cases the shaft vibration limit for rigid-mounted and sliding bearing machines, including shaft runout, shall not exceed the limits of Table 14.

Synchronous speed (rpm)	Maximum relative shaft vibration [peak – peak]
1801 – 3600	0.0020" (50µm)
1201 – 1800	0.0028" (70µm)
≤ 1200	0.0030" (75µm)

Table 14 - Maximum relative shaft vibration for special machines.

2.3. Shaft / Bearings / Stresses

2.3.1 Shaft

The shafts of the W60 motors comply with NEMA MG 1 and undergo several numerical analyses until reaching the final dimensioning. Among the evaluation steps are: calculation of fatigue considering the stress concentration, torsion, bending and traction-compression efforts, stress and deformation analysis, torsional strength and modal analysis.

In order to facilitate the maintenance and the coupling of the loads, all motors have the shaft with threaded center hole.

The standard shaft material is AISI 4140 steel, and supplied with key type "B" according to DIN 6885:1968. On request, WEG can also supply double-end shaft motors, shaft end with special dimensions, and shafts made of other materials. The dimensions for the shaft and key can be found in section 2.14.

2.3.2 Bearings

The standard motors are supplied with open ball bearings with C4 clearance for 2-pole motors and with C3 clearance for other polarities, both lubricated with grease.

All motors are supplied with Pt-100 temperature sensors on bearings as standard thus ensuring an efficient method for continuous temperature monitoring during operation.

Open motors (cooling method IC01) are supplied without bearing sealing ensuring degree of protection IP24. Closed motors (cooling methods IC611 and IC81W) are supplied with taconite labyrinth sealing ensuring degree of protection IP55.

Grease lubricated W60 motors have a life of 100,000 h L10h for direct coupling. When the recommended amount of grease and lubrication intervals are respected, the bearings can reach the lifetime values aforementioned. On request, different values for service life L10h can be evaluated.

Note:

- The bearing lifetime, L10h, in terms of operating hour, is the life that 90% of bearings is reached or even exceeded when motors are operated in compliance with the data provided in this catalog.

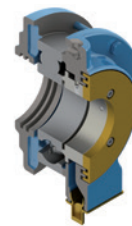


Figure 26 - Ball bearing.

Table 15 lists the standard bearings for different configurations of the W60 line.

	Frame	Number of poles	DE	NDE
Horizontal mounting Rolling Bearings	5010/11	2	6218 C4	6218 C4
		4 - 8	6220 C3	6218 C3
	5810/11	2	6218 C4	6218 C4
		4 - 8	6224 C3	6218 C3
	L5810/11	2	6220 C4	6220 C4
		4 - 8	6228 C3	6220 C3
6810/11	2	6220 C4	6220 C4	
	4 - 8	6228 C3	6220 C3	
Horizontal mounting Sleeve Bearings	5010/11	2	9-80	9-80
		4 - 8	-	-
	5810/11	2	9-80	9-80
		4 - 8	-	-
	L5810/11	2	9-80	9-80
		4 - 8	-	-
	6810/11	2	9-80	9-80
		4 - 8	-	-

Table 15 - Standard rolling and sleeve bearings per frame size.

Optionally, horizontally mounted motors for applications with high radial loads can be supplied with NU series roller bearings according to Table 16.

Frame	Number of poles	DE Rolling bearing
5010/11	4 - 8	NU220 C3
5810/11		NU224 C3
L5810/11		NU228 C3
6810/11		

Table 16 - Optional roller bearings of the NU series.

The W60 motors can also be supplied with sleeve bearings with lateral flange and natural cooling (see Figure 27). This option ensures lower maintenance and longer bearing life in non-heavy duty applications with direct coupling. Depending on the customer requirements, other configurations can be supplied on request.



Figure 27 - Sleeve bearing.

2.3.2.1 Shaft Locking Device

The W60 motors are fitted with a mechanical shaft locking device to prevent damage to the rotor and bearings during transportation (Figures 28, 29 and 30). This locking device should only be removed right before installation and stored in a safe location for future transportation of the motor.

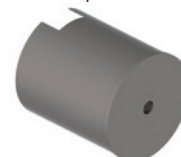


Figure 28 - Shaft locking device for motors with rolling bearing.



Figure 29 - Shaft locking device for motors with special bearing.



Figure 30 - Shaft locking device for motors with sleeve bearing.

2.3.2.2 Insulated endshield

In order to avoid bearing damage caused by electrical discharges generated inside the bearings, the W60 motors are fitted as standard with insulated NDE bearing (Figure 31). Currents flowing through the bearing have the potential of creating premature failure of these bearings accelerating the degradation of the lubricant and of the bearing rolling elements. For all motors driven by frequency inverter, the electrical insulation of the NDE bearing and grounding between shaft and frame through grounding brush at drive end is mandatory.



Figure 31 - Insulated ND endshield.

Horizontal motors with sleeve bearings, when required, both endshields may be supplied with insulation directly on the bearing shell. For other configurations, contact WEG.

2.3.2.3 Lubrication

Rolling bearings lubrication

The W60 motors are fitted with a lubrication system with grease nipples on the DE and ND endshields, and a grease outlet drawer system for removing the old grease. The amount of grease and lubrication intervals are informed on the motor nameplate, and are also specified in Table . The relubrication intervals shown in the table below are calculated for the indicated lubricant at a maximum ambient temperature of 40°C and a life of 100,000 hours L10h.

	Frame	Number of poles	DE bearing	Grease (g)	50 Hz (h)	60 Hz (h)	NDE bearing	Grease (g)	50 Hz (h)	60 Hz (h)
Horizontal mounting - Ball bearings	5010/11	2	6218	24	2,200	1,500	6218	24	2,200	1,500
		4 - 8	6220	31	4,500	4,500			4,500	4,500
	5810/11	2	6218	24	2,300	1,200	6220	31	2,300	1,200
		4 - 8	6224	43	4,500	4,500			4,500	4,500
	L5810/11	2	6220	31	1,800	1,200	6220	31	1,800	1,200
		4 - 8	6228	52	4,500	4,500			4,500	4,500
	6810/11	2	6220	31	1,800	1,200	6220	31	1,800	1,200
		4 - 8	6228	52	4,500	4,500			4,500	4,500
Horizontal mounting - roller bearings	5010/11	4	NU220	31	4,500	4,500	6218	24	4,500	4,500
		6 - 8								
	5810/11	4	NU224	43	4,500	4,500	6220	31	4,500	4,500
		6 - 8								
	L5810/11	4	NU228	52	4,500	4,500	6220	31	4,500	4,500
		6 - 8								
	6810/11	4	NU228	52	4,500	4,500	6220	31	4,500	4,500
		6 - 8								

Table 17 - Relubrication intervals and amount of grease for grease lubricated bearings.

It is extremely important to follow the lubrication intervals specified on the motor nameplate. An excessive or insufficient lubrication may increase the bearing temperature during operation, resulting in premature wear of the bearings and consequent reduction of their lifetime. The relubrication interval set on the motor plate provides bearing temperature of 75 °C, for different bearing temperatures the motor Installation, Operation and Maintenance Manual should be consulted.

Table 18 specifies the standard type of grease for the motors and indicates some properties of the lubricating grease. Besides the greases already mentioned in the table, there are others that are compatible with the design of the W60 and can also be used. For these cases refer to WEG respective Installation, Operation and Maintenance Manual.

Frame	Number of poles	Lubricant	Lubricant specification
5010/11	2 - 8	Mobil Polyrex EM	Grease with mineral oil, polyurea-based thickener, ISO VG 115
5810/11			
L5810/11			
6810/11			

Table 18 - Typical properties of the standard lubricant.

Note:

- For operation of the motors under other than normal operating conditions, such as: ambient temperature above 40 °C, altitude higher than 1,000 m above sea level and axial and/or radial load above the specified values in the tables in this catalog, please refer to WEG.
- The use of greases not recommended by WEG, or in different amounts than specified above, may void the product warranty.

Motors with ball bearings at the drive end (DE) and at the non-drive end (NDE) are fitted with bearings caps and locating bearing at DE and non-locating bearing at NDE with preload washer. When motor is fitted with roller bearing at the drive end, special bearing caps are assembled at the non-drive end where the locating bearing is assembled.

Sleeve Bearing Lubrication

Depending on the application the W60 motor can be supplied with sleeve bearings available on request. This type of bearing requires less maintenance ensures longer lifetime and relubrication intervals.

Table 19 provides key information about lubricants for sleeve bearings.

	Number of poles	Frame	Bearing	Relubrication interval (h)	Amount of oil (L)	Lubricant	Lubricant specification
				50 Hz and 60 Hz			
Mounting - sleeve bearings	2	5010/11	9-80	8,000	2.8	FUCHS Renolin DTA 10	ISO VG 32 mineral oil with antifoaming agents and antioxidant additives
		5810/11					
		L5810/11					
		6810/11					

Table 19 - Lubrication oil used in sleeve bearings.

2.3.3 Maximum Radial and Axial Loads

The tables below show the maximum allowable radial and axial loads for the W60 motors. The values of the maximum load were calculated considering a L10h bearing lifetime of 100,000 h for 2-poles motors and 40,000h for 4 and more poles motors. The maximum radial load values consider the axial load equal to zero, and the maximum axial load values consider the radial load equal to zero. For applications involving simultaneously axial and radial load, refer to WEG on bearing lifetime.

To determine the maximum allowable radial and axial loads on the motor shaft, the following factors must be considered:

- Regular operating conditions.
- Shaft material: AISI 4140.
- 2-pole motors: parabolic torque load.
- 4, 6 and 8-pole motors: constant torque load.
- The values consider the application of a standard bearing for horizontal mounted motors.

2.3.3.1 Radial Loads

The values shown in Tables 20, 21, 22 and 23 for the radial loads refer to the force applied to the center of the shaft end, L/2, and the end of the length of the shaft end, L (Figure 32).

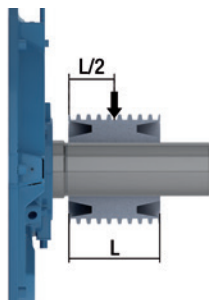


Figure 32 - Radial load applied to the shaft end.

Radial Load - Ball Bearing

Frame	Radial load - 50 Hz - Fr (kN)							
	2P		4P		6P		8P	
	L/2	L	L/2	L	L/2	L	L/2	L
5010/11	-	-	4.9	4.7	6.0	5.7	6.8	6.5
5810/11	-	-	4.5	4.5	5.6	5.1	6.4	5.8
L5810/11	-	-	5.1	4.7	5.9	5.4	6.7	6.1
6810/11	-	-	4.2	3.9	4.97	4.5	5.7	5.3

Table 20 - Maximum allowable radial loads at 50 Hz for ball bearings.

Frame	Radial load - 60 Hz - Fr (kN)							
	2P		4P		6P		8P	
	L/2	L	L/2	L	L/2	L	L/2	L
5010/11	-	-	4.5	4.2	5.5	5.2	6.3	5.9
5810/11	-	-	4.1	4.1	5.1	4.6	5.8	5.3
L5810/11	-	-	4.6	4.2	5.3	4.8	6.0	5.5
6810/11	-	-	3.7	3.4	4.3	4.0	5.0	4.6

Table 21 - Maximum allowable radial loads at 60 Hz for ball bearings.

Radial Load - Roller Bearing

Frame	Radial load - 50 Hz - Fr (kN)					
	4P		6P		8P	
	L/2	L	L/2	L	L/2	L
5010/11	19	18	22	18	24	20
5810/11	21	13	23	14	27	16
L5810/11	22	14	25	17	29	19
6810/11	20	13	23	15	27	18

Table 22 - Maximum allowable radial loads at 50 Hz for roller bearings.

Frame	Radial load - 60 Hz - Fr (kN)					
	4P		6P		8P	
	L/2	L	L/2	L	L/2	L
5010/11	18	17	20	17	22	19
5810/11	19	11	21	13	24	15
L5810/11	20	13	23	15	26	17
6810/11	17	11	20	13	23	15

Table 23 - Maximum allowable radial loads at 60 Hz for roller bearings.

Note:

- Roller bearings require a minimum radial load (preload) to ensure proper operation. This type of bearing is not recommended for applications with direct coupling.

2.3.3.2 Axial Loads

Axial Loads for Horizontal Mounted Motors

The values shown in Table 24 indicate the maximum allowable values for axial load on the shaft end for horizontal mounted motors fitted with ball bearing.

Frame	Number of poles	Momentary traction or compression (kN)
5010/11	2	On demand
	4	1
	6	1.6
	8	2
5810/11	2	On demand
	4	1.5
	6	1.9
	8	2.4
L5810/11	2	On demand
	4	1.5
	6	2.1
	8	2.6
6810/11	2	On demand
	4	1.2
	6	1.7
	8	2.2

Table 24 - Maximum allowable axial load for horizontal mounted motors.

2.4. Mounting

The standard motors are supplied in the F1 mounting (see Figure 4.1), with the terminal box on the right side of the frame, looking at the non-drive end of the motor.

The mounting designation for the W60 motors follows the NEMA MG-1 Part 4. Different mounting can be supplied under request.

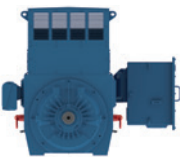
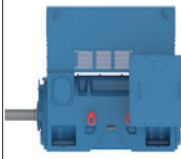

Mounting			
	WEG reference	F1	
Details	Frame	With feet	
	Shaft end	Right	
Mounting			
	WEG reference	Flange fixation (D)	
Details	Frame	With feet	
	Shaft end	Right	

Table 25 - Mountings configurations.

2.5. Degree of Protection / Bearing Sealing / Painting

2.5.1 Degree of Protection

Standard IEC 60034-5 defines the degrees of protection of electrical equipment by means of the characteristic letters IP, followed by two characteristic numerals. The W60 are supplied with degree of protection IP24 for open motors and IP55 for closed motors, as standard.

First characteristic numeral	
1 st charact. numeral	Definition
0	No-protected machine
1	Machine protected against solid objects greater than 50 mm
2	Machine protected against solid objects greater than 12 mm
3	Machine protected against solid objects greater than 2,5 mm
4	Machine protected against solid objects greater than 1,0 mm
5	Dust-protected machine
6	Dust-tight machine

Table 26 - First characteristic numeral indicates the degree of protection against the ingress of solid objects and accidental or inadvertent contact.

Second characteristic numeral	
2 nd charact. numeral	Definition
0	No-protected machine
1	Machine protected against dripping water
2	Machine protected against dripping water when tilted up to 15°
3	Water falling as a spray at any angle up to 60° from the vertical
4	Water splashing against the machine from any direction
5	Water protected by nozzle against the enclosure from any direction
6	Water from heavy seas or water projected in powerful jets
7	Machine protected against the effects of immersion
8	Machine protected against the effects of continuous submersion

Table 27 - Second characteristic numeral indicates the degree of protection against the ingress of water in the machine

The W60 motors can also be supplied with higher degree of protection, as indicated below (not applicable to open motors WP11):

- IPW55 for increased degree of protection for outdoor installation.
- IP56 and IPW56 for increased degree of protection against water.
- IP65 and IPW65 for increased degree of protection against dust.

Note:

- Letter W means that the motor can be operated in weathering under weathering.

2.5.2 Bearing Sealing

The bearing sealing used on the endshields of the motor is the Taconite Labyrinth, which ensures the degree protection IP55 for the motor frame according to NEMA MG 1 Part 5.

This sealing system protects the motor against the ingress of dust and water into the frame present in the environment.

2.5.3 Painting

The motors can be applied in harsh industrial environments, in sheltered locations or outdoors, in the presence of SO₂, steams and solid contaminants, high humidity indexes alkali and solvent splashes. The painting plan of the motors ensures a minimum of 1,000 hours of corrosion resistance in the test by salt spray chamber according to ASTM B117-03 and corrosion category C4 (I), according to ISO 12944-2.

2.5.3.1 Internal Anti Corrosive Painting

High humidity indexes can result in premature insulation system deterioration which is the main component that ensures the motor lifetime. Motors applied environments with relative air humidity of about 95% do not require additional protections beyond the space heater to prevent moisture condensation inside de motor. However, for use in environments with humidity indexes above 95%, it is recommended to apply an epoxy coating on the internal parts of the motor, also known as tropicalized painting.

2.6. Voltage / Frequency

According to NEMA MG 1 Part 12 states that, the motor shall operate successfully under running conditions at rated load with a variation in the voltage or the frequency up to the following:

- Plus or minus 10 percent of rated voltage, with rated frequency.
- Plus or minus 5 percent of rated frequency, with rated voltage.
- A combined variation in voltage and frequency of 10 percent (sum of absolute values) of the rated values, provided the frequency variation does not exceed plus or minus 5 percent of rated frequency.

Performance within these voltage and frequency variations will not necessary be in accordance with the standards established for operation at rated voltage and frequency.

2.7. Environment

According to NEMA MG 1 Part 14 standard the normal operating conditions of electric motors are:

- Ambient temperature not exceeding 40 °C.
- Altitude not exceeding 3,300 feet (1,000 m) above sea level. The project of the equipment considered a reduction of 1 °C in the thermal limit of the motor for each 100 m of elevation.
- For temperatures and altitudes other than those indicated above, use table 29 to find the correction factor that must be used to define the available useful power (Pmax).

$$P_{max} = P_{nom} \times \text{Derating Factor}$$

T (°C)	Altitude (m)								
	1,000	1,500	2,000	2,500	3,000	3,500	4,000	4,500	5,000
10							0.97	0.92	0.88
15						0.98	0.94	0.90	0.86
20				1.00	0.95	0.91	0.87	0.83	
25			1.00	0.96	0.92	0.93	0.89	0.85	0.81
30		1.00	0.96	0.92	0.90	0.86	0.82	0.78	
35	1.00	0.95	0.93	0.90	0.88	0.84	0.80	0.75	
40	1.00	0.97	0.94	0.90	0.86	0.82	0.80	0.76	0.71
45	0.95	0.92	0.90	0.88	0.85	0.81	0.78	0.74	0.69
50	0.92	0.90	0.87	0.85	0.82	0.80	0.77	0.72	0.67
55	0.88	0.85	0.83	0.81	0.78	0.76	0.73	0.70	0.65
60	0.83	0.82	0.80	0.77	0.75	0.73	0.70	0.67	0.62
65	0.79	0.76	0.74	0.72	0.70	0.68	0.66	0.62	0.58
70	0.74	0.71	0.69	0.67	0.66	0.64	0.62	0.58	0.53
75	0.70	0.68	0.66	0.64	0.62	0.60	0.58	0.53	0.49
80	0.65	0.64	0.62	0.60	0.58	0.56	0.55	0.48	0.44

Table 28 - Derating factor considering altitude and ambient temperature.

2.8. Operation Characteristics

During installation and any intervention on the machine, all recommendations for handling, lifting and maintenance must be observed.

2.8.1 Thermal Protection

In order to monitor the operating condition of the motor, all the W60 motors are fitted with temperature sensors in the windings and on the bearings.

In its standard version, the motors are fitted with two resistance temperature detector (Pt-100) with three wires per phase and one resistance temperature detector (Pt-100) per bearing (see Figure 33).

Motors with sleeve bearing use Pt-100 with connection head (see Figure 34) fixed directly to the bearing. These devices generally have three wires, but they can be supplied with 2, 4, 6 (duplex) and 8 cables (duplex), and can be supplied with with ATEX or Ex certifications.

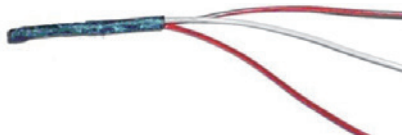


Figure 33 - Pt-100.



Figure 34 - Pt-100 with connection head.

The W60 motors can also be supplied with other accessories:

- Thermostat: bimetallic thermal protectors with silver contacts, NC type (normally closed), which open when predetermined temperature rise is reached. When the activation temperature of the bimetal thermal protector decreases, the thermostat will return to its original position instantaneously allowing to close the contact and the consequent restart of the motor. The thermostats are series connected to the motor coil, and thus can be used for switching off the motor. A second set of bimetal thermal protectors can be used for the alarm, however in this case it must be connected to a specific alarm circuit.
- PTC Thermistors: increase their resistance very fast with temperature increase. The sudden change in resistance interrupts the current in PTC, activates an output relay, which turns off the main circuit (see Figure 35).



Figure 35 - PTC Thermistor.

The thermistors have reduced size, do not have mechanical wear, and provide faster response when compared to other temperature sensors. However they do not allow continuous monitoring of the motor heating process. Thermistors with their electronic circuit controls ensure complete protection against overheating caused by phase-fault, overload, under/overvoltages or frequent reversals of direction of rotation or on/off cycles. Thermistors can be used for alarm and tripping operation.

2.8.2 Operation with Frequency Inverter

The W60 motors have a design suitable for applications with variable speed. The standard motor is designed for sine wave filter inverter operation, otherwise a motor with reinforced insulation must be supplied.

All W60 motors fitted with rolling bearings have rigid shafts, avoiding the need of skipping frequencies on the inverter in the operating range; however, for speeds above the catalog limits, consult WEG. The W60 motors can be supplied for high speed version up to 5,000 rpm also on request.

2.8.2.1 Influence of the Inverter on Temperature Rise of the Motor

The induction motor may present a higher temperature increase when fed by a frequency inverter, than when fed with sine wave voltage. This overtemperature rise is due to the combination of two factors: the increase of losses on the motor as a function of the harmonic components of the PWM voltage supplied by the inverter, and the reduction of the effectiveness of the cooling system when the self-ventilated motor operates at low frequencies. Basically the following solutions can be used to prevent the motor overheating:

- Reduction of the rated torque.
- Use of an independent cooling system (forced ventilation).

Criteria for Torque Reduction

In order to maintain the temperature of the motors within acceptable levels when operating with frequency inverters and without forced ventilation, the load limits shown in Figure 36 must be observed (derating curve of the W60 motor). This torque reduction is a required solution when the motor drives a load with constant torque. In order to drive loads with quadratic torque, usually it is not necessary to apply any torque reduction factor.

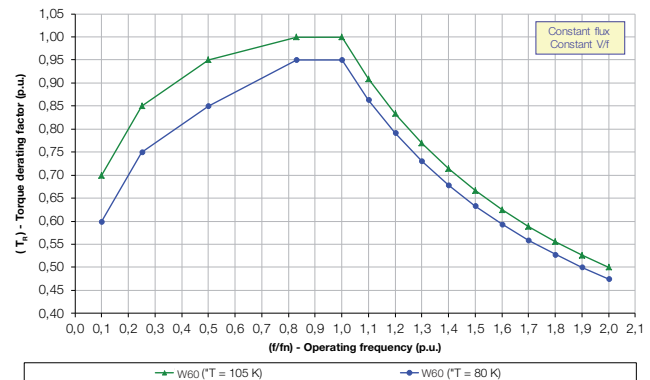


Figure 36 - Derating curve for motors driven by frequency inverter.

For more information on motors operated with frequency inverter, refer to the Technical Guide - Induction motors fed by PWM frequency inverters (50029350), which can be found at www.weg.net.

Forced Ventilation Kit

Motors driven by frequency inverter at low speeds generally require an independent ventilation system. In these cases, the application of a forced ventilation kit ensures constant cooling of the motor throughout its speed range.

The forced ventilation kit for WPII motors comprises a 4-pole motor with independent power supply. The motor of the forced ventilation kit uses natural cooling method (TENV).

Note:

- Motors with forced ventilation kits present an increase of 3 dB(A) in the noise level, without taking into account the noise produced by the frequency inverter. Since the global noise value depends on the inverter switching frequency, for more precise information, contact WEG.

2.9. Installation Characteristics

Some important aspects must be taken into account when dimensioning the installations of the W60 motors, which are described below.

2.9.1 Stiffness and Mass of the Mechanical Support System (MSS) of the Motor

Regardless the mounting type or design of the motor Mechanical Support System (MSS), the assembly must be strong enough with relatively high mass.

Several tools can be used to evaluate the strength of the foundation, such as experimental or numerical analysis. The base must present vibration levels less than 30% of the vibration measured on the motor in positions next to the fixation points in the horizontal, vertical and axial directions.

The design of the base must also ensure that its natural frequencies also keeping a separation of $\pm 5\%$ from the natural frequency to twice and three times the speed frequency and to once and twice the power line frequency (60 e 120 Hz). Motors that operate with frequency inverter and variable mechanical speed must have the natural frequencies of the system removed from the inverter operating range, so that there are no natural frequencies of the whole system (motor + base + driven equipment) throughout this operating range.

Metal fixtures of the motor must feature anchors securely fastened to the foundation anchor plate, avoiding the connection to the motor only with metal parts. Since structural steels absorb little external vibration and do not damp the motor vibrations, the global vibration and noise levels may increase.

The base design must be robust and withstand the motor without significant deformation, taking into account the mass and stresses on the foundation informed by WEG on the motor data sheet.

2.9.2 Dimensional Control

The dimensional control must be precise, with tolerance for flatness, parallelism and perpendicularity between the supports, avoiding soft foot or motor misalignment.

The area of the motor footrests in the drive end and non-drive end must be identical. The foundation must also ensure 100% support of the DE and NDE foot.

The foot flatness must be controlled for each motor. W60 motors can have flatness of the feet below 0.127 mm according to IEEE 841 standard.

Vertical mounted motors must be mounted on rectangular or round, solid, steel plates with a hole in the center for the shaft extension. The flange support surface must be machined, with threaded or throughout holes, but the fastening screws must be tightened with controlled torque on flat surfaces.

The steel plate must be at least three times thicker than the machine flange (WEG recommend five times). This mounting base plate must be securely fastened to a solid and leveled surface (in compliance with IEC 60034-7 requirements).

2.9.3 Minimum motor mounting distances

For proper operation of the electric motors, always ensure that the air inlets are unobstructed and that the space around the equipment is sufficient to maintain the air temperature at the inlet of the ventilation box below the maximum ambient temperature indicated in motor nameplate. For motors installed in open locations there shall be no obstructions at distances below $\frac{1}{4}$ diameter of the baffle in relation to the air inlets, in order to ensure sufficient air flow to the ventilation system. Indoors, in addition to the minimum distance, the air temperature at the ventilation system inlet must be checked to prevent overheating of the motor.

2.10. Special Accessories

Some special accessories can be installed on the W60 motors for specific functions, such as speed control, temperature monitoring, and protection against oscillations of the power line or lightning discharges.

2.10.1 Air filter

The motors of the W60 line with cooling method WP11 can be supplied with air filters in the ventilation box inlets. These filters help minimize the ingress of solid particulate inside the motor, preserving the lifetime of the internal components.

2.10.2 Pressure switch

For W60 motors with ventilation system WP11, that use air filters, it is also recommended to use a pressure switch. This equipment constantly monitors the amount of impurities present in the filter by measuring the pressure difference between the air inlet and outlet.

2.10.3 Encoder

For precise speed and shaft position control in critical applications, the W60 motors can be supplied with an encoder. WEG recommends the use of the following encoders:

- Dynapar - series B58N - 1,024 ppr and 2,048 ppr (hollow shaft). This encoder is easy to mount and ensures good precision (see Figure 37).



Figure 37 - Dynapar B58N Encoder.

- Leine Linde - 861 - 1,024 ppr and 2,048 ppr (hollow shaft). It can also be supplied as an optional item and offers good precision (see Figure 38).



Figure 38 - Leine Linde 861 Encoder.

Other encoder models can be supplied on request.

Note:

- Mounted on the non-drive end of the motor and directly coupled to the shaft extension, the use of this device increases the motor length, which varies according to the encoder.

2.10.4 Protection Against Voltage Surge

The terminal box of the motor of the W60 high-voltage line can be equipped with an surge arrester per phase (see Figure 39). These components are classified according to the following voltage classes: 3 kV, 6 kV, 9 kV or 12 kV.



Figure 39 - Surge arrester.

Besides the surge arrester, the high-voltage motors also have a capacitor per phase as special component (see Figure 40). These devices are installed in the main terminal box and their application recommended in systems potentially subject to voltage peaks during switching operations or lightning discharges. The capacitors are installed in a stainless steel enclosure and have the following features:

- Capacitance - 0.5 μ F
- Rate voltage - up to 7.2 kV
- Voltage class - 15 kV

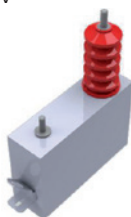


Figure 40 - Capacitor used in the W60 line.

2.10.5 Leveling Screw (Vertical Jacking Screws)

In order to ensure perfect alignment between the driven machine and the motor, WEG supplies the leveling screws set as an accessory. These components must be used only during the motor installation and must be removed after the shims are placed between the foundation and the machine.

2.10.6 Thermometer

In order to monitor the bearing temperature, for both rolling bearing and sleeve bearing, the motors can be fitted with thermometers.

On the rolling bearings, one thermometer can be installed on each endshield, and for sleeve bearings, thermometers can be installed on the bearing shell or oil tank.

2.10.7 Interchangeability Solutions

With the technological progress, machines are increasingly smaller and more efficient, which consequently results in interchangeability problems, especially for older motors or from different manufacturers. In order to solve this problem, the W60 motors can be supplied with an intermediate base (see Figure 41), or also with dimensional variations, especially on feet and frame.

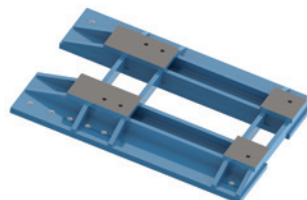


Figure 41 - Intermediate base.

If the replacement of a motor with a frame size (shaft end height) immediately above the output power is required, we supply motors on the frame above with a dedicated design, keeping the mass, length and noise similar to the lower frame size. If necessary to use the height of two frames above (for example, change the 315 frame by the 400 frame), the motors can be supplied with intermediate steel base. In this case, the upper part of the base features the fixation drilling of the standard motor in the required power, and the lower base the fixation drilling of two frames immediately above.

2.10.8 Automatic Lubricator

The automatic lubricator available for the W60 motors reduces the motor maintenance, especially in applications in which the motor is in a place with difficult access and high ambient temperature or speeds.

The lubricator, when supplied with the motor, has polyurea based grease and it is configured for the lubrication intervals specified on the motor nameplate. The grease canister must be replaced with the same grease or compatible grease in order to ensure smooth motor operation. The grease outlet works by the same way of the motors with grease nipple.

Easily-accessible, the lubricator can be mounted on the motor sides or endshields.

2.11. Construction Features

Frame		5010/11	5810/11	L5810/11	6810/11	
Mechanical features						
Mounting		F1				
Frame material		Cast Iron FC-200				
Degree of protection	WPII	IP24				
	TEAAC / TEWAC	IP55				
Grounding		Double grounding (1 terminal box + 1 frame)				
Cooling method		WPII / TEAAC / TEWAC				
External fan material	TEAAC	Cast Iron FC-200				
	WPII / TEWAC	Not Applicable				
internal fan material	2P	Aluminum				
	4P - 8P	Aluminum			Steel	
Endshields		Cast Iron FC-200				
Drain plug		With closed rubber drain plug				
Bearing	Shielded/clearance DE	2P	C4			
		4P - 8P	C3			
	Shielded/clearance NDE	2P	C4			
		4P - 8P	C3			
	Locating bearing		Fixed on DE with external and internal bearing cap and preload spring NDE			
	Drive end	2P	6218	6218	6220	
4P - 8P		6220	6224	6228		
Non-drive end	2P - 8P	6218	6218	6220		
Sleeve bearings	Axial clearance		6 mm			
	Locating bearing		Located both bearings			
	Drive end	2P	9-80			
		4P - 8P	Not Applicable			
	Non-drive end	2P	9-80			
4P - 8P		Not Applicable				
Bearing seal	IP24		Without			
	IP55		Taconite Labyrinth			
Lubrication	Type of grease		Mobil Polyrex EM			
	Grease fitting		With grease fitting			
Terminal box		Steel 02 (Dimensional in the page 27)				
Lead inlet	Main LV	Size	Not Applicable			
	Main HV		NPT 3"			
	Additional		3xNPT 3/4"			
	Plug		Not Applicable			
Shaft	Material		AISI 4140			
	Threaded hole	2P	UNC 3/4"-10		UNC 7/8"-9	
		4P - 8P	UNC 7/8"-9	UNC 1"-8	UNC 1 1/4"-7	
Shaft key		B key				
Vibration level		Grade A				
Balancing without/half/full key		With 1/2 Key				
Nameplate Material		Laser printed Stainless Steel AISI 304				
Painting	Type		Munsell 2.5 YR 6/14			
	Color		RAL5009			
Electrical features						
Design		Low Voltage Motors: Design A (up to 500 HP 2 and 4 poles, 350 HP 6 poles, 250 HP 8 poles, 200 HP 10 poles, 150 HP 12 poles) High Voltage Motors: Not Applicable				
Voltage	Single speed	380 up to 6600 V	380 up to 6600 V	2300 up to 5000 V	2300 up to 6600 V	
Winding	Impregnation	Low Voltage: Dip & Bake / High Voltage: VPI				
	Insulation class	F (DT 80K)				
Space heater		110-127 V / 200-240 V				
Service factor		1,00				
Ambient temperature	Maximum		40 °C			
	Minimum		-20 °C			
Starting method		DOL				
Rotor		Die Cast Aluminum				
Winding thermal protection		Pt-100 - 3 wires (2 per phase)				
Bearing thermal protection		Pt-100 - 3 wires (1 per bearing)				

2.12. Optional Features ^{1) 2)}

Frame	5010/11	5810/11	L5810/11	6810/11
Mechanical options ¹⁾				
Terminal box type				
Cast iron 02 / Cast iron 04 / Cast iron 05	0	0	0	0
Steel 02	S	S	S	S
Steel 04 / Steel 06 / Steel 07 / Steel 08 / Steel 09 / Steel 10 / Steel 11	0	0	0	0
Terminal block				
With	0	0	0	0
Cable gland				
Brass	0	0	0	0
Insulated drive endshield hub				
Non insulated	S	S	S	S
Insulated end shield	0	0	0	0
Insulated non-drive endshield hub				
Insulated end shield	S	S	S	S
Drive end bearing seal				
INPRO/SEAL (IP55/IPW55)	0	0	0	0
Taconite labyrinth with slinger (IP55/IPW55/ IP65/IPW65)	0	0	0	0
Mechanical seal (IP55/IPW55/ IP65/IPW65/IP56/IPW56/IP66/IPW66)	0	0	0	0
Joint seal				
Loctite 5923 (Permatex)	0	0	0	0
Shaft				
Shaft material - AISI 4140	S	S	S	S
Shaft locking device	S	S	S	S
Threaded center hole (shaft)	S	S	S	S
Second shaft end	0	0	0	0
Balance type				
Normal balance with full key	S	S	S	S
Normal balance without key	S	S	S	S
Vibration level				
Grade B	0	0	0	0
Lubrication				
Isoflex NBU 15	0	0	0	0
Klubersynth BHP 72-102	0	0	0	0
ISO VG Oil	0	0	0	0
Grease outlet				
Grease outlet by plastic slide valve	S	S	S	S
Drain				
Automatic drain plug	S	S	S	S
Stainless steel threaded drain plug (closed)	0	0	0	0
Threaded T-type drain plug (automatic)	0	0	0	0
Degree of protection				
IP55	S	S	S	S
IP56	0	0	0	0
IP65	0	0	0	0
IP66	0	0	0	0
IPW55	0	0	0	0
IPW56	0	0	0	0
IPW65	0	0	0	0
IPW66	0	0	0	0

Notes: 1) Other optional features, on request;

2) Some combinations of optional features are not allowed - contact WEG.

S - Standard

O - Optional (under request)

2.12. Optional Features ^{1) 2)}

Frame	5010/11	5810/11	L5810/11	6810/11
Painting plan				
214P: according to ISO 12944 - Corrosivity Category C4 and durability class "Medium". WEG recommendation: indicated for aggressive sheltered and non-sheltered ambient. Industrial application that allows SO ₂ , steams, solid contaminant, high humidity and alkali and solvent sprinkles presence	S	S	S	S
212E: according to ISO 12944 - Corrosivity Category C5 (I and M) and durability class "High". WEG recommendation: indicated to marine aggressive ambient or marine industrial ambient, sheltered allowing high humidity and alkali and solvent sprinkles presence. Indicate to pulp and paper, mining and chemical industrial applications	O	O	O	O
212P: according to ISO 12944 - Corrosivity Category CX / C5 (I and M) and durability class "Very High". WEG recommendation: indicated to marine aggressive ambient or marine industrial ambient, sheltered or nonsheltered, allowing high humidity presence. Indicate to pulp and paper, mining and chemical industrial applications	O	O	O	O
APCS-1B	O	O	O	O
Internal tropicalized painting (epoxi)	O	O	O	O
Other mechanical optionals ¹⁾				
Rubber slinger	O	O	O	O
Electrical optionals ¹⁾				
Frequency				
50 Hz	O	O	O	O
Winding protection				
Bimetal thermal protector - 130°C Alarm	O	O	O	O
2-wire PT100 - Alarm - 2 per phase	S	S	S	S
3-wire PT100 - Alarm - 2 per phase	O	O	O	O
3-wire PT100 - Alarm - 1 per phase - CALIBRATED / ATEX	O	O	O	O
3-wire PT100 - Alarm - 2 per phase - CALIBRATED / ATEX	O	O	O	O
Bimetal thermal protector - 155°C Tripping	O	O	O	O
2-wire PT100 - Tripping - 2 per phase	O	O	O	O
3-wire PT100 - Tripping - 2 per phase	S	S	S	S
3-wire PT100 - Tripping - 2 per phase - CALIBRATED	O	O	O	O
3-wire PT100 - Tripping - 2 per phase - CALIBRATED	O	O	O	O
PTC Thermistor - 155°C - Tripping	O	O	O	O
Bearing thermal protection				
Bimetal thermal protector - drive end / non-drive end	O	O	O	O
3-wire Pt100 - drive end / non drive end	S	S	S	S
3-wire calibrated Pt100 - drive end / non drive end	O	O	O	O
Two 3-wire calibrated Pt-100 - drive end / non drive end	O	O	O	O
Space heaters				
110-127 / 220-240 V	S	S	S	S
380-480 V	O	O	O	O
Insulation class				
F DT 105K	O	O	O	O
F DT B	O	O	O	O
F DT F	O	O	O	O
Encoder				
Without encoder	S	S	S	S
Dynapar B58N 1024	O	O	O	O
Dynapar B58N 2048	O	O	O	O
Leine&Linde XH861 900220-1024	O	O	O	O
Leine&Linde XH861 900220-2048	O	O	O	O
Grounding brush kit				
Drive end grounding brush	O	O	O	O

Notes: 1) Other optional features, on request;
2) Some combinations of optional features are not allowed - contact WEG.

SD - Standard
O - Optional (under request)

2.13. Electrical Data

2.13.1 W60 WPII High Voltage (1.2 up to 5.0 kV)

Output		Frame	Full Load Torque (ft.lb)	Locked Rotor Current		Locked Rotor Torque Tl/Tn	Break-down Torque T _b /T _n	Inertia J (sq.ft.lb)	Allowable locked rotor time (s)		Weight (lb)	Sound dB(A)	Service Factor	4160 V							
				Code	ll/n				Rated speed (rpm)	% of full load				Full load current In (A)							
										Efficiency					Power Factor						
HP	kW							Hot	Cold				50	75	100	50	75	100			
II Poles																					
350	260	5010/11	509	G	6.5	1.1	2.4	60.2	23	51	3927	80.0	1.00	3566	94.0	94.9	95.0	0.80	0.86	0.88	43.2
400	300	5010/11	581	G	6.5	1.0	2.3	59.3	22	48	3927	80.0	1.00	3566	94.2	94.9	95.0	0.80	0.86	0.88	49.8
450	330	5010/11	654	G	6.5	1.0	2.3	59.3	21	46	3927	80.0	1.00	3565	94.4	95.0	95.0	0.80	0.86	0.88	54.8
500	370	5010/11	727	G	6.5	1.0	2.3	59.3	20	44	3927	80.0	1.00	3564	94.6	95.0	95.0	0.80	0.86	0.88	61.4
550	400	5010/11	800	G	6.5	1.0	2.2	61.7	19	42	4092	80.0	1.00	3563	94.8	95.0	95.1	0.80	0.86	0.88	66.3
600	440	5010/11	873	G	6.5	1.0	2.2	64.1	17	37	4092	80.0	1.00	3562	95.0	95.1	95.1	0.80	0.86	0.88	73.0
650	480	5010/11	946	G	6.5	1.0	2.2	66.4	15	33	4092	80.0	1.00	3561	95.0	95.2	95.1	0.80	0.86	0.88	79.6
680	500	5010/11	990	G	6.5	1.0	2.2	67.7	13	29	4092	80.0	1.00	3560	95.2	95.4	95.2	0.79	0.85	0.88	82.8
700	515	5010/11	1019	G	6.5	1.0	2.2	68.8	13	29	4092	80.0	1.00	3558	95.2	95.4	95.2	0.79	0.85	0.88	85.3
750	560	5010/11	1092	G	6.5	1.0	2.1	80.8	19	42	4381	80.0	1.00	3557	95.0	94.2	93.8	0.89	0.90	0.89	93.1
800	590	5010/11	1166	G	6.5	1.0	2.1	85.4	19	42	4381	80.0	1.00	3556	95.0	94.2	93.8	0.89	0.90	0.89	98.1
850	630	5010/11	1239	F	6.2	0.9	2.1	86.3	14	31	4489	80.0	1.00	3555	95.8	95.8	95.4	0.86	0.89	0.90	102
900	660	5010/11	1310	F	6.2	0.9	2.1	85.4	14	31	4489	80.0	1.00	3559	95.8	95.8	95.4	0.86	0.89	0.90	107
970	710	5010/11	1412	F	6.5	1.0	2.2	93.9	12	26	4648	80.0	1.00	3558	96.0	96.0	95.7	0.86	0.89	0.90	114
1000	750	5010/11	1457	F	6.3	0.9	2.1	93.9	12	26	4666	80.0	1.00	3555	96.1	96.0	95.6	0.86	0.89	0.90	121
1100	800	5810/11	1599	G	6.5	0.7	2.5	84.1	11	24	5645	85.0	1.00	3565	95.4	95.7	95.5	0.78	0.86	0.88	132
1250	900	5810/11	1817	F	6.5	0.7	2.5	91.7	11	24	5821	85.0	1.00	3564	95.6	95.8	95.6	0.80	0.87	0.89	147
1350	1000	5810/11	1962	G	6.5	0.8	2.5	98.2	10	22	5989	85.0	1.00	3564	95.8	95.8	95.7	0.80	0.87	0.89	163
1500	1100	5810/11	2182	F	6.5	0.7	2.5	106	9	20	6145	85.0	1.00	3561	96.0	96.1	95.7	0.80	0.87	0.89	179
1700	1250	6810/11	2470	E	5.7	0.6	2.0	153	8	18	8108	88.0	1.00	3566	95.7	95.9	95.6	0.83	0.88	0.89	204
1750	1320	6810/11	2540	F	6.1	0.7	2.2	164	7	15	8330	88.0	1.00	3569	95.8	96.0	95.8	0.83	0.88	0.89	215
2000	1500	6810/11	2906	E	5.3	0.5	1.9	170	8	18	8500	88.0	1.00	3566	96.1	96.2	95.7	0.85	0.89	0.90	242
2250	1650	6810/11	3267	E	5.7	0.6	2.0	183	7	15	8734	88.0	1.00	3568	96.3	96.3	95.9	0.84	0.89	0.90	265
2500	1800	6810/11	3629	E	5.8	0.6	2.1	202	6	13	9149	88.0	1.00	3569	96.6	96.7	96.4	0.85	0.89	0.90	288
Optional																					
800	590	5810/11	1163	F	6.3	0.7	2.5	77.6	16	35	5473	85.0	1.00	3564	94.9	95.3	95.2	0.82	0.88	0.90	95.6
900	660	5810/11	1308	F	6.4	0.7	2.5	77.6	14	31	5499	85.0	1.00	3565	95.1	95.5	95.3	0.80	0.87	0.89	108
1000	750	5810/11	1454	F	6.3	0.7	2.5	84.1	13	29	5627	85.0	1.00	3563	95.3	95.6	95.4	0.82	0.88	0.90	121
1250	900	L5810/11	1816	E	5.9	0.6	2.4	136	14	31	6121	88.0	1.00	3567	94.4	95.0	94.8	0.83	0.88	0.90	146
1500	1100	L5810/11	2179	F	6.2	0.7	2.5	159	12	26	6489	88.0	1.00	3567	95.0	95.4	95.2	0.84	0.89	0.91	176
1750	1320	L5810/11	2542	F	6.0	0.6	2.4	165	10	22	6604	88.0	1.00	3566	95.3	95.6	95.3	0.83	0.89	0.91	211
IV Poles																					
350	260	5010/11	1016	G	6.5	0.9	2.5	123	30	66	4194	82.0	1.00	1784	94.8	95.4	95.3	0.78	0.85	0.88	43.0
400	300	5010/11	1162	G	6.5	1.0	2.5	136	28	62	4335	78.0	1.00	1783	94.8	95.4	95.3	0.78	0.85	0.88	49.6
450	330	5010/11	1308	G	6.5	1.0	2.5	136	26	57	4335	78.0	1.00	1783	94.9	95.5	95.4	0.77	0.85	0.88	54.6
500	370	5010/11	1453	G	6.5	1.0	2.5	136	24	53	4335	78.0	1.00	1783	95.1	95.5	95.4	0.77	0.85	0.88	61.2
550	400	5010/11	1598	G	6.5	1.0	2.5	149	23	51	4478	78.0	1.00	1783	95.1	95.6	95.4	0.77	0.84	0.88	66.1
600	440	5010/11	1743	G	6.5	1.0	2.5	149	22	48	4478	78.0	1.00	1783	95.3	95.8	95.6	0.76	0.84	0.88	72.6
650	480	5010/11	1889	G	6.5	1.0	2.5	149	21	46	4478	78.0	1.00	1783	95.3	95.8	95.6	0.76	0.84	0.88	79.2
700	515	5010/11	2034	G	6.5	1.0	2.5	149	20	44	4478	78.0	1.00	1783	95.3	95.9	95.6	0.76	0.84	0.87	85.9
750	560	5010/11	2179	G	6.5	1.0	2.5	161	19	42	4622	78.0	1.00	1783	95.5	95.9	95.8	0.74	0.83	0.87	93.3
800	590	5010/11	2325	G	6.5	1.0	2.5	161	18	40	4622	78.0	1.00	1783	95.5	96.0	95.8	0.74	0.83	0.87	98.2
900	660	5010/11	2615	G	6.5	1.0	2.5	161	17	37	4622	78.0	1.00	1783	95.7	96.0	95.8	0.74	0.83	0.87	110
970	710	5010/11	2819	G	6.5	1.2	2.5	169	16	35	4765	78.0	1.00	1783	95.9	96.1	95.9	0.74	0.83	0.87	118
1000	750	5810/11	2911	F	5.7	0.7	2.3	145	21	46	5718	81.0	1.00	1780	95.5	95.7	95.3	0.81	0.87	0.89	123
1100	800	5810/11	3202	E	5.7	0.7	2.3	157	21	46	5901	81.0	1.00	1780	95.6	95.8	95.5	0.81	0.87	0.89	131
1250	900	5810/11	3640	E	5.6	0.7	2.3	167	20	44	6055	81.0	1.00	1779	95.8	95.9	95.6	0.82	0.87	0.89	147
1350	1000	5810/11	3932	E	5.6	0.7	2.3	180	19	42	6236	81.0	1.00	1779	96.0	96.1	95.7	0.82	0.88	0.89	163
1500	1100	6810/11	4351	G	6.4	0.8	2.5	273	15	33	8081	84.0	1.00	1786	95.9	96.2	95.9	0.77	0.85	0.87	183
1700	1250	6810/11	4931	G	6.5	0.9	2.5	315	14	31	8502	84.0	1.00	1786	96.1	96.3	96.1	0.77	0.85	0.88	205
1750	1320	6810/11	5076	G	6.5	0.9	2.5	332	14	31	8710	84.0	1.00	1786	96.2	96.4	96.1	0.78	0.86	0.88	217
2000	1500	6810/11	5798	G	6.5	0.9	2.5	369	13	29	9259	84.0	1.00	1787	96.4	96.6	96.3	0.78	0.86	0.88	246
Optional																					
800	590	5810/11	2326	G	6.3	0.8	2.5	123	21	46	5413	81.0	1.00	1782	95.0	95.4	95.2	0.76	0.84	0.87	98.9
900	660	5810/11	2620	E	5.6	0.7	2.3	123	21	46	5413	81.0	1.00	1780	95.2	95.5	95.1	0.79	0.85	0.88	109
1000	750	L5810/11	2902	F	6.1	0.8	2.4	215	18	40	5958	84.0	1.00	1785	95.3	95.6	95.3	0.78	0.85	0.88	124
1250	900	L5810/11	3626	G	6.5	1.0	2.5	255	15	33	6280	84.0	1.00	1786	95.5	95.8	95.6	0.75	0.83	0.87	150
1500	1100	L5810/11	4351	G	6.5	1.0	2.5	294	14	31	6644	84.0	1.00	1786	95.8	96.0	95.8	0.75	0.84	0.87	183
VI Poles																					
270	200	5010/11	1179	F	5.3	1.2	1.9	210	30	66	4527	77.0	1.00	1186	94.4	94.8	94.6	0.68	0.76	0.80	36.7
350	260	5010/11	1529	F	5.3	1.2	1.9	210	30	66	4527	77.0	1.00	1186	94.4	94.8	94.6	0.68	0.76	0.79	48.3
400	300	5010/11	1747	F	5.3	1.2	1.9	226	30	66	4672	77.0	1.00	1186	94.4	94.8	94.6	0.68	0.76	0.79	55.7
450	330	5010/11	1966	F	5.3	1.2	1.9	243	30	66	4820	77.0	1.00	1186	94.4	94.8	94.6	0.68	0.76	0.79	61.3
500	370	5010/11	2184	F	5.3	1.2	1.9	258	30	66	4966	77.0	1.00	1186	94.8	95.1	94.7	0.69	0.77	0.80	67.8
550	400	5010/11	2395	G	6.5	1.3	2.5	249	30	66	4957	77.0	1.								

2.13.2 W60 TEAAC High Voltage (1.2 up to 5.0 kV)

Output		Frame	Full Load Torque (ft.lb)	Locked Rotor Current		Locked Rotor Torque Tl/Tn	Break-down Torque Tb/Tn	Inertia J (sq.ft.lb)	Allowable locked rotor time (s)		Weight (lb)	Sound dB(A)	Service Factor	4160 V								
				Code	I/In				Hot	Cold				% of full load						Full load current In (A)		
														Efficiency			Power Factor					
HP	KW														Rated speed (rpm)	50	75	100	50	75	100	
II Poles																						
350	260	5010/11	508	G	6.5	1.2	2.5	59.3	20	44	4688	94.0	1.00	3569	89.3	91.6	92.6	0.78	0.84	0.87	44.8	
400	300	5010/11	581	G	6.5	1.2	2.5	59.3	19	42	4688	94.0	1.00	3566	90.6	91.7	93.0	0.78	0.84	0.87	51.5	
450	330	5010/11	654	G	6.5	1.2	2.5	66.4	18	40	4836	94.0	1.00	3566	91.0	92.1	93.2	0.79	0.85	0.87	56.5	
500	370	5010/11	726	G	6.5	1.2	2.5	66.4	17	37	4836	94.0	1.00	3566	91.4	92.5	93.4	0.79	0.85	0.88	62.5	
550	400	5010/11	799	G	6.5	1.0	2.5	66.4	16	35	4836	94.0	1.00	3566	91.8	92.9	93.6	0.80	0.86	0.88	67.4	
600	440	5010/11	872	G	6.5	1.0	2.5	73.6	15	33	4983	94.0	1.00	3566	92.2	93.3	93.8	0.80	0.86	0.88	74.0	
650	480	5010/11	945	G	6.5	1.0	2.4	73.6	14	31	4983	94.0	1.00	3562	92.6	93.7	94.0	0.81	0.87	0.88	80.5	
680	500	5010/11	989	G	6.5	1.0	2.5	73.6	14	31	4983	94.0	1.00	3563	93.1	94.0	94.3	0.81	0.87	0.88	83.6	
700	515	5010/11	1018	G	6.5	1.0	2.5	80.7	13	29	5131	94.0	1.00	3564	93.3	94.2	94.5	0.81	0.87	0.88	85.9	
750	560	5010/11	1090	G	6.5	1.2	2.5	87.8	12	26	5277	94.0	1.00	3565	93.5	94.4	94.7	0.81	0.87	0.89	92.2	
800	590	5010/11	1162	G	6.5	1.2	2.5	87.8	11	24	5277	94.0	1.00	3566	93.7	94.6	94.9	0.81	0.87	0.89	96.9	
850	630	5010/11	1235	G	6.5	1.2	2.5	94.9	10	22	5427	94.0	1.00	3567	93.9	94.8	95.1	0.81	0.87	0.89	103	
900	660	5810/11	1309	F	6.2	0.7	2.5	84.1	15	33	5830	94.0	1.00	3562	93.6	94.5	94.5	0.83	0.88	0.90	108	
1000	750	5810/11	1453	G	6.5	0.8	2.5	91.7	13	29	6033	94.0	1.00	3565	94.0	94.8	94.9	0.82	0.88	0.90	122	
1100	800	5810/11	1598	F	6.5	0.8	2.5	98.2	11	24	6178	94.0	1.00	3567	94.2	95.0	95.0	0.81	0.87	0.90	130	
1250	900	5810/11	1816	F	6.5	0.8	2.5	106	10	22	6381	94.0	1.00	3566	94.6	95.3	95.3	0.82	0.88	0.90	146	
1350	1000	6810/11	1956	G	6.5	0.7	2.4	157	9	20	8677	98.0	1.00	3575	94.4	95.2	95.2	0.82	0.87	0.89	164	
1500	1100	6810/11	2174	G	6.5	0.7	2.5	170	8	18	8913	98.0	1.00	3575	94.0	94.9	95.1	0.81	0.87	0.89	180	
1700	1250	6810/11	2464	F	6.5	0.7	2.3	178	7	15	9058	98.0	1.00	3574	94.4	95.1	95.2	0.83	0.88	0.90	202	
1750	1320	6810/11	2535	G	6.5	0.8	2.5	198	7	15	9475	98.0	1.00	3576	94.6	95.3	95.4	0.83	0.89	0.90	213	
1900	1400	6810/11	2754	F	6.5	0.7	2.4	198	7	15	9475	98.0	1.00	3574	94.8	95.4	95.4	0.84	0.89	0.90	226	
Optional																						
800	590	5810/11	1163	F	6.3	0.7	2.5	77.6	16	35	5678	94.0	1.00	3564	93.1	94.1	94.3	0.82	0.87	0.89	97.6	
1000	750	L5810/11	1450	G	6.5	0.8	2.5	138	14	31	6344	98.0	1.00	3572	92.9	94.1	94.4	0.79	0.86	0.89	124	
1250	900	L5810/11	1815	F	6.4	0.7	2.5	159	14	31	6743	98.0	1.00	3569	93.0	94.2	94.4	0.86	0.90	0.91	145	
1350	1000	L5810/11	1960	F	6.5	0.7	2.5	165	13	29	6813	98.0	1.00	3569	93.4	94.4	94.6	0.85	0.89	0.91	161	
IV Poles																						
270	200	5010/11	785	G	6.5	1.0	2.4	107	30	66	4820	90.0	1.00	1783	93.6	94.3	94.4	0.78	0.84	0.87	33.8	
350	260	5010/11	1017	G	6.5	1.0	2.4	121	30	66	4963	90.0	1.00	1783	93.7	94.4	94.5	0.78	0.84	0.87	43.9	
400	300	5010/11	1162	G	6.5	1.0	2.4	133	30	66	5109	90.0	1.00	1783	93.8	94.5	94.6	0.78	0.84	0.87	50.6	
450	330	5010/11	1308	G	6.5	1.0	2.4	133	29	64	5109	90.0	1.00	1783	93.9	94.6	94.7	0.78	0.84	0.87	55.6	
500	370	5010/11	1453	G	6.5	1.0	2.4	133	28	62	5109	90.0	1.00	1783	94.0	94.7	94.8	0.79	0.85	0.88	61.6	
550	400	5010/11	1598	G	6.5	1.0	2.4	145	27	59	5252	90.0	1.00	1783	94.1	94.8	94.9	0.79	0.85	0.88	66.5	
600	440	5010/11	1743	G	6.5	1.0	2.4	145	26	57	5252	90.0	1.00	1783	94.2	94.9	95.0	0.79	0.85	0.88	73.0	
650	480	5010/11	1889	G	6.5	1.0	2.4	157	25	55	5398	90.0	1.00	1783	94.3	95.0	95.1	0.79	0.85	0.88	79.6	
700	515	5010/11	2034	G	6.5	1.0	2.4	157	24	53	5398	90.0	1.00	1783	94.4	95.1	95.2	0.79	0.85	0.88	85.3	
750	560	5010/11	2179	G	6.5	1.0	2.5	168	23	51	5541	90.0	1.00	1783	94.5	95.2	95.3	0.80	0.86	0.89	91.6	
800	590	5810/11	2325	G	6.5	0.9	2.5	134	21	46	5757	90.0	1.00	1783	93.9	94.7	94.7	0.75	0.84	0.87	99.4	
900	660	5810/11	2617	G	6.4	0.8	2.5	144	21	46	5920	90.0	1.00	1782	94.3	94.9	94.9	0.78	0.85	0.88	110	
1000	750	5810/11	2906	G	6.5	0.8	2.5	167	20	44	6260	90.0	1.00	1783	94.6	95.2	95.2	0.78	0.85	0.88	124	
1100	800	5810/11	3194	G	6.5	0.9	2.5	180	19	42	6441	90.0	1.00	1784	94.7	95.3	95.3	0.77	0.85	0.88	132	
1250	900	6810/11	3622	G	6.5	0.9	2.5	273	16	35	8467	93.0	1.00	1788	94.8	95.5	95.5	0.76	0.84	0.87	150	
1350	1000	6810/11	3914	G	6.5	0.9	2.5	313	17	37	8891	93.0	1.00	1787	95.1	95.7	95.6	0.79	0.86	0.88	165	
1500	1100	6810/11	4349	F	6.5	0.9	2.5	352	17	37	9298	93.0	1.00	1787	95.3	95.8	95.8	0.80	0.87	0.89	179	
1700	1250	6810/11	4926	G	6.5	0.9	2.5	391	16	35	9660	93.0	1.00	1788	95.4	95.9	95.9	0.78	0.85	0.88	206	
Optional																						
800	590	L5810/11	2321	G	6.4	0.9	2.5	215	23	51	6170	93.0	1.00	1786	93.4	94.4	94.5	0.78	0.85	0.88	98.5	
900	660	L5810/11	2609	G	6.5	0.9	2.5	234	20	44	6313	93.0	1.00	1787	93.7	94.6	94.7	0.76	0.84	0.87	111	
1000	750	L5810/11	2899	G	6.5	0.9	2.5	255	18	40	6529	93.0	1.00	1787	94.2	95.0	95.0	0.78	0.85	0.88	125	
1250	900	L5810/11	3624	F	6.5	0.9	2.5	294	17	37	6851	93.0	1.00	1787	94.6	95.2	95.2	0.78	0.85	0.88	149	
VI Poles																						
650	480	5810/11	2842	F	5.7	0.8	2.2	258	30	66	5923	81.0	1.00	1185	95.1	95.3	94.9	0.72	0.80	0.83	84.6	
700	515	5810/11	3060	F	5.8	0.8	2.2	299	30	66	6258	81.0	1.00	1185	95.2	95.4	95.0	0.73	0.81	0.84	89.6	
750	560	5810/11	3274	G	6.4	0.9	2.4	321	30	66	6419	81.0	1.00	1187	95.2	95.5	95.2	0.70	0.79	0.83	98.4	
800	590	5810/11	3486	G	6.5	1.2	2.5	340	30	66	6606	81.0	1.00	1189	95.1	95.5	95.4	0.63	0.75	0.80	107	
900	660	6810/11	3922	G	6.5	0.9	2.5	311	30	66	8211	84.0	1.00	1189	95.1	95.5	95.3	0.70	0.79	0.83	116	
1000	750	6810/11	4357	G	6.5	1.0	2.5	360	30	66	8619	84.0	1.00	1189	95.3	95.7	95.5	0.70	0.80	0.84	130	
1100	800	6810/11	4793	G	6.5	1.0	2.5	384	30	66	8787	84.0	1.00	1189	95.4	95.7	95.5	0.72	0.81	0.84	138	
1250	900	6810/11	5442	G	6.5	1.0	2.5	434	30	66	9078	84.0	1.00	1190	95.6	95.9	95.7	0.69	0.79	0.83	157	
VIII Poles																						
380	280	5810/11	2212	H	6.2	1.2	2.5	260	30	66	5722	77.0	1.00	890	94.1	94.6	94.4	0.56	0.68	0.74	55.6	
430	315	5810/11	2503	H	6.3	1.3	2.5	281	30	66	5839	77.0	1.00	890	94.1	94.6	94.3	0.54	0.67	0.73	63.5	
480	355	5810/11	2794	H	6.3	1.2	2.5	326	30	66	6159	77.0	1.00	890	94.3	94.8	94.5	0.57	0.69	0.75	69.5	
550	400	5810/11	3202	H	6.5	1.3	2.5	371	30	66	6505	77.0	1.00	890	94.5	94.9	94.7	0.57	0.68	0.75	78.2	
600	440	6810/11	3489	G	6.4	1.0	2.5	493	30	66	8361	78.0	1.00	891	94.4	94.9	94.8	0.65	0.75	0.80	80.5	
700	515	6810/11	4070	G	6.5	1.0	2.5	559	30	66	8774	78.0	1.00	891	94.7	95.2	95.0	0.65	0.75			

2.13. Electrical Data

2.13.3 W60 TEWAC High Voltage (1.2 up to 5.0 kV)

Output		Frame	Full Load Torque (ft.lb)	Locked Rotor Current		Locked Rotor Torque Tl/Tn	Break-down Torque Tl/Tn	Inertia J (sq.ft.lb)	Allowable locked rotor time (s)		Weight (lb)	Sound dB(A)	Service Factor	4160 V							Full load current In (A)
				Code	II/In				Rated speed (rpm)	% of full load				100	Power Factor						
										50					75	100	50	75	100		
II Poles																					
350	260	5010/11	509	G	6.5	1.1	2.4	59.3	23	51	4037	80.0	1.00	3566	94.0	94.9	95.0	0.80	0.86	0.88	43.2
400	300	5010/11	581	G	6.5	1.0	2.3	59.3	22	48	4037	80.0	1.00	3566	94.2	94.9	95.0	0.80	0.86	0.88	49.8
450	330	5010/11	654	G	6.5	1.0	2.3	59.3	21	46	4037	80.0	1.00	3565	94.4	95.0	95.0	0.80	0.86	0.88	54.8
500	370	5010/11	727	G	6.5	1.0	2.3	59.3	20	44	4037	80.0	1.00	3564	94.6	95.0	95.0	0.80	0.86	0.88	61.4
550	400	5010/11	800	G	6.5	1.0	2.2	61.7	19	42	4203	80.0	1.00	3563	94.8	95.0	95.1	0.80	0.86	0.88	66.3
600	440	5010/11	873	G	6.5	1.0	2.2	64.1	17	37	4203	80.0	1.00	3562	95.0	95.1	95.1	0.80	0.86	0.88	73.0
650	480	5010/11	946	G	6.5	1.0	2.2	66.4	15	33	4203	80.0	1.00	3561	95.0	95.2	95.1	0.80	0.86	0.88	79.6
680	500	5010/11	990	G	6.5	1.0	2.2	68.8	13	29	4203	80.0	1.00	3560	95.2	95.4	95.2	0.79	0.85	0.88	82.8
700	515	5010/11	1019	G	6.5	1.0	2.2	68.8	13	29	4092	80.0	1.00	3558	95.2	95.4	95.2	0.79	0.85	0.88	85.3
750	560	5010/11	1092	G	6.5	1.0	2.1	80.7	19	42	4492	80.0	1.00	3557	95.0	94.2	93.8	0.89	0.90	0.89	93.1
800	590	5010/11	1166	G	6.5	1.0	2.1	85.4	19	42	4381	80.0	1.00	3556	95.0	94.2	93.8	0.89	0.90	0.89	98.1
850	630	5010/11	1239	F	6.2	0.9	2.1	85.4	14	31	4600	80.0	1.00	3555	95.8	95.8	95.4	0.86	0.89	0.90	102
900	660	5010/11	1310	F	6.2	0.9	2.1	85.4	14	31	4489	80.0	1.00	3559	95.8	95.8	95.4	0.86	0.89	0.90	107
970	710	5010/11	1412	F	6.5	1.0	2.2	94.9	12	26	4758	80.0	1.00	3558	96.0	96.0	95.7	0.86	0.89	0.90	114
1000	750	5010/11	1457	F	6.3	0.9	2.1	94.9	12	26	4776	80.0	1.00	3555	96.1	96.0	95.6	0.86	0.89	0.90	121
1100	800	5810/11	1599	G	6.5	0.7	2.5	83.1	11	24	5755	80.0	1.00	3565	95.4	95.7	95.5	0.77	0.85	0.88	132
1250	900	5810/11	1817	F	6.5	0.7	2.5	92.5	11	24	5931	80.0	1.00	3564	95.6	95.8	95.6	0.80	0.86	0.89	147
1350	1000	5810/11	1962	G	6.5	0.8	2.5	97.3	10	22	6099	80.0	1.00	3564	95.8	96.0	95.7	0.79	0.86	0.89	163
1500	1100	5810/11	2182	F	6.5	0.7	2.5	107	9	20	6256	80.0	1.00	3561	96.0	96.1	95.7	0.79	0.86	0.89	179
1700	1250	6810/11	2470	E	5.7	0.6	2.0	152	8	18	8218	80.0	1.00	3566	95.7	95.9	95.6	0.83	0.87	0.89	204
1750	1320	6810/11	2540	F	6.1	0.7	2.2	164	7	15	8441	80.0	1.00	3569	95.8	96.0	95.8	0.82	0.87	0.89	215
2000	1500	6810/11	2906	E	5.3	0.5	1.9	171	8	18	8611	80.0	1.00	3566	96.1	96.2	95.7	0.85	0.89	0.89	244
2250	1650	6810/11	3267	E	5.7	0.6	2.0	183	7	15	8844	80.0	1.00	3568	96.3	96.3	95.9	0.83	0.88	0.89	268
2500	1800	6810/11	3629	E	5.8	0.6	2.1	202	6	13	9259	80.0	1.00	3569	96.6	96.7	96.4	0.85	0.89	0.90	288
Optional																					
800	590	5810/11	1163	F	6.3	0.7	2.5	78.3	16	35	5583	80.0	1.00	3564	94.9	95.3	95.2	0.81	0.87	0.89	96.6
900	660	5810/11	1308	F	6.4	0.7	2.5	78.3	14	31	5610	80.0	1.00	3565	95.1	95.5	95.3	0.79	0.86	0.89	108
1000	750	5810/11	1454	F	6.3	0.7	2.5	83.1	13	29	5737	80.0	1.00	3563	95.3	95.6	95.4	0.81	0.87	0.89	123
1250	900	L5810/11	1816	E	5.9	0.6	2.4	135	14	31	6231	80.0	1.00	3567	94.4	95.0	94.8	0.82	0.88	0.90	146
1500	1100	L5810/11	2179	F	6.2	0.7	2.5	159	12	26	6600	80.0	1.00	3567	95.0	95.4	95.2	0.84	0.89	0.90	178
1750	1320	L5810/11	2542	F	6.0	0.6	2.4	164	10	22	6714	80.0	1.00	3566	95.3	95.6	95.2	0.83	0.88	0.90	214
IV Poles																					
350	260	5010/11	1016	G	6.5	0.9	2.5	123	30	66	4304	78.0	1.00	1784	94.8	95.4	95.3	0.78	0.85	0.88	43.0
400	300	5010/11	1162	G	6.5	1.0	2.5	135	28	62	4445	78.0	1.00	1783	94.8	95.4	95.3	0.78	0.85	0.88	49.6
450	330	5010/11	1308	G	6.5	1.0	2.5	135	26	57	4445	78.0	1.00	1783	94.9	95.5	95.4	0.77	0.85	0.88	54.6
500	370	5010/11	1453	G	6.5	1.0	2.5	135	24	53	4445	78.0	1.00	1783	95.1	95.5	95.4	0.77	0.85	0.88	61.2
550	400	5010/11	1598	G	6.5	1.0	2.5	149	23	51	4589	78.0	1.00	1783	95.1	95.6	95.4	0.77	0.84	0.88	66.1
600	440	5010/11	1743	G	6.5	1.0	2.5	149	22	48	4589	78.0	1.00	1783	95.3	95.8	95.6	0.76	0.84	0.88	72.6
650	480	5010/11	1889	G	6.5	1.0	2.5	149	21	46	4589	78.0	1.00	1783	95.3	95.8	95.6	0.76	0.84	0.88	79.2
700	515	5010/11	2034	G	6.5	1.0	2.5	149	20	44	4589	78.0	1.00	1783	95.3	95.9	95.6	0.76	0.84	0.87	85.9
750	560	5010/11	2179	G	6.5	1.0	2.5	161	19	42	4732	78.0	1.00	1783	95.5	95.9	95.8	0.74	0.83	0.87	93.3
800	590	5010/11	2325	G	6.5	1.0	2.5	161	18	40	4732	78.0	1.00	1783	95.5	96.0	95.8	0.74	0.83	0.87	98.2
900	660	5010/11	2615	G	6.5	1.0	2.5	161	17	37	4732	78.0	1.00	1783	95.7	96.0	95.8	0.74	0.83	0.87	110
970	710	5010/11	2819	G	6.5	1.2	2.5	168	16	35	4765	78.0	1.00	1783	95.9	96.1	95.9	0.74	0.83	0.87	118
1000	750	5810/11	2911	F	5.7	0.7	2.3	145	21	46	5828	78.0	1.00	1780	95.5	95.7	95.3	0.80	0.86	0.88	124
1100	800	5810/11	3202	E	5.7	0.7	2.3	157	21	46	6011	78.0	1.00	1780	95.6	95.8	95.5	0.81	0.87	0.88	132
1250	900	5810/11	3640	E	5.6	0.7	2.3	168	20	44	6165	78.0	1.00	1779	95.8	95.9	95.6	0.81	0.87	0.89	147
1350	1000	5810/11	3932	E	5.6	0.7	2.3	180	19	42	6346	78.0	1.00	1779	96.0	96.1	95.7	0.82	0.87	0.89	163
1500	1100	6810/11	4351	G	6.4	0.8	2.5	273	15	33	8192	79.0	1.00	1786	95.9	96.2	95.9	0.77	0.84	0.87	183
1700	1250	6810/11	4931	G	6.5	0.9	2.5	316	14	31	8613	79.0	1.00	1786	96.1	96.3	96.1	0.77	0.85	0.87	207
1750	1320	6810/11	5076	G	6.5	0.9	2.5	332	14	31	8820	79.0	1.00	1786	96.2	96.4	96.1	0.78	0.85	0.88	217
2000	1500	6810/11	5798	G	6.5	0.9	2.5	370	13	29	9369	79.0	1.00	1787	96.4	96.6	96.3	0.78	0.85	0.88	246
Optional																					
800	590	5810/11	2326	G	6.3	0.8	2.5	123	21	46	5524	78.0	1.00	1782	95.0	95.4	95.2	0.76	0.83	0.87	98.9
900	660	5810/11	2620	E	5.6	0.7	2.3	123	21	46	5524	78.0	1.00	1780	95.2	95.5	95.1	0.78	0.85	0.87	111
1000	750	L5810/11	2902	F	6.1	0.8	2.4	216	18	40	6068	79.0	1.00	1785	95.3	95.6	95.3	0.78	0.85	0.87	126
1250	900	L5810/11	3626	G	6.5	1.0	2.5	254	15	33	6390	79.0	1.00	1786	95.5	95.8	95.6	0.74	0.83	0.86	152
1500	1100	L5810/11	4351	G	6.5	1.0	2.5	294	14	31	6754	79.0	1.00	1786	95.8	96.0	95.8	0.75	0.83	0.87	183
VI Poles																					
270	200	5010/11	1179	F	5.3	1.2	1.9	209	30	66	4765	77.0	1.00	1186	94.4	94.8	94.6	0.68	0.76	0.80	36.7
350	260	5010/11	1529	F	5.3	1.2	1.9	209	30	66	4765	77.0	1.00	1186	94.4	94.8	94.6	0.68	0.76	0.79	48.3
400	300	5010/11	1747	F	5.3	1.2	1.9	225	30	66	4765	77.0	1.00	1186	94.4	94.8	94.6	0.68	0.76	0.79	55.7
450	330	5010/11	1966	F	5.3	1.2	1.9	242	30	66	4765	77.0	1.00	1186	94.4	94.8	94.6	0.68	0.76	0.79	61.3
500	370	5010/11	2184	F	5.3	1.2	1.9	259	30	66	4966	77.0	1.00	1186	94.8	95.1	94.7	0.69	0.77	0.80	67.8
550	400	5010/11	2395	G	6.5	1.3	2.5	249	30	66	4957	77.0	1.00	1190	94.8	95.4	95.4	0.64	0.75		

2.13.4 W60 WPII High Voltage (5.1 up to 6.6 kV)

Output		Frame	Full Load Torque (ft.lb)	Locked Rotor Current		Locked Rotor Torque Tl/Tn	Break-down Torque Tb/Tn	Inertia J (sq.ft.lb)	Allowable locked rotor time (s)		Weight (lb)	Sound dB(A)	Service Factor	6600 V							
				Code	Ii/In				Hot	Cold				Rated speed (rpm)	% of full load			Full load current In (A)			
															Efficiency				Power Factor		
HP	KW												50	75	100	50	75	100			
II Poles																					
350	260	5010/11	508	G	6.5	1.2	2.5	59.3	20	44	3907	80.0	1.00	3572	93.4	94.5	94.8	0.73	0.81	0.85	28.2
400	300	5010/11	581	G	6.5	1.0	2.3	59.3	22	48	3907	80.0	1.00	3567	93.4	94.6	94.8	0.77	0.84	0.86	32.2
450	330	5010/11	636	G	6.5	1.0	2.3	59.3	21	46	3907	80.0	1.00	3666	93.7	94.7	94.9	0.78	0.84	0.86	35.4
500	370	5010/11	727	G	6.5	1.0	2.3	59.3	20	44	3907	80.0	1.00	3565	94.0	94.8	95.0	0.79	0.84	0.87	39.2
550	400	5010/11	799	V	6.5	1.0	2.2	61.7	19	42	4059	80.0	1.00	3565	94.3	94.9	95.1	0.79	0.85	0.09	409
600	440	5010/11	872	G	6.5	1.0	2.2	64.1	17	37	4059	80.0	1.00	3565	94.6	95.0	95.2	0.79	0.85	0.87	46.5
650	480	5010/11	945	G	6.5	1.0	2.2	66.4	15	33	4059	80.0	1.00	3565	94.9	95.1	95.3	0.79	0.85	0.87	50.6
680	500	5010/11	988	G	6.5	1.0	2.2	66.4	14	31	4059	80.0	1.00	3565	95.1	95.4	95.4	0.79	0.85	0.87	52.7
700	515	5010/11	1017	G	6.5	1.0	2.2	68.8	13	29	4059	80.0	1.00	3565	95.3	95.3	95.5	0.79	0.85	0.87	54.2
750	560	5010/11	1090	G	6.5	1.0	2.4	80.7	13	29	4361	80.0	1.00	3564	95.5	95.8	95.6	0.80	0.86	0.88	58.2
800	590	5010/11	1164	G	6.5	1.0	2.3	80.7	13	29	4361	80.0	1.00	3562	95.7	95.8	95.5	0.82	0.87	0.89	60.7
900	660	5810/11	1310	E	5.3	0.6	2.2	71.4	17	37	5288	85.0	1.00	3559	95.2	95.6	95.4	0.79	0.86	0.88	68.8
950	700	5810/11	1381	F	6.0	0.6	2.5	78.0	15	33	5431	85.0	1.00	3564	95.0	95.0	95.2	0.76	0.84	0.87	73.9
1100	800	5810/11	1599	F	6.0	0.6	2.4	85.6	14	31	5598	85.0	1.00	3563	95.3	95.6	95.3	0.78	0.85	0.88	83.4
1250	900	5810/11	1818	F	6.1	0.7	2.5	92.2	12	26	5759	85.0	1.00	3563	95.6	95.8	95.5	0.79	0.86	0.88	93.7
1350	1000	6810/11	1959	E	5.5	0.6	1.9	129	10	22	7729	88.0	1.00	3570	95.6	95.8	95.5	0.81	0.86	0.87	105
1500	1100	6810/11	2176	F	5.8	0.6	2.1	139	9	20	7923	88.0	1.00	3571	95.4	95.8	95.5	0.79	0.85	0.87	116
1700	1250	6810/11	2466	F	6.0	0.6	2.1	160	8	18	8335	88.0	1.00	3571	95.8	96.0	95.8	0.83	0.88	0.89	128
1900	1400	6810/11	2758	E	5.6	0.6	1.9	181	8	18	8712	88.0	1.00	3569	96.0	96.1	95.7	0.87	0.90	0.90	142
IV Poles																					
270	200	5010/11	785	G	6.5	0.9	2.5	109	26	57	4035	78.0	1.00	1783	93.8	95.0	95.0	0.79	0.85	0.88	20.9
350	260	5010/11	1017	G	6.5	1.0	2.5	109	25	55	4035	78.0	1.00	1783	94.0	95.0	95.0	0.78	0.85	0.88	27.2
400	300	5010/11	1162	G	6.5	1.0	2.5	109	24	53	4035	78.0	1.00	1783	94.2	95.0	95.0	0.78	0.85	0.88	31.4
450	330	5010/11	1308	G	6.5	1.0	2.5	135	23	51	4317	78.0	1.00	1782	94.4	95.0	95.0	0.77	0.85	0.88	34.5
500	370	5010/11	1454	G	6.5	1.0	2.5	135	22	48	4317	78.0	1.00	1782	94.6	95.0	95.0	0.77	0.85	0.88	38.7
550	400	5010/11	1599	G	6.5	1.0	2.5	135	21	46	4317	78.0	1.00	1782	94.8	95.0	95.0	0.77	0.85	0.88	41.9
600	440	5010/11	1744	G	6.5	1.0	2.5	135	20	44	4317	78.0	1.00	1782	95.0	95.1	95.0	0.77	0.85	0.88	46.0
650	480	5010/11	1891	G	6.5	1.0	2.5	147	19	42	4456	78.0	1.00	1781	95.2	95.3	95.1	0.77	0.85	0.88	50.2
700	515	5010/11	2034	G	6.5	1.0	2.5	147	18	40	4456	78.0	1.00	1783	95.4	95.5	95.2	0.77	0.85	0.88	53.8
750	560	5010/11	2182	G	6.5	0.9	2.5	147	17	37	4461	78.0	1.00	1781	95.5	95.6	95.2	0.79	0.86	0.88	58.5
800	590	5810/11	2325	G	6.5	0.9	2.5	122	20	44	5380	81.0	1.00	1783	94.8	95.3	95.1	0.72	0.81	0.85	63.8
900	660	5810/11	2615	G	6.5	0.8	2.5	133	19	42	5530	81.0	1.00	1783	95.0	95.4	95.2	0.73	0.82	0.86	70.5
1000	750	5810/11	2906	G	6.5	0.8	2.5	146	18	40	5729	81.0	1.00	1783	95.3	95.7	95.4	0.75	0.83	0.87	79.0
1150	850	5810/11	3343	F	6.2	0.8	2.5	169	20	44	6053	81.0	1.00	1782	95.6	95.8	95.5	0.79	0.86	0.88	88.5
1250	900	6810/11	3624	G	6.5	0.9	2.5	266	17	37	8022	84.0	1.00	1787	95.6	95.9	95.8	0.74	0.83	0.86	95.6
1350	1000	6810/11	3914	G	6.5	0.9	2.5	304	17	37	8428	84.0	1.00	1787	95.8	96.1	95.9	0.77	0.85	0.87	105
1500	1100	6810/11	4349	G	6.5	0.9	2.5	324	16	35	8650	84.0	1.00	1787	95.9	96.2	96.0	0.77	0.85	0.88	114
1700	1250	6810/11	4929	G	6.5	0.9	2.5	362	16	35	9029	84.0	1.00	1787	96.1	96.3	96.0	0.78	0.85	0.88	129
VI Poles																					
500	370	5810/11	2181	G	6.3	0.9	2.5	220	30	66	5376	77.0	1.00	1188	94.4	94.8	94.5	0.66	0.76	0.81	42.3
600	440	5810/11	2617	G	6.5	1.0	2.5	261	30	66	5671	77.0	1.00	1188	94.6	95.0	94.7	0.66	0.76	0.81	50.2
700	515	5810/11	3053	G	6.5	1.0	2.5	302	30	66	6004	77.0	1.00	1188	94.8	95.2	94.9	0.67	0.77	0.82	57.9
800	590	5810/11	3492	G	6.3	0.9	2.4	340	30	66	6293	77.0	1.00	1187	95.1	95.4	95.0	0.70	0.79	0.83	65.5
950	700	6810/11	4136	G	6.5	1.0	2.5	286	30	66	7598	77.0	1.00	1190	95.1	95.4	95.1	0.64	0.76	0.81	79.5
1100	800	6810/11	4793	G	6.4	0.9	2.5	335	30	66	7995	77.0	1.00	1189	95.5	95.7	95.3	0.69	0.79	0.83	88.5
1250	900	6810/11	5447	G	6.5	1.0	2.5	384	30	66	8355	77.0	1.00	1189	95.6	95.8	95.5	0.69	0.79	0.83	99.3
1350	1000	6810/11	5882	G	6.5	0.9	2.5	410	30	66	8600	77.0	1.00	1189	95.7	95.8	95.5	0.69	0.79	0.83	110
VIII Poles																					
430	315	5810/11	2506	F	5.6	0.9	2.1	266	30	66	5634	77.0	1.00	889	94.8	95.1	94.7	0.62	0.73	0.78	37.3
480	355	5810/11	2797	G	5.7	1.0	2.1	285	30	66	5768	77.0	1.00	889	95.0	95.1	94.7	0.63	0.74	0.78	42.0
550	400	5810/11	3202	G	6.3	1.1	2.4	327	30	66	6097	77.0	1.00	890	95.0	95.2	94.9	0.60	0.71	0.77	47.9
600	440	6810/11	3489	G	6.4	1.0	2.5	473	30	66	7755	77.0	1.00	891	94.7	95.2	94.9	0.64	0.75	0.80	50.7
700	515	6810/11	4070	H	6.5	1.1	2.5	547	30	66	8167	77.0	1.00	891	94.7	95.2	95.0	0.62	0.74	0.79	60.0
800	590	6810/11	4647	H	6.5	1.1	2.5	621	30	66	8593	77.0	1.00	892	94.9	95.4	95.3	0.60	0.72	0.78	69.4
850	630	6810/11	4942	H	6.5	1.1	2.5	661	30	66	8774	77.0	1.00	891	95.0	95.4	95.2	0.62	0.73	0.79	73.3

2.13. Electrical Data

2.13.5 W60 TEAC High Voltage (5.1 up to 6.6 kV)

Output		Frame	Full Load Torque (ft.lb)	Locked Rotor Current		Locked Rotor Torque Tl/Tn	Break-down Torque Tb/Tn	Inertia J (sq.ft.lb)	Allowable locked rotor time (s)		Weight (lb)	Sound dB(A)	Service Factor	6600 V							Full load current In (A)
														Rated speed (rpm)	% of full load						
															Efficiency			Power Factor			
HP	kW			Code	II/In				Hot	Cold				50	75	100	50	75	100		
II Poles																					
270	200	5010/11	392	G	6.5	1.0	2.3	59.3	30	66	4679	94.0	1.00	3565	89.2	91.5	92.2	0.82	0.87	0.88	21.6
350	260	5010/11	509	G	6.5	1.0	2.3	59.3	22	48	4679	94.0	1.00	3565	89.4	91.7	92.4	0.77	0.84	0.86	28.6
400	300	5010/11	581	G	6.5	1.0	2.3	59.3	21	46	4679	94.0	1.00	3565	89.6	91.9	92.6	0.78	0.84	0.86	33.0
450	330	5010/11	654	G	6.5	1.0	2.3	59.3	20	44	4679	94.0	1.00	3565	89.8	92.1	92.8	0.79	0.84	0.87	35.8
500	370	5010/11	727	V	6.5	1.0	2.2	61.7	19	42	4816	94.0	1.00	3565	90.8	93.0	93.0	0.79	0.85	0.09	387
550	400	5010/11	800	G	6.5	0.9	2.2	68.8	18	40	4853	94.0	1.00	3561	92.6	93.7	93.8	0.83	0.87	0.88	42.4
600	440	5010/11	871	G	6.5	1.0	2.2	66.4	15	33	4853	94.0	1.00	3569	92.4	93.7	94.0	0.79	0.85	0.86	47.6
650	480	5010/11	943	G	6.5	1.0	2.2	66.4	14	31	4853	94.0	1.00	3570	92.5	93.8	94.1	0.79	0.85	0.86	51.9
680	500	5010/11	987	G	6.5	1.0	2.2	68.8	13	29	4853	94.0	1.00	3571	92.6	93.9	94.2	0.75	0.82	0.86	54.0
700	515	5010/11	1015	G	6.5	1.5	2.5	85.4	10	22	5228	94.0	1.00	3572	92.7	94.0	94.4	0.74	0.82	0.86	55.5
800	590	5810/11	1162	G	6.5	0.7	2.5	77.6	16	35	5687	94.0	1.00	3567	93.1	94.2	94.3	0.79	0.86	0.88	62.2
900	660	5810/11	1308	G	6.5	0.7	2.5	85.2	14	31	5859	94.0	1.00	3566	93.6	94.5	94.6	0.81	0.87	0.89	68.6
1000	750	5810/11	1453	G	6.5	0.7	2.5	91.7	13	29	6009	94.0	1.00	3566	93.9	94.7	94.8	0.81	0.87	0.89	77.8
1100	800	6810/11	1596	E	5.5	0.6	1.9	136	13	29	8269	98.0	1.00	3570	92.7	93.9	94.1	0.85	0.89	0.89	83.6
1250	900	6810/11	1814	E	5.6	0.6	2.0	147	11	24	8489	98.0	1.00	3570	93.2	94.3	94.4	0.85	0.89	0.89	93.7
1350	1000	6810/11	1958	F	6.0	0.6	2.1	157	10	22	8685	98.0	1.00	3572	93.7	94.6	94.7	0.85	0.89	0.90	103
1500	1100	6810/11	2176	F	5.9	0.6	2.0	168	10	22	8882	98.0	1.00	3571	94.0	94.8	94.8	0.86	0.89	0.90	113
1700	1250	6810/11	2466	F	6.0	0.6	2.1	189	9	20	9294	98.0	1.00	3571	94.5	95.1	95.1	0.87	0.90	0.90	128
Optional																					
700	515	5810/11	1017	G	6.4	0.7	2.5	77.6	18	40	5676	94.0	1.00	3566	92.6	93.8	94.0	0.81	0.87	0.89	53.8
IV Poles																					
250	185	5010/11	726	G	6.5	1.0	2.5	157	26	57	5345	90.0	1.00	1783	93.8	94.7	94.7	0.79	0.86	0.89	19.2
270	200	5010/11	785	G	6.5	1.0	2.5	157	25	55	5345	90.0	1.00	1783	94.0	95.0	95.0	0.78	0.85	0.88	20.9
350	260	5010/11	1017	G	6.5	1.0	2.5	157	24	53	5345	90.0	1.00	1783	94.2	95.0	95.0	0.78	0.85	0.88	27.2
400	300	5010/11	1163	G	6.5	1.0	2.5	192	23	51	5574	90.0	1.00	1782	94.4	95.0	95.0	0.77	0.85	0.88	31.4
450	330	5010/11	1308	G	6.5	1.0	2.5	192	22	48	5574	90.0	1.00	1782	94.6	95.0	95.0	0.77	0.85	0.88	34.5
500	370	5010/11	1454	G	6.5	1.0	2.5	192	21	46	5574	90.0	1.00	1782	94.8	95.0	95.0	0.77	0.85	0.88	38.7
550	400	5010/11	1599	G	6.5	1.0	2.5	192	20	44	5574	90.0	1.00	1782	95.0	95.1	95.0	0.77	0.85	0.88	41.9
600	440	5010/11	1745	G	6.5	1.0	2.5	209	19	42	5689	90.0	1.00	1781	95.2	95.3	95.1	0.77	0.85	0.88	46.0
650	480	5010/11	1889	G	6.5	1.0	2.5	147	18	40	5228	90.0	1.00	1783	95.4	95.5	95.2	0.77	0.85	0.88	50.1
700	515	5810/11	2034	G	6.4	0.8	2.5	133	27	59	5720	90.0	1.00	1783	93.4	94.3	94.3	0.77	0.84	0.87	54.9
800	590	5810/11	2326	F	6.1	0.8	2.5	145	27	59	5918	90.0	1.00	1782	93.9	94.6	94.6	0.79	0.86	0.88	62.0
900	660	5810/11	2617	F	6.1	0.8	2.5	155	25	55	6046	90.0	1.00	1782	94.2	94.8	94.7	0.79	0.86	0.88	69.3
950	700	5810/11	2762	F	6.0	0.7	2.4	169	25	55	6260	90.0	1.00	1782	94.5	95.2	95.1	0.81	0.87	0.89	72.3
1100	800	6810/11	3187	G	6.5	0.9	2.5	266	18	40	8405	93.0	1.00	1788	94.3	95.1	95.3	0.76	0.84	0.87	84.4
1250	900	6810/11	3622	F	6.5	0.9	2.5	304	19	42	8811	93.0	1.00	1788	94.7	95.4	95.5	0.78	0.85	0.88	93.7
1350	1000	6810/11	3914	G	6.5	0.8	2.5	324	20	44	9021	93.0	1.00	1787	95.0	95.6	95.6	0.81	0.87	0.89	103
1500	1100	6810/11	4349	F	6.5	0.8	2.5	362	19	42	9389	93.0	1.00	1787	95.2	95.7	95.7	0.80	0.86	0.89	113
VI Poles																					
500	370	5810/11	2179	G	6.5	1.0	2.5	261	30	66	5931	81.0	1.00	1189	94.5	95.1	95.0	0.66	0.76	0.81	42.1
600	440	5810/11	2617	G	6.5	1.0	2.5	302	30	66	6207	81.0	1.00	1188	94.7	95.2	95.0	0.68	0.78	0.82	49.4
650	480	5810/11	2835	G	6.5	1.0	2.5	321	30	66	6359	81.0	1.00	1188	94.8	95.3	95.1	0.68	0.78	0.82	53.8
700	515	6810/11	3045	G	6.5	1.0	2.5	303	30	66	8004	84.0	1.00	1191	94.9	95.4	95.2	0.66	0.76	0.82	57.7
800	590	6810/11	3483	G	6.5	0.9	2.5	355	30	66	8408	84.0	1.00	1190	95.3	95.6	95.4	0.70	0.80	0.84	64.4
900	660	6810/11	3918	G	6.5	1.0	2.5	382	30	66	8641	84.0	1.00	1190	95.3	95.7	95.5	0.68	0.78	0.83	72.8
1000	750	6810/11	4357	G	6.5	0.9	2.5	434	30	66	9003	84.0	1.00	1189	95.6	95.8	95.5	0.74	0.82	0.85	80.8
VIII Poles																					
300	220	5810/11	1742	H	6.5	1.0	2.5	240	30	66	5497	77.0	1.00	892	93.9	94.6	94.6	0.57	0.69	0.75	27.1
350	260	5810/11	2035	H	6.3	1.1	2.4	260	30	66	5634	77.0	1.00	891	94.1	94.8	94.6	0.57	0.69	0.75	32.1
400	300	5810/11	2328	G	6.0	1.0	2.2	305	30	66	5940	77.0	1.00	890	94.5	94.9	94.7	0.61	0.72	0.77	36.0
450	330	5810/11	2617	H	6.5	1.3	2.5	350	30	66	6286	77.0	1.00	891	94.2	94.6	94.3	0.57	0.69	0.76	40.3
500	370	6810/11	2904	H	6.5	1.0	2.5	455	30	66	8152	78.0	1.00	892	94.1	94.8	94.8	0.63	0.74	0.80	42.7
550	400	6810/11	3194	H	6.5	1.1	2.5	487	30	66	8313	78.0	1.00	892	94.1	94.9	94.8	0.62	0.74	0.79	46.7
600	440	6810/11	3489	G	6.5	1.0	2.5	559	30	66	8714	78.0	1.00	891	94.5	95.0	95.0	0.66	0.76	0.81	50.0
650	480	6810/11	3780	G	6.5	1.0	2.5	636	30	66	9151	78.0	1.00	891	94.7	95.2	95.1	0.68	0.78	0.82	53.8

Note: 1) Temperature rise ΔT 105 K.

2.13.6 W60 TEWAC High Voltage (5.1 up to 6.6 kV)

Output		Frame	Full Load Torque (ft.lb)	Locked Rotor Current		Locked Rotor Torque Tl/Tn	Break-down Torque Tb/Tn	Inertia J (sq.ft.lb)	Allowable locked rotor time (s)		Weight (lb)	Sound dB(A)	Service Factor	6600 V							
														% of full load						Full load current In (A)	
														Efficiency			Power Factor				
HP	kW	Code	ll/In	Hot	Cold	50	75	100	50	75	100	Rated speed (rpm)									
II Poles																					
350	260	5010/11	508	G	6.5	1.2	2.5	60.2	20	44	4018	80.0	1.00	3572	93.4	94.5	94.8	0.73	0.81	0.85	28.2
400	300	5010/11	581	G	6.5	1.0	2.3	59.3	22	48	4018	80.0	1.00	3567	93.4	94.6	94.8	0.77	0.84	0.86	32.2
450	330	5010/11	636	G	6.5	1.0	2.3	59.3	21	46	4018	80.0	1.00	3666	93.7	94.7	94.9	0.78	0.84	0.86	35.4
500	370	5010/11	727	G	6.5	1.0	2.3	59.3	20	44	4018	80.0	1.00	3565	94.0	94.8	95.0	0.79	0.84	0.87	39.2
550	400	5010/11	799	V	6.5	1.0	2.2	61.7	19	42	4170	80.0	1.00	3565	94.3	94.9	95.1	0.79	0.85	0.09	409
600	440	5010/11	872	G	6.5	1.0	2.2	64.1	17	37	4170	80.0	1.00	3565	94.6	95.0	95.2	0.79	0.85	0.87	46.5
650	480	5010/11	945	G	6.5	1.0	2.2	66.4	15	33	4170	80.0	1.00	3565	94.9	95.1	95.3	0.79	0.85	0.87	50.6
680	500	5010/11	988	G	6.5	1.0	2.2	66.4	14	31	4170	80.0	1.00	3565	95.1	95.2	95.4	0.79	0.85	0.87	52.7
700	515	5010/11	1017	G	6.5	1.0	2.2	68.8	13	29	4170	80.0	1.00	3565	95.3	95.3	95.3	0.79	0.85	0.87	54.2
750	560	5010/11	1090	G	6.5	1.0	2.4	80.8	13	29	4472	80.0	1.00	3564	95.5	95.8	95.6	0.80	0.86	0.88	58.2
800	590	5010/11	1164	G	6.5	1.0	2.3	80.8	13	29	4472	80.0	1.00	3562	95.7	95.8	95.5	0.82	0.87	0.89	60.7
900	660	5810/11	1310	E	5.3	0.6	2.2	71.4	17	37	5398	80.0	1.00	3559	95.2	95.6	95.4	0.79	0.86	0.88	68.8
950	700	5810/11	1381	F	6.0	0.6	2.5	78.0	15	33	5541	80.0	1.00	3564	95.0	95.4	95.2	0.76	0.84	0.87	73.9
1100	800	5810/11	1599	F	6.0	0.6	2.4	85.6	14	31	5709	80.0	1.00	3563	95.3	95.6	95.3	0.78	0.85	0.88	83.4
1250	900	5810/11	1818	F	6.1	0.7	2.5	92.2	12	26	5870	80.0	1.00	3563	95.6	95.8	95.5	0.79	0.86	0.88	93.7
1350	1000	6810/11	1959	E	5.5	0.6	1.9	129	10	22	7839	80.0	1.00	3570	95.6	95.8	95.5	0.81	0.86	0.87	105
1500	1100	6810/11	2176	F	5.8	0.6	2.1	139	9	20	8033	80.0	1.00	3571	95.4	95.8	95.5	0.79	0.85	0.87	116
1700	1250	6810/11	2466	F	6.0	0.6	2.1	160	8	18	8445	80.0	1.00	3571	95.8	96.0	95.8	0.83	0.88	0.89	128
1900	1400	6810/11	2758	E	5.6	0.6	1.9	181	8	18	8822	80.0	1.00	3569	96.0	96.1	95.7	0.87	0.90	0.90	142
IV Poles																					
270	200	5010/11	785	G	6.5	0.9	2.5	110	26	57	4145	78.0	1.00	1783	93.8	95.0	95.0	0.79	0.85	0.88	20.9
350	260	5010/11	1017	G	6.5	1.0	2.5	110	25	55	4145	78.0	1.00	1783	94.0	95.0	95.0	0.78	0.85	0.88	27.2
400	300	5010/11	1162	G	6.5	1.0	2.5	110	24	53	4145	78.0	1.00	1783	94.2	95.0	95.0	0.78	0.85	0.88	31.4
450	330	5010/11	1308	G	6.5	1.0	2.5	135	23	51	4428	78.0	1.00	1782	94.4	95.0	95.0	0.77	0.85	0.88	34.5
500	370	5010/11	1454	G	6.5	1.0	2.5	135	22	48	4428	78.0	1.00	1782	94.6	95.0	95.0	0.77	0.85	0.88	38.7
550	400	5010/11	1599	G	6.5	1.0	2.5	135	21	46	4428	78.0	1.00	1782	94.8	95.0	95.0	0.77	0.85	0.88	41.9
600	440	5010/11	1744	G	6.5	1.0	2.5	135	20	44	4428	78.0	1.00	1782	95.0	95.1	95.0	0.77	0.85	0.88	46.0
650	480	5010/11	1891	G	6.5	1.0	2.5	148	19	42	4567	78.0	1.00	1781	95.2	95.3	95.1	0.77	0.85	0.88	50.2
700	515	5010/11	2034	G	6.5	1.0	2.5	146	18	40	4567	78.0	1.00	1783	95.4	95.5	95.2	0.77	0.85	0.88	53.8
750	560	5010/11	2182	G	6.5	0.9	2.5	146	17	37	4571	78.0	1.00	1781	95.5	95.6	95.2	0.79	0.86	0.88	58.5
800	590	5810/11	2325	G	6.5	0.9	2.5	122	20	44	5490	78.0	1.00	1783	94.8	95.3	95.1	0.72	0.81	0.85	63.8
900	660	5810/11	2615	G	6.5	0.8	2.5	133	19	42	5640	78.0	1.00	1783	95.0	95.4	95.2	0.73	0.82	0.86	70.5
1000	750	5810/11	2906	G	6.5	0.8	2.5	146	18	40	5839	78.0	1.00	1783	95.3	95.7	95.4	0.75	0.83	0.87	79.0
1150	850	5810/11	3343	F	6.2	0.8	2.5	169	20	44	6163	78.0	1.00	1782	95.6	95.8	95.5	0.79	0.86	0.88	88.5
1250	900	6810/11	3624	G	6.5	0.9	2.5	266	17	37	8132	79.0	1.00	1787	95.6	95.9	95.8	0.74	0.83	0.86	95.6
1350	1000	6810/11	3914	G	6.5	0.9	2.5	304	17	37	8538	79.0	1.00	1787	95.8	96.1	95.9	0.77	0.85	0.87	105
1500	1100	6810/11	4349	G	6.5	0.9	2.5	324	16	35	8760	79.0	1.00	1787	95.9	96.2	96.0	0.77	0.85	0.88	114
1700	1250	6810/11	4929	G	6.5	0.9	2.5	362	16	35	9140	79.0	1.00	1787	96.1	96.3	96.0	0.78	0.85	0.88	129
VI Poles																					
500	370	5810/11	2181	G	6.3	0.9	2.5	220	30	66	5486	77.0	1.00	1188	94.4	94.8	94.5	0.66	0.76	0.81	42.3
600	440	5810/11	2617	G	6.5	1.0	2.5	261	30	66	5782	77.0	1.00	1188	94.6	95.0	94.7	0.66	0.76	0.81	50.2
700	515	5810/11	3053	G	6.5	1.0	2.5	302	30	66	6114	77.0	1.00	1188	94.8	95.2	94.9	0.67	0.77	0.82	57.9
800	590	5810/11	3492	G	6.3	0.9	2.4	340	30	66	6403	77.0	1.00	1187	95.1	95.4	95.0	0.70	0.79	0.83	65.5
950	700	6810/11	4136	G	6.5	1.0	2.5	286	30	66	7709	77.0	1.00	1190	95.1	95.4	95.1	0.64	0.76	0.81	79.5
1100	800	6810/11	4793	G	6.4	0.9	2.5	335	30	66	8106	77.0	1.00	1189	95.5	95.7	95.3	0.69	0.79	0.83	88.5
1250	900	6810/11	5447	G	6.5	1.0	2.5	384	30	66	8465	77.0	1.00	1189	95.6	95.8	95.5	0.69	0.79	0.83	99.3
1350	1000	6810/11	5882	G	6.5	0.9	2.5	410	30	66	8710	77.0	1.00	1189	95.7	95.8	95.5	0.69	0.79	0.83	110
VIII Poles																					
430	315	5810/11	2506	F	5.6	0.9	2.1	266	30	66	5744	77.0	1.00	889	94.8	95.1	94.7	0.62	0.73	0.78	37.3
480	355	5810/11	2797	G	5.7	1.0	2.1	285	30	66	5879	77.0	1.00	889	95.0	95.1	94.7	0.63	0.74	0.78	42.0
550	400	5810/11	3202	G	6.3	1.1	2.4	327	30	66	6207	77.0	1.00	890	95.0	95.2	94.9	0.60	0.71	0.77	47.9
600	440	6810/11	3489	G	6.4	1.0	2.5	473	30	66	7865	77.0	1.00	891	94.7	95.2	94.9	0.64	0.75	0.80	50.7
700	515	6810/11	4070	H	6.5	1.1	2.5	547	30	66	8278	77.0	1.00	891	94.7	95.2	95.0	0.62	0.74	0.79	60.0
800	590	6810/11	4647	H	6.5	1.1	2.5	621	30	66	8703	77.0	1.00	892	94.9	95.4	95.3	0.60	0.72	0.78	69.4
850	630	6810/11	4942	H	6.5	1.1	2.5	661	30	66	8884	77.0	1.00	891	95.0	95.4	95.2	0.62	0.73	0.79	73.3

Note: 1) Temperature rise ΔT 105 K.

2.13. Electrical Data

2.13.7 W60 WP11 Low Voltage

Output		Frame	Full Load Torque (ft.lb)	Locked Rotor Current		Locked Rotor Torque Tl/Tn	Break-down Torque Tb/Tn	Inertia J (sq.ft.lb)	Allowable locked rotor time (s)		Weight (lb)	Sound dB(A)	Service Factor	460 V							
														Rated speed (rpm)	% of full load			Full load current In (A)			
															Efficiency				Power Factor		
HP	kW	Code	II/In	50	75	100	50	75	100	Hot	Cold	50	75	100							
II Poles																					
550	400	5010/11	800	E	5.6	0.8	1.9	57.3	19	42	3969	85.0	1.00	3560	95.7	95.7	95.8	0.85	0.88	0.89	589
600	440	5010/11	873	E	5.6	0.8	1.9	57.0	17	37	3969	85.0	1.00	3560	95.9	95.9	95.8	0.85	0.88	0.89	648
650	480	5010/11	946	E	5.6	0.8	1.9	57.0	16	35	3969	85.0	1.00	3560	96.0	96.1	95.8	0.85	0.88	0.89	707
700	515	5010/11	1018	F	6.0	0.9	2.2	61.7	15	33	4106	85.0	1.00	3562	96.1	96.2	95.9	0.84	0.88	0.89	758
750	560	5010/11	1091	F	6.0	0.9	2.2	61.7	14	31	4106	85.0	1.00	3562	96.3	96.3	96.1	0.84	0.88	0.89	822
800	590	5010/11	1164	F	6.0	0.9	2.2	75.9	13	29	4377	85.0	1.00	3562	96.4	96.4	96.2	0.84	0.88	0.89	865
850	630	5010/11	1235	F	6.5	1.0	2.4	75.9	12	26	4377	85.0	1.00	3566	96.5	96.5	96.3	0.84	0.89	0.90	913
900	660	5010/11	1308	F	6.5	1.0	2.4	75.9	11	24	4377	85.0	1.00	3566	96.6	96.6	96.4	0.84	0.89	0.90	957
950	700	5010/11	1380	F	6.5	1.0	2.4	82.1	10	22	4514	85.0	1.00	3567	96.7	96.8	96.5	0.84	0.89	0.90	1010
1000	750	5810/11	1453	G	6.2	0.8	2.5	67.4	11	24	5336	85.0	1.00	3566	95.9	96.3	96.3	0.73	0.82	0.86	1140
1100	800	5810/11	1598	F	6.2	0.8	2.5	82.9	11	24	5660	85.0	1.00	3566	96.2	96.5	96.5	0.74	0.83	0.87	1200
1150	850	5810/11	1670	F	6.2	0.9	2.5	82.9	10	22	5660	85.0	1.00	3567	96.3	96.6	96.6	0.74	0.83	0.87	1270
1250	900	5810/11	1816	F	6.2	0.9	2.5	90.6	9	20	5821	85.0	1.00	3567	96.5	96.7	96.7	0.75	0.85	0.88	1330
1350	1000	5810/11	1960	G	6.5	1.0	2.5	90.6	8	18	5821	85.0	1.00	3568	96.6	96.9	96.9	0.75	0.85	0.88	1470
1500	1100	5810/11	2178	F	6.5	1.0	2.5	93.6	7	15	5984	85.0	1.00	3568	96.7	97.0	97.0	0.76	0.85	0.88	1620
IV Poles																					
480	355	5010/11	1396	G	6.5	1.0	2.5	102	25	55	3923	82.0	1.00	1781	96.1	96.2	96.2	0.75	0.83	0.87	533
500	370	5010/11	1455	G	6.5	1.0	2.5	115	25	55	4057	82.0	1.00	1780	96.0	96.0	96.2	0.76	0.82	0.87	555
550	400	5010/11	1601	G	6.5	1.0	2.5	129	24	53	4192	82.0	1.00	1780	96.1	96.1	96.2	0.77	0.83	0.87	600
600	440	5010/11	1746	G	6.5	1.0	2.5	142	24	53	4326	82.0	1.00	1780	96.2	96.2	96.2	0.78	0.84	0.88	652
650	480	5010/11	1892	G	6.5	1.0	2.5	155	23	51	4461	82.0	1.00	1780	96.3	96.3	96.2	0.79	0.85	0.88	712
700	515	5010/11	2037	G	6.5	1.0	2.5	168	23	51	4595	82.0	1.00	1780	96.4	96.4	96.3	0.80	0.86	0.88	762
800	590	5010/11	2328	G	6.5	1.0	2.5	181	22	48	4728	82.0	1.00	1780	96.5	96.5	96.4	0.81	0.87	0.88	873
900	660	5010/11	2620	F	6.5	1.0	2.5	183	22	48	4862	82.0	1.00	1780	96.6	96.6	96.5	0.82	0.87	0.89	966
950	700	5810/11	2773	F	5.8	0.9	2.2	106	16	35	5213	82.0	1.00	1775	96.4	96.3	96.2	0.74	0.82	0.85	1070
1000	750	5810/11	2917	F	6.0	0.9	2.5	130	16	35	5550	82.0	1.00	1776	96.4	96.4	96.2	0.74	0.82	0.85	1150
1100	800	5810/11	3207	F	6.0	0.9	2.5	142	15	33	5720	82.0	1.00	1777	96.5	96.5	96.3	0.74	0.82	0.85	1220
1150	850	5810/11	3351	F	6.0	1.0	2.5	154	15	33	5887	82.0	1.00	1778	96.6	96.6	96.4	0.74	0.82	0.86	1290
1250	900	5810/11	3640	G	6.5	1.2	2.5	166	14	31	6057	82.0	1.00	1779	96.7	96.7	96.5	0.74	0.82	0.86	1360
1350	1000	5810/11	3929	G	6.5	1.2	2.5	175	13	29	6225	82.0	1.00	1780	96.8	96.8	96.6	0.74	0.82	0.86	1510
VI Poles																					
450	330	5010/11	1971	G	6.5	1.0	2.5	196	30	66	4425	77.0	1.00	1183	96.4	96.2	95.8	0.75	0.83	0.86	503
500	370	5010/11	2188	G	6.5	1.0	2.5	230	30	66	4425	77.0	1.00	1184	96.2	96.1	95.8	0.71	0.81	0.85	570
600	440	5010/11	2625	G	6.5	1.2	2.5	230	30	66	4425	77.0	1.00	1184	96.4	96.3	95.8	0.71	0.81	0.85	678
700	515	5010/11	3060	G	6.5	1.2	2.5	258	30	66	4979	77.0	1.00	1185	96.6	96.5	96.0	0.71	0.81	0.85	792
750	560	5810/11	3285	G	6.4	1.0	2.5	212	30	66	5978	77.0	1.00	1183	96.7	96.3	95.8	0.75	0.83	0.86	853
800	590	5810/11	3501	G	6.4	1.0	2.5	242	30	66	6313	77.0	1.00	1184	96.4	96.0	95.8	0.74	0.82	0.85	910
900	660	5810/11	3938	G	6.4	1.0	2.5	243	30	66	6313	77.0	1.00	1184	96.6	96.2	95.8	0.74	0.82	0.85	1010
950	700	5810/11	4157	G	6.4	1.1	2.5	258	30	66	6646	77.0	1.00	1184	96.8	96.4	95.8	0.74	0.82	0.85	1080
970	710	5810/11	4244	G	6.5	1.1	2.5	270	30	66	6646	77.0	1.00	1184	97.0	96.6	96.0	0.75	0.83	0.86	1080

2.13.8 W60 TEAC Low Voltage

Output		Frame	Full Load Torque (ft.lb)	Locked Rotor Current		Locked Rotor Torque Tl/Tn	Break-down Torque Tb/Tn	Inertia J (sq.ft.lb)	Allowable locked rotor time (s)		Weight (lb)	Sound dB(A)	Service Factor	460 V							
														Rated speed (rpm)	% of full load			Full load current In (A)			
															Efficiency				Power Factor		
HP	kW	Code	II/In	50	75	100	50	75	100	Hot	Cold	50	75	100							
II Poles																					
550	400	5010/11	798	F	6.5	1.2	2.5	66.4	14	31	4926	94.0	1.00	3570	93.4	94.7	95.8	0.80	0.87	0.89	589
600	440	5010/11	872	F	6.5	1.0	2.4	66.4	14	31	4926	94.0	1.00	3566	94.6	94.8	95.8	0.81	0.88	0.89	648
650	480	5010/11	944	G	6.5	1.0	2.4	66.4	14	31	4926	94.0	1.00	3566	94.7	95.0	95.8	0.82	0.88	0.89	707
700	515	5010/11	1017	G	6.5	1.0	2.4	73.6	13	29	5067	94.0	1.00	3566	94.8	95.1	95.8	0.83	0.88	0.89	759
750	560	5010/11	1091	G	6.5	1.0	2.4	73.6	12	26	5067	94.0	1.00	3563	94.9	95.3	95.8	0.84	0.89	0.90	815
800	590	5010/11	1163	F	6.5	1.0	2.4	73.6	11	24	5067	94.0	1.00	3563	95.0	95.4	95.8	0.85	0.89	0.90	859
850	630	5010/11	1236	F	6.5	1.1	2.5	80.7	11	24	5208	94.0	1.00	3563	95.0	95.6	95.8	0.86	0.90	0.91	907
900	660	5810/11	1308	F	5.8	0.8	2.4	59.3	15	33	5323	94.0	1.00	3564	93.7	94.7	95.0	0.79	0.86	0.88	992
950	700	5810/11	1380	F	6.0	0.8	2.4	75.9	13	29	5658	94.0	1.00	3566	93.6	94.8	95.0	0.84	0.87	0.88	1050
1000	750	5810/11	1452	G	6.5	0.9	2.4	83.1	12	26	5826	94.0	1.00	3567	94.2	95.2	95.4	0.84	0.88	0.89	1110
1100	800	5810/11	1598	F	6.5	0.9	2.5	90.2	11	24	5993	94.0	1.00	3567	94.8	95.6	95.8	0.84	0.88	0.89	1180
1150	850	5810/11	1670	F	6.5	1.0	2.5	92.5	10	22	6163	94.0	1.00	3568	95.4	96.0	96.2	0.85	0.89	0.90	1230
IV Poles																					
550	400	5010/11	1597	G	6.5	1.1	2.5	126	24	53	4968	90.0	1.00	1784	96.0	96.3	96.2	0.76	0.84	0.87	600
600	440	5010/11	1743	G	6.5	1.0	2.5	152	24	53	5235	90.0	1.00	1783	95.3	95.8	96.2	0.78	0.84	0.87	660
650	480	5010/11	1890	G	6.5	1.0	2.5	164	24	53	5367	90.0	1.00	1782	95.3	95.8	96.2	0.79	0.85	0.87	720
700	515	5010/11	2036	G	6.5	1.0	2.5	178	24	53	5501	90.0	1.00	1781	95.3	95.8	96.2	0.80	0.86	0.88	763
800	590	5010/11	2326	F	6.5	1.1	2.5	183	22	48	5634	90.0	1.00	1782	95.5	95.9	96.2	0.81	0.87	0.89	865
900	660	5810/11	2617	G	6.5	1.1	2.5	128	19	42	5759	90.0	1.00	1782	96.4	96.5	96.2	0.76	0.84	0.87	985
950	700	5810/11	2762	A	6.5	1.1	2.5	128	16	35	5759	90.0	1.00	1782	95.3	95.8	96.2	0.74	0.82	0.86	10.6
1000	750	5810/11	2907	G	6.5	1.1	2.5	140	15	33	5927	90.0	1.00	1782	95.3	95.8	96.2	0.74	0.82	0.86	1140
1100	800	5810/11	3198	G	6.5	1.1															

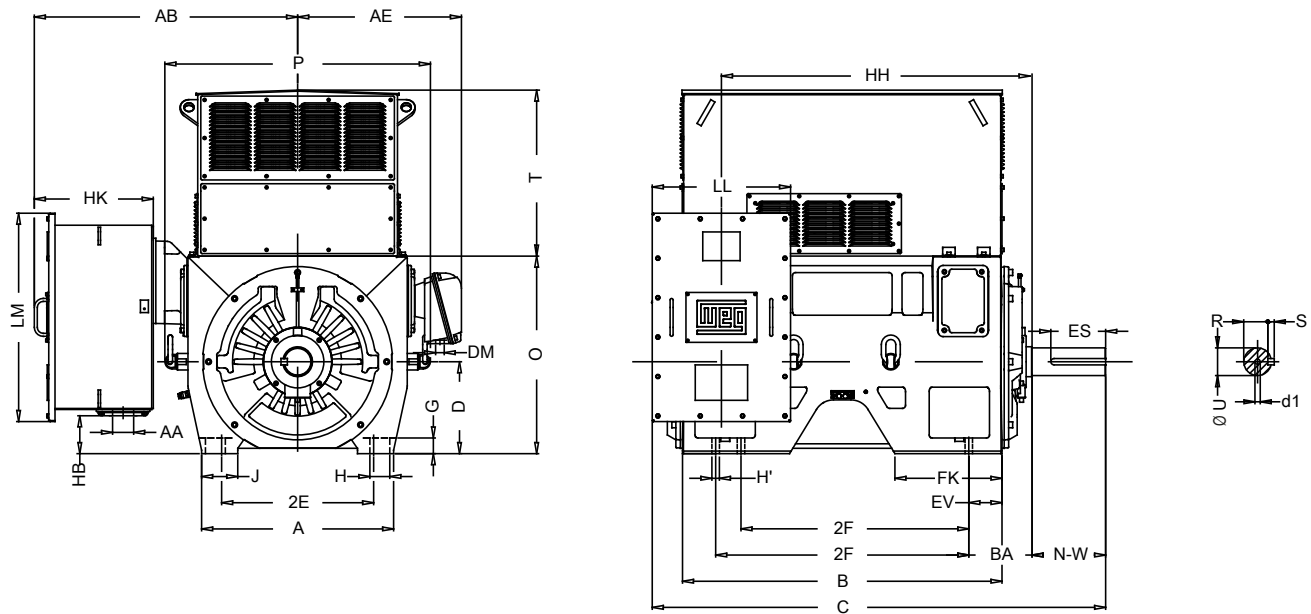
2.13. Electrical Data

2.13.9 W60 TEWAC Low Voltage

Output		Frame	Full Load Torque (ft.lb)	Locked Rotor Current		Locked Rotor Torque Tl/Tn	Break-down Torque Tb/Tn	Inertia J (sq.ft.lb)	Allowable locked rotor time (s)		Weight (lb)	Sound dB(A)	Service Factor	460 V							
														Rated speed (rpm)	% of full load			Full load current In (A)			
															Efficiency		Power Factor				
HP	kW			Code	ll/In				Hot	Cold				50	75	100	50	75	100		
II Poles																					
550	400	5010/11	800	E	5.6	0.8	1.9	57.0	19	42	4079	85.0	1.00	3560	95.7	95.7	95.8	0.85	0.88	0.89	589
600	440	5010/11	873	E	5.6	0.8	1.9	57.0	17	37	4079	85.0	1.00	3560	95.9	95.9	95.8	0.85	0.88	0.89	648
650	480	5010/11	946	E	5.6	0.8	1.9	57.0	16	35	4079	85.0	1.00	3560	96.0	96.1	95.8	0.85	0.88	0.89	707
700	515	5010/11	1018	F	6.0	0.9	2.2	61.7	15	33	4216	85.0	1.00	3562	96.1	96.2	95.9	0.84	0.88	0.89	758
750	560	5010/11	1091	F	6.0	0.9	2.2	61.7	14	31	4216	85.0	1.00	3562	96.3	96.3	96.1	0.84	0.88	0.89	822
800	590	5010/11	1164	F	6.0	0.9	2.2	75.9	13	29	4487	85.0	1.00	3562	96.4	96.4	96.2	0.84	0.88	0.89	865
850	630	5010/11	1235	F	6.5	1.0	2.4	75.9	12	26	4487	85.0	1.00	3566	96.5	96.5	96.3	0.84	0.89	0.90	913
900	660	5010/11	1308	F	6.5	1.0	2.4	75.9	11	24	4487	85.0	1.00	3566	96.6	96.7	96.4	0.84	0.89	0.90	957
950	700	5010/11	1380	F	6.5	1.0	2.4	83.1	10	22	4624	85.0	1.00	3567	96.7	96.8	96.5	0.84	0.89	0.90	1010
1000	750	5810/11	1453	G	6.2	0.8	2.5	66.4	11	24	5446	85.0	1.00	3566	95.9	96.3	96.3	0.73	0.82	0.86	1140
1100	800	5810/11	1598	F	6.2	0.8	2.5	83.1	11	24	5770	85.0	1.00	3566	96.2	96.5	96.5	0.74	0.83	0.87	1200
1150	850	5810/11	1670	F	6.2	0.9	2.5	83.1	10	22	5770	85.0	1.00	3567	96.3	96.6	96.6	0.74	0.83	0.87	1270
1250	900	5810/11	1816	F	6.2	0.9	2.5	90.2	9	20	5931	85.0	1.00	3567	96.5	96.7	96.7	0.75	0.85	0.88	1330
1350	1000	5810/11	1960	G	6.5	1.0	2.5	90.2	8	18	5931	85.0	1.00	3568	96.6	96.9	96.9	0.75	0.85	0.88	1470
1500	1100	5810/11	2178	F	6.5	1.0	2.5	92.5	7	15	6095	85.0	1.00	3568	96.7	97.0	97.0	0.76	0.85	0.88	1620
IV Poles																					
480	355	5010/11	1396	G	6.5	1.0	2.5	102	25	55	4033	82.0	1.00	1781	96.1	96.2	96.2	0.75	0.83	0.87	533
500	370	5010/11	1455	G	6.5	1.0	2.5	116	25	55	4167	82.0	1.00	1780	96.0	96.0	96.2	0.76	0.82	0.87	555
550	400	5010/11	1601	G	6.5	1.0	2.5	128	24	53	4302	82.0	1.00	1780	96.1	96.1	96.2	0.77	0.83	0.87	600
600	440	5010/11	1746	G	6.5	1.0	2.5	142	24	53	4436	82.0	1.00	1780	96.2	96.2	96.2	0.78	0.84	0.88	652
650	480	5010/11	1892	G	6.5	1.0	2.5	154	23	51	4571	82.0	1.00	1780	96.3	96.3	96.2	0.79	0.85	0.88	712
700	515	5010/11	2037	G	6.5	1.0	2.5	168	23	51	4705	82.0	1.00	1780	96.4	96.4	96.3	0.80	0.86	0.88	762
800	590	5010/11	2328	G	6.5	1.0	2.5	180	22	48	4838	82.0	1.00	1780	96.5	96.5	96.4	0.81	0.87	0.88	873
900	660	5010/11	2620	F	6.5	1.0	2.5	183	22	48	4972	82.0	1.00	1780	96.6	96.6	96.5	0.82	0.87	0.89	966
950	700	5810/11	2773	F	5.8	0.9	2.2	107	16	35	5323	82.0	1.00	1775	96.4	96.3	96.2	0.74	0.82	0.85	1070
1000	750	5810/11	2917	F	6.0	0.9	2.5	131	16	35	5660	82.0	1.00	1776	96.4	96.4	96.2	0.74	0.82	0.85	1150
1100	800	5810/11	3207	F	6.0	0.9	2.5	142	15	33	5830	82.0	1.00	1777	96.5	96.5	96.3	0.74	0.82	0.85	1220
1150	850	5810/11	3351	F	6.0	1.0	2.5	154	15	33	5998	82.0	1.00	1778	96.6	96.6	96.4	0.74	0.82	0.86	1290
1250	900	5810/11	3640	G	6.5	1.2	2.5	166	14	31	6167	82.0	1.00	1779	96.7	96.7	96.5	0.74	0.82	0.86	1360
1350	1000	5810/11	3929	G	6.5	1.2	2.5	176	13	29	6335	82.0	1.00	1780	96.8	96.8	96.6	0.74	0.82	0.86	1510
VI Poles																					
450	330	5010/11	1971	G	6.5	1.0	2.5	197	30	66	4536	77.0	1.00	1183	96.4	96.2	95.8	0.75	0.83	0.86	503
500	370	5010/11	2188	G	6.5	1.0	2.5	230	30	66	4536	77.0	1.00	1184	96.2	96.1	95.8	0.71	0.81	0.85	570
600	440	5010/11	2625	G	6.5	1.2	2.5	230	30	66	4536	77.0	1.00	1184	96.4	96.3	95.8	0.71	0.81	0.85	678
700	515	5010/11	3060	G	6.5	1.2	2.5	259	30	66	5089	77.0	1.00	1185	96.6	96.5	96.0	0.71	0.81	0.85	792
750	560	5810/11	3285	G	6.4	1.0	2.5	211	30	66	6088	77.0	1.00	1183	96.7	96.3	95.8	0.75	0.83	0.86	853
800	590	5810/11	3501	G	6.4	1.0	2.5	242	30	66	6423	77.0	1.00	1184	96.4	96.0	95.8	0.74	0.82	0.85	910
900	660	5810/11	3938	G	6.4	1.0	2.5	242	30	66	6423	77.0	1.00	1184	96.6	96.2	95.8	0.74	0.82	0.85	1010
950	700	5810/11	4157	G	6.4	1.1	2.5	259	30	66	6756	77.0	1.00	1184	96.8	96.4	95.8	0.74	0.82	0.85	1080
970	710	5810/11	4244	G	6.5	1.1	2.5	271	30	66	6756	77.0	1.00	1184	97.0	96.6	96.0	0.75	0.83	0.86	1080

2.14. Mechanical Data

2.14.1 WPII Motors

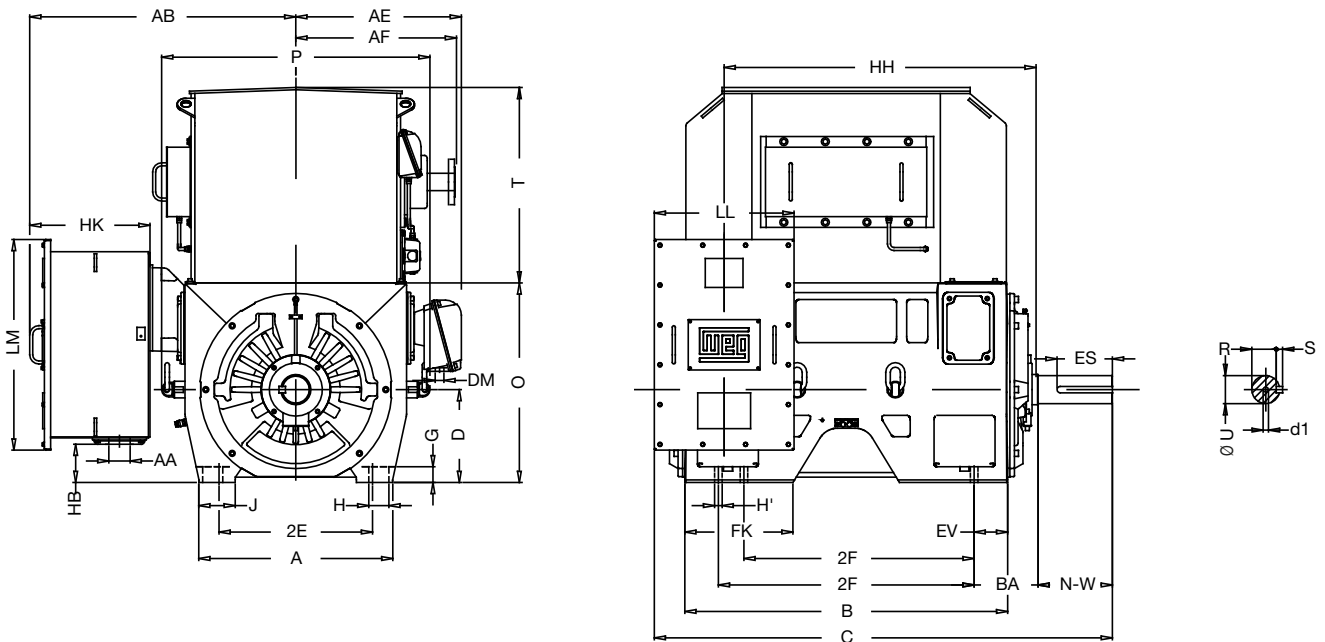


Frame	N° poles	2E	2F	H	BA	A	B	C	D	O+T	G	J	HB	H'	P	AB
5010/11	2	20	32 / 36	2.992	8.5	25.957	44.983	60.104	12.5	53.185	2.004	5.052	2.988	1.181	34.488	38.648
	4/6/8							61.104								
5810/11	2	23	36 / 40	3.181	10	30.25	50.442	66.769	14.5	57.348	2.463	5.632	5.972	1.181	41.968	41.6
	4/6/8							71.644								
L5810/11	2	27	45 / 50	3.167	11.5	33.82	58.071	64.821	17.0	66.947	3.196	7.028	10.059	1.417	43.543	42.397
	4/6/8							69.696								
6810/11	2	27	45 / 50	3.167	11.5	33.82	58.071	77.147	17.0	66.947	3.196	7.028	10.059	1.417	43.543	42.397
	4/6/8							82.022								

Frame	N° poles	AE	HH	HK	LM	LL	FK	AA	DM	EV
5010/11	2	22.929	43.429	18.81	32.874	21.85	14.956	NPT 3"	3xNPT 3/4"	3.901
	4/6/8						16.898			5.591
5810/11	2	25.882	49.094	18.81	32.874	21.85	14.956	NPT 3"	3xNPT 3/4"	3.901
	4/6/8						16.898			5.591
L5810/11	2	26.47	47.146	18.81	32.874	21.85	14.008	NPT 3"	3xNPT 3/4"	3.563
	4/6/8						14.008			3.563
6810/11	2	26.678	59.472	18.81	32.874	21.85	18.103	NPT 3"	3xNPT 3/4"	4.036
	4/6/8						18.103			4.036

Frame	N° poles	Shaft end						Ball Bearing		Roller Bearing	
		N-W	ES	U	R	S	d1	DE	NDE	DE	NDE
5010/11	2	5.75	4.331	3.25	2.831	0.75	UNC 3/4"-10	6218	6218	-	-
	4/6/8	6.75	5.512	3.75	3.26	0.875	UNC 7/8"-9	6220		NU220	
5810/11	2	6.75	5.512	3.375	2.28	0.875	UNC 3/4"-10	6218		-	
	4/6/8	11.625	8.661	4.375	3.817	1	UNC 1"-8	6224	6218	NU224	
L5810/11	2	6.75	5.512	3.75	3.261	0.875	UNC 7/8"-9	6220	6220	-	-
	4/6/8	11.625	8.661	5.125	4.423	1.25	UNC 1 1/4"-7	6228		6220	
6810/11	2	6.75	5.512	3.75	3.261	0.875	UNC 7/8"	6220		-	
	4/6/8	11.625	9.843	5.125	4.423	1.25	UNC 1 1/4"	6228	6220	NU228	

2.14.2 TEWAC Motors



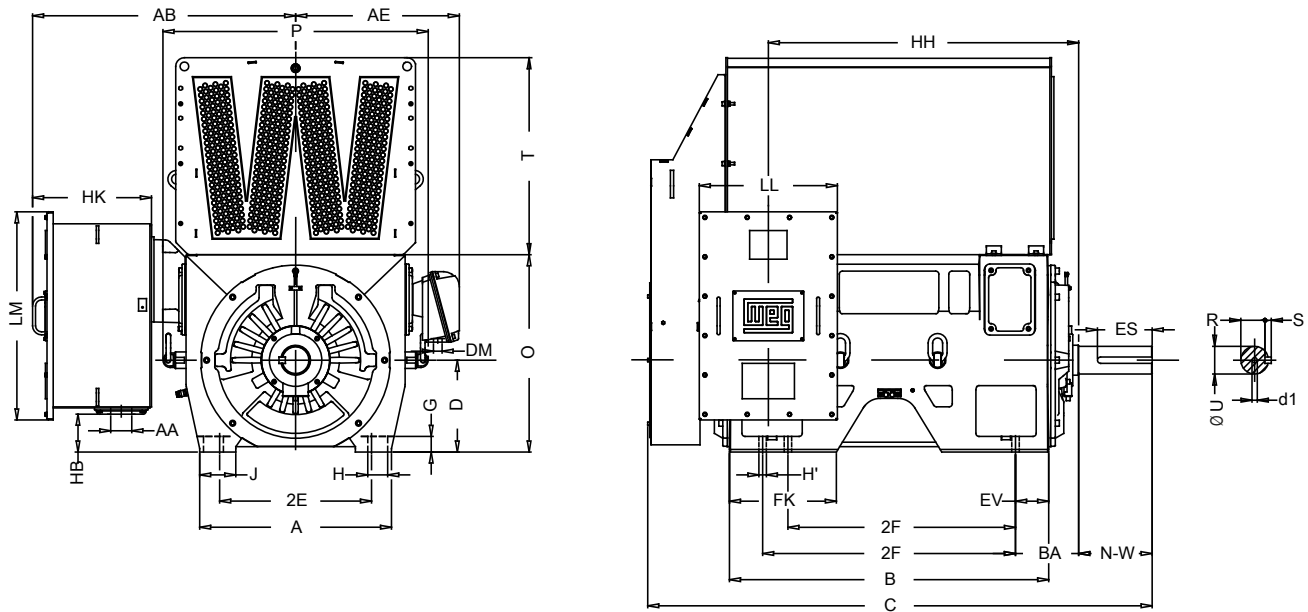
Frame	N° poles	2E	2F	H	BA	A	B	C	D	O+T	G	J	HB	H'	P	AB
5010/11	2	20	32 / 36	2.992	8.5	25.957	44.983	60.104	12.5	57.649	2.004	5.052	2.988	1.181	34.488	38.648
	4/6/8							61.104								
5810/11	2	23	36 / 40	3.181	10	30.25	50.442	66.769	14.5	61.678	2.463	5.632	5.972	1.181	41.968	41.6
	4/6/8							71.644								
L5810/11	2	27	45 / 50	3.167	11.5	33.82	58.071	64.821	17	67.537	3.196	7.028	10.059	1.417	43.543	42.397
	4/6/8							69.696								
6810/11	2	27	45 / 50	3.167	11.5	33.82	58.071	77.147	17	67.537	3.196	7.028	10.059	1.417	43.543	42.397
	4/6/8							82.022								

Frame	N° poles	AE	HH	HK	LM	LL	FK	AA	DM	EV	HB	AF
5010/11	2	22.929	43.429	18.81	32.874	21.85	14.956	NPT 3"	3xNPT 3/4"	3.901	2.988	22.417
	4/6/8						16.898					
5810/11	2	25.881	49.094	18.81	32.874	21.85	16.898	NPT 3"	3xNPT 3/4"	5.591	5.972	26.434
	4/6/8						14.008					
L5810/11	2	26.332	47.146	18.81	32.874	21.85	14.008	NPT 3"	3xNPT 3/4"	3.563	6.315	26.157
	4/6/8						18.103					
6810/11	2	26.678	59.472	18.81	32.874	21.85	18.103	NPT 3"	3xNPT 3/4"	4.036	10.059	26.177
	4/6/8											

Frame	N° poles	Shaft end						Ball Bearing		Roller Bearing	
		N-W	ES	U	R	S	d1	DE	NDE	DE	NDE
5010/11	2	5.75	4.331	3.25	2.831	0.75	UNC 3/4"-10	6218	6218	-	-
	4/6/8	6.75	5.512	3.75	3.26	0.875	UNC 7/8"-9	6220		NU220	
5810/11	2	6.749	5.512	3.375	2.879	0.875	UNC 3/4"	6218	6218	-	-
	4/6/8	11.625	8.661	4.375	3.817	1	UNC 1"	6224		NU224	
L5810/11	2	6.749	5.512	3.749	3.261	0.875	UNC 7/8"	6220	6220	-	-
	4/6/8	11.625	8.661	5.125	4.423	1.249	UNC 1 1/4"	6228		NU228	
6810/11	2	6.749	5.512	3.75	3.26	0.875	UNC 7/8"	6220	6220	-	-
	4/6/8	11.625	9.843	5.125	4.423	1.25	UNC 1 1/4"	6228		NU228	

2.14. Mechanical Data

2.14.3 TEAAC Motors



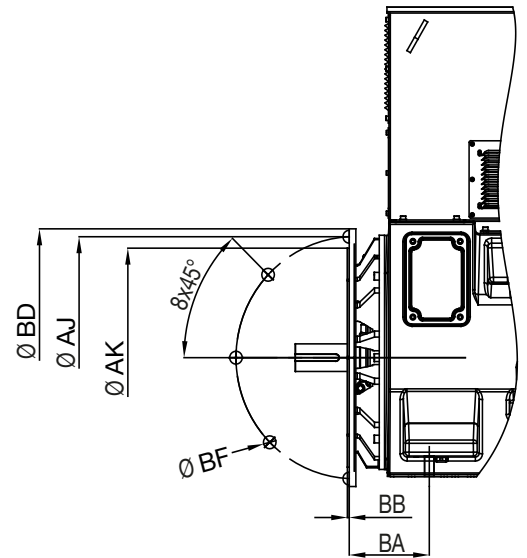
Frame	N° poles	2E	2F	H	BA	A	B	C	D	O+T	G	J	HB	H'	P	AB
5010/11	2	20	32 / 36	2.992	8.5	25.957	44.983	69.843	12.5	56.333	2.004	5.052	2.988	1.181	34.488	38.648
	4/6/8							70.843								
5810/11	2	23	36 / 40	3.181	10	30.25	50.442	74.424	14.5	62.269	2.463	5.632	5.972	1.181	41.968	41.6
	4/6/8							79.799								
L5810/11	2	27	45 / 50	3.167	11.5	33.82	58.071	72.601	17	71.736	3.196	7.028	10.059	1.417	43.543	42.397
	4/6/8							77.476								
6810/11	2	27	45 / 50	3.167	11.5	33.82	58.071	86.534	17	71.736	3.196	7.028	10.059	1.417	43.543	42.397
	4/6/8							91.409								

Frame	N° poles	AE	HH	HK	LM	LL	FK	AA	DM	EV
5010/11	2	22.929	43.429	18.81	32.874	21.85	14.956	NPT 3"	3xNPT 3/4"	3.901
	4/6/8									
5810/11	2	25.882	49.094	18.81	32.874	21.85	16.898	NPT 3"	3xNPT 3/4"	5.591
	4/6/8									
L5810/11	2	26.47	47.146	18.81	32.874	21.85	14.008	NPT 3"	3xNPT 3/4"	3.563
	4/6/8									
6810/11	2	26.678	59.472	18.81	32.874	21.85	18.103	NPT 3"	3xNPT 3/4"	4.036
	4/6/8									

Frame	N° poles	Shaft end						Ball Bearing		Roller Bearing	
		N-W	ES	U	R	S	d1	DE	NDE	DE	NDE
5010/11	2	5.75	4.331	3.25	2.831	0.75	UNC 3/4"-10	6218	6218	-	-
	4/6/8										
5810/11	2	11.625	8.661	4.375	3.817	1	UNC 1"	6224	6218	-	-
	4/6/8										
L5810/11	2	11.625	8.661	5.125	4.423	1.25	UNC 1 1/4"	6228	6220	-	-
	4/6/8										
6810/11	2	11.625	9.843	5.125	4.423	1.25	UNC 1 1/4"	6228	6220	-	-
	4/6/8										

2.14.4 Flange “D”

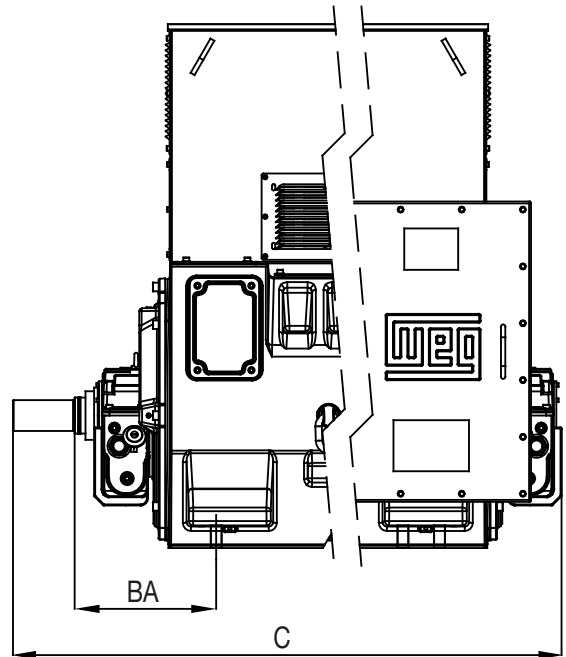
Frame	Flange	BA	AJ	AK	BD	BF	BB	N° holes
5010/11	D-558	8.5	22	18	23.976	0.826	0.25	8
5810/11	D-762	10	30	28	32			
L5810/11	D-762							
6810/11	D-895	11.5	35.252	33.25	37.244	1		



2.14.5 External Motor Dimensions with Sleeve Bearing

Utilization of sleeve bearing increases the total length of the motor. This additional length can be seen in the table below.

Frame	N° poles	TEAAC		WPII / TEWAC	
		BA	C	BA	C
5010/11	2	15	79.487	15	69.950
5810/11		15.5	85.542	15.5	75.616
L5810/11		12.5	79.236	12.5	69.604
6810/11		14.5	93.865	-	-



2.14.6 Packaging

W60 motors are packaged in wooden pallets (see figure 42), following the dimensions, weights and volumes opposite.

Frame ¹⁾	External height (in)	External width (m)	External length (m)	Weight (lb)	Volume (ft ³)	
5010/11	9.842	66.929	70.86	236	6.846	
5810/11		78.739	89.763	291	8.475	
L5810/11						
6810/11		78.74	86.614	307.9	8.965	

Note: 1) Applicable for motor with side terminal boxes.

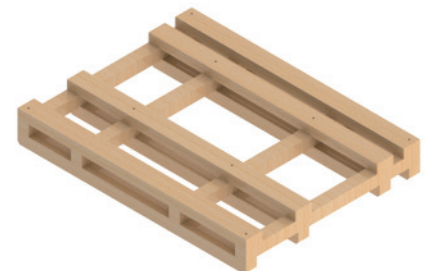


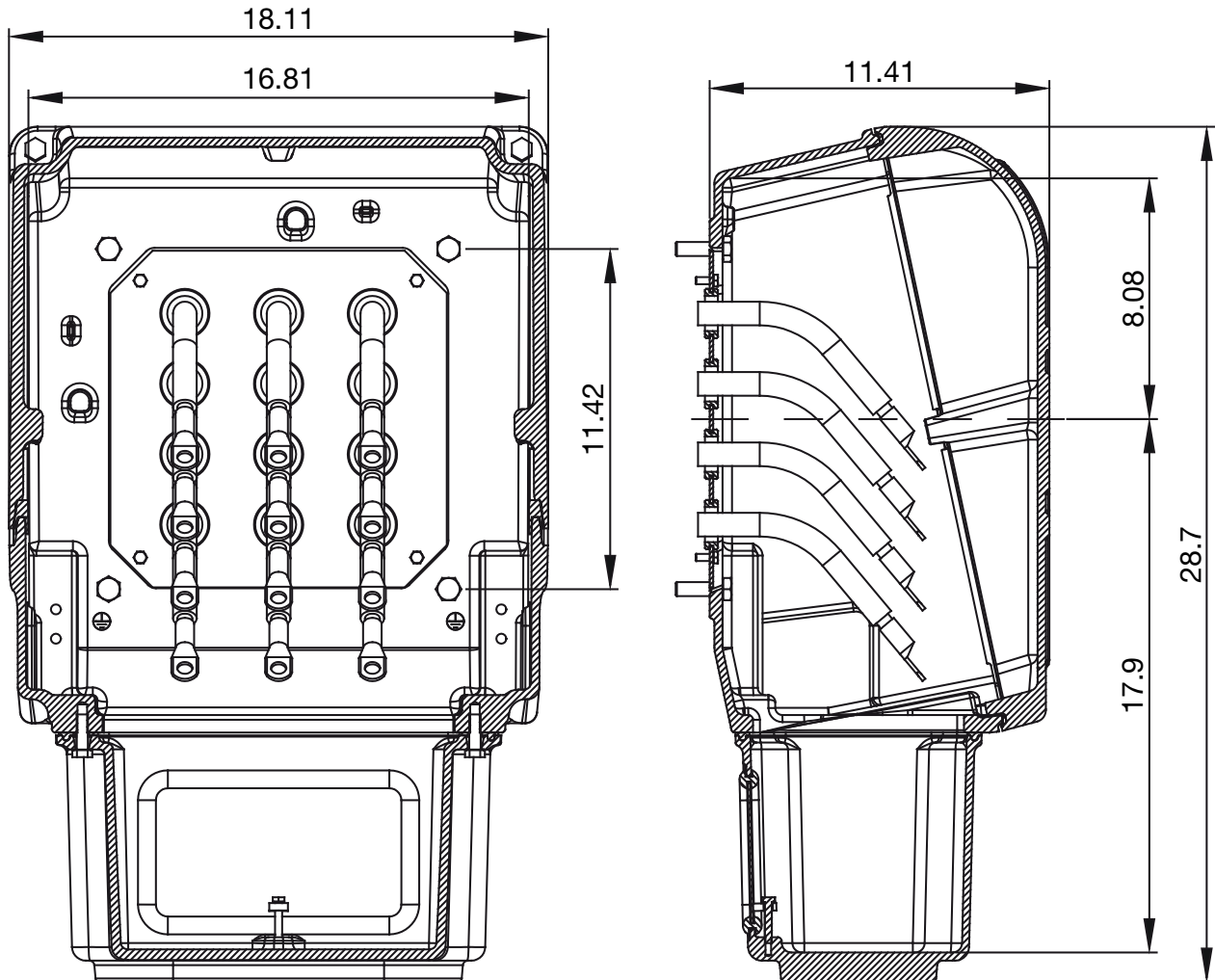
Figure 42 - Wooden pallet.

2.15. Terminal Boxes

The terminal boxes can be manufactured in cast iron FC-200 or manufactured in steel plate. Below see the external dimensionals and some technical features.

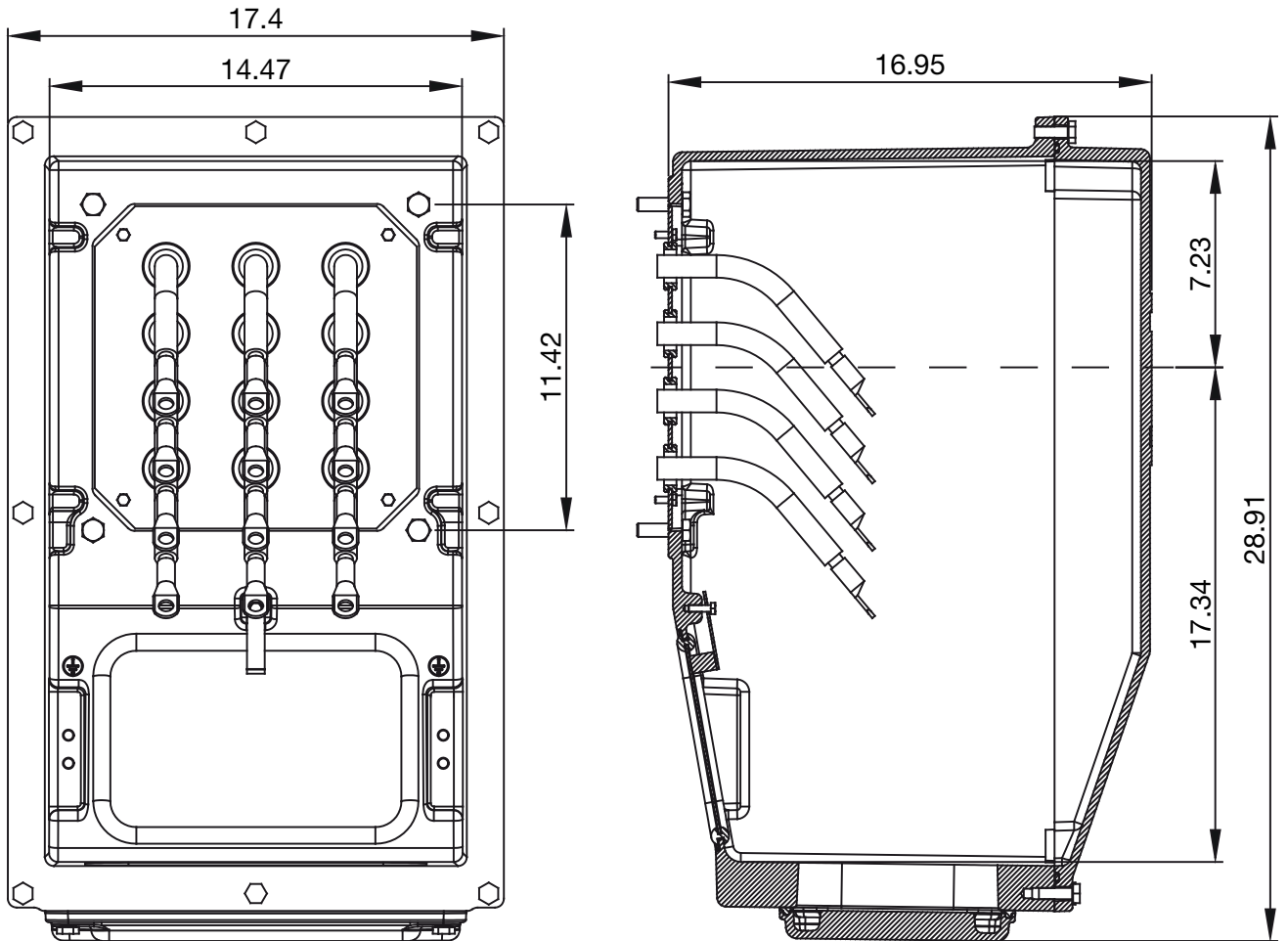
2.15.1 Cast Iron Terminal Boxes

2.15.1.1 Iron 02



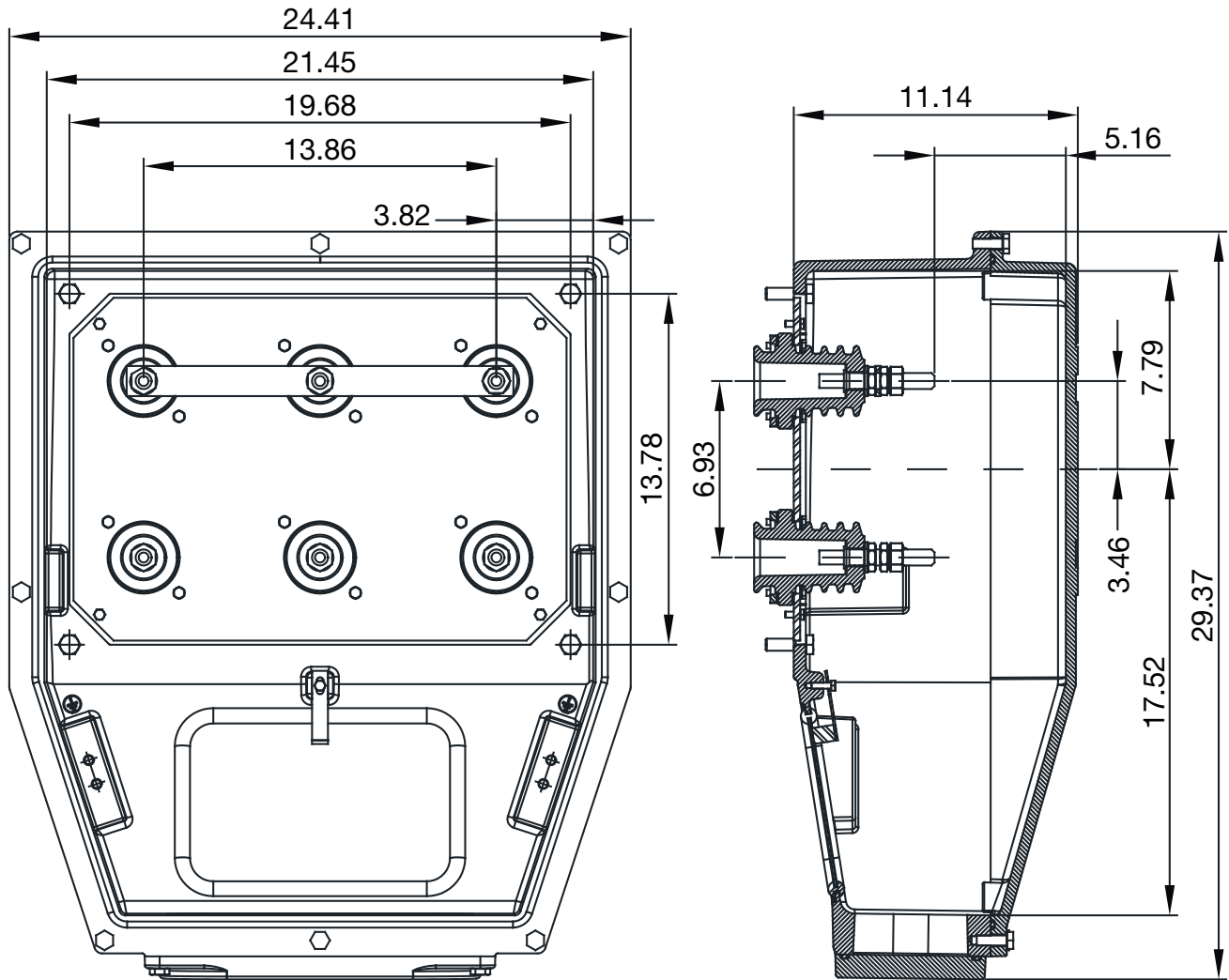
Technical data	
Maximum quantity of leads	4 per phase
Entry plates for leads designation	Type 02
Internal volume	3,978.7 in ³
Grounding terminal	Internal
Approximate weight	154.3 lb
Degree of protection	IP66
General data	
Minimum terminal box thickness	0.275 in
Rotate in steps of 90°	
Pressure relief device in the back of the terminal box in case of short circuit	Yes

2.15.1.2 Iron 04



Technical data	
Maximum quantity of leads	4 per phase
Entry plates for leads designation	Type 01
Internal volume	5,644.7 in ³
Grounding terminal	Internal
Approximate weight	231.5 lb
Degree of protection	IP66
General data	
Minimum terminal box thickness	0.315 in
Rotate in steps of 90°	Yes
Pressure relief device in the back of the terminal box in case of short circuit	

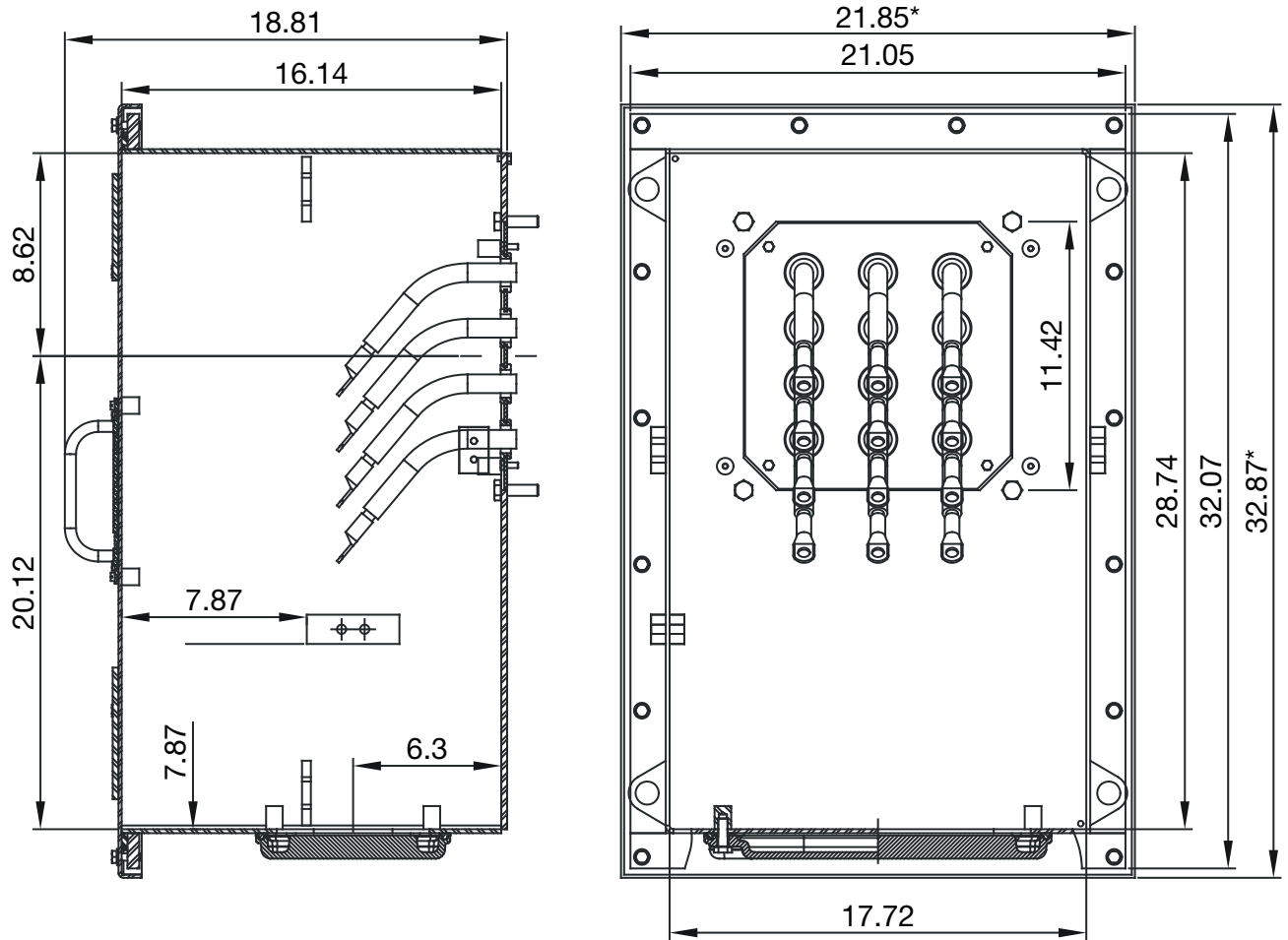
2.15.1.3 Iron 05



Technical data	
Maximum quantity of leads	2 per phase
Entry plates for leads designation	Type 03
Internal volume	4,955.1 in ³
Grounding terminal	Internal
Approximate weight	264.6 lb
Degree of protection	IP66
General data	
Minimum terminal box thickness	0.315 in
Rotate in steps of 90°	
Pressure relief device in the back of the terminal box in case of short circuit	Yes

2.15.2 Steel Plate Terminal Boxes

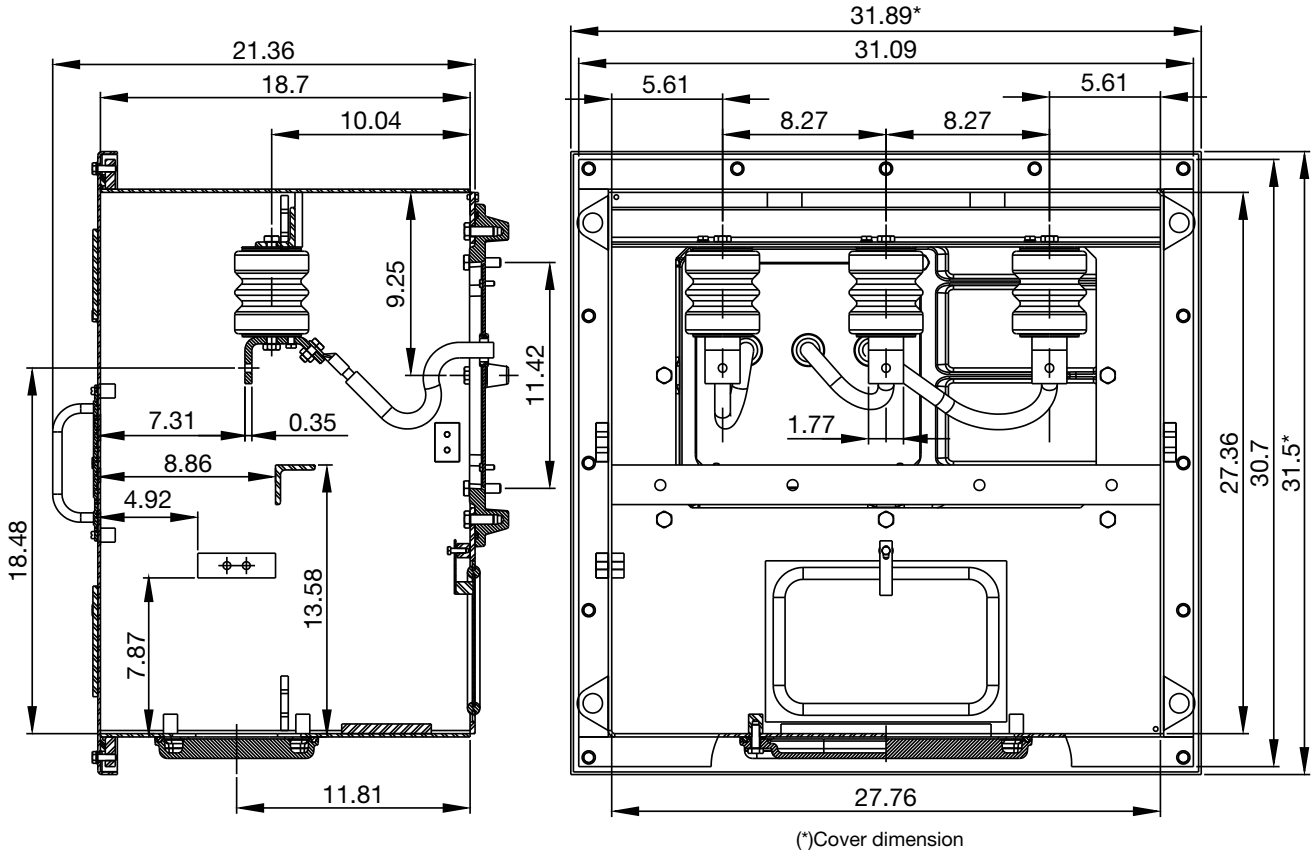
2.15.2.1 Steel 02



(*)Cover dimension

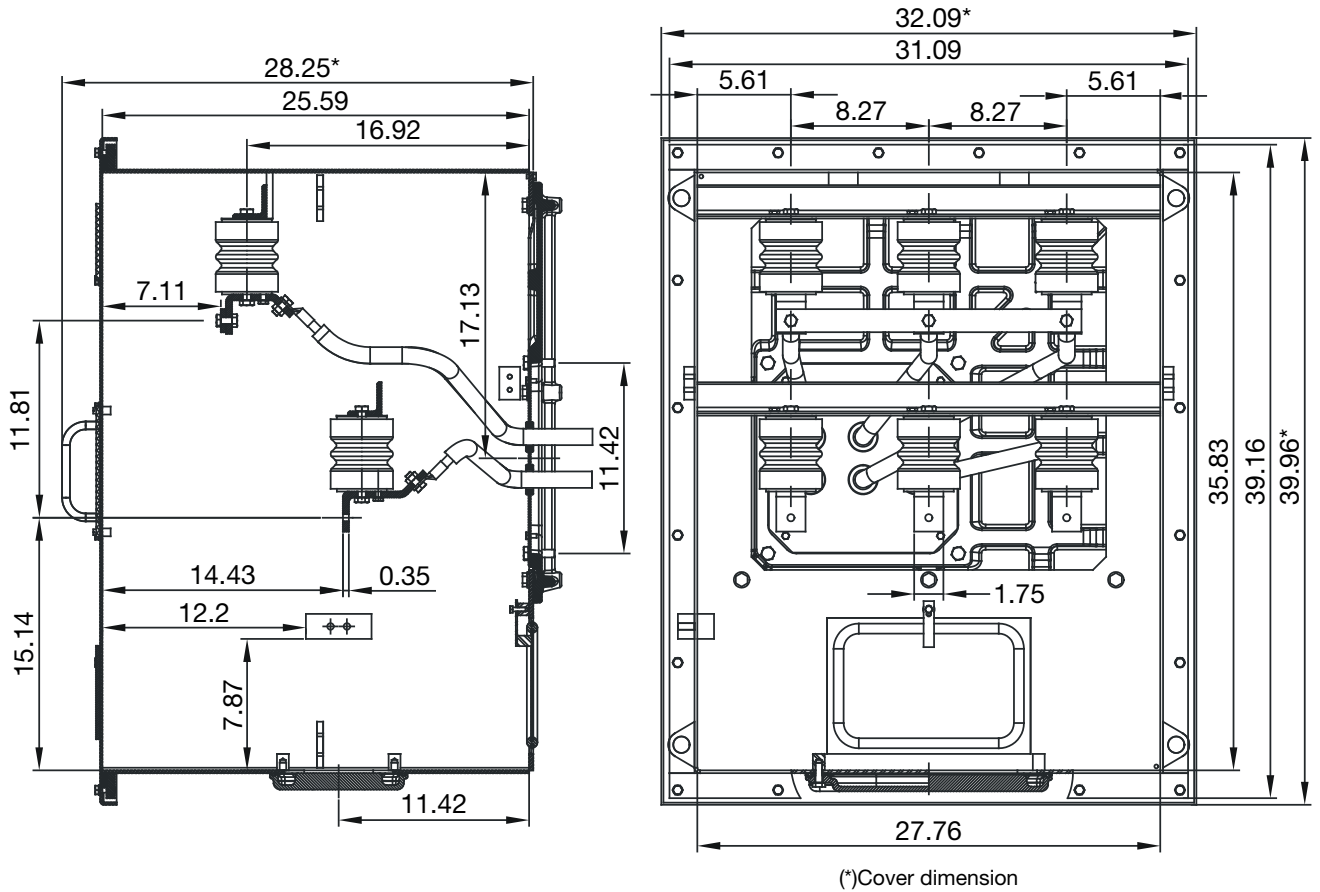
Technical data	
Maximum quantity of leads	4 per phase
Entry plates for leads designation	Type 01
Internal volume	8,226 in ³
Grounding terminal	Internal or external
Approximate weight	187.39 lb
Degree of protection	IP66
General data	
Minimum terminal box thickness	0.132 in
With eyebolts	4 eyebolts
Rotate in steps of 90°	Yes
Pressure relief device in the back of the terminal box in case of short circuit	

2.15.2.2 Steel 04



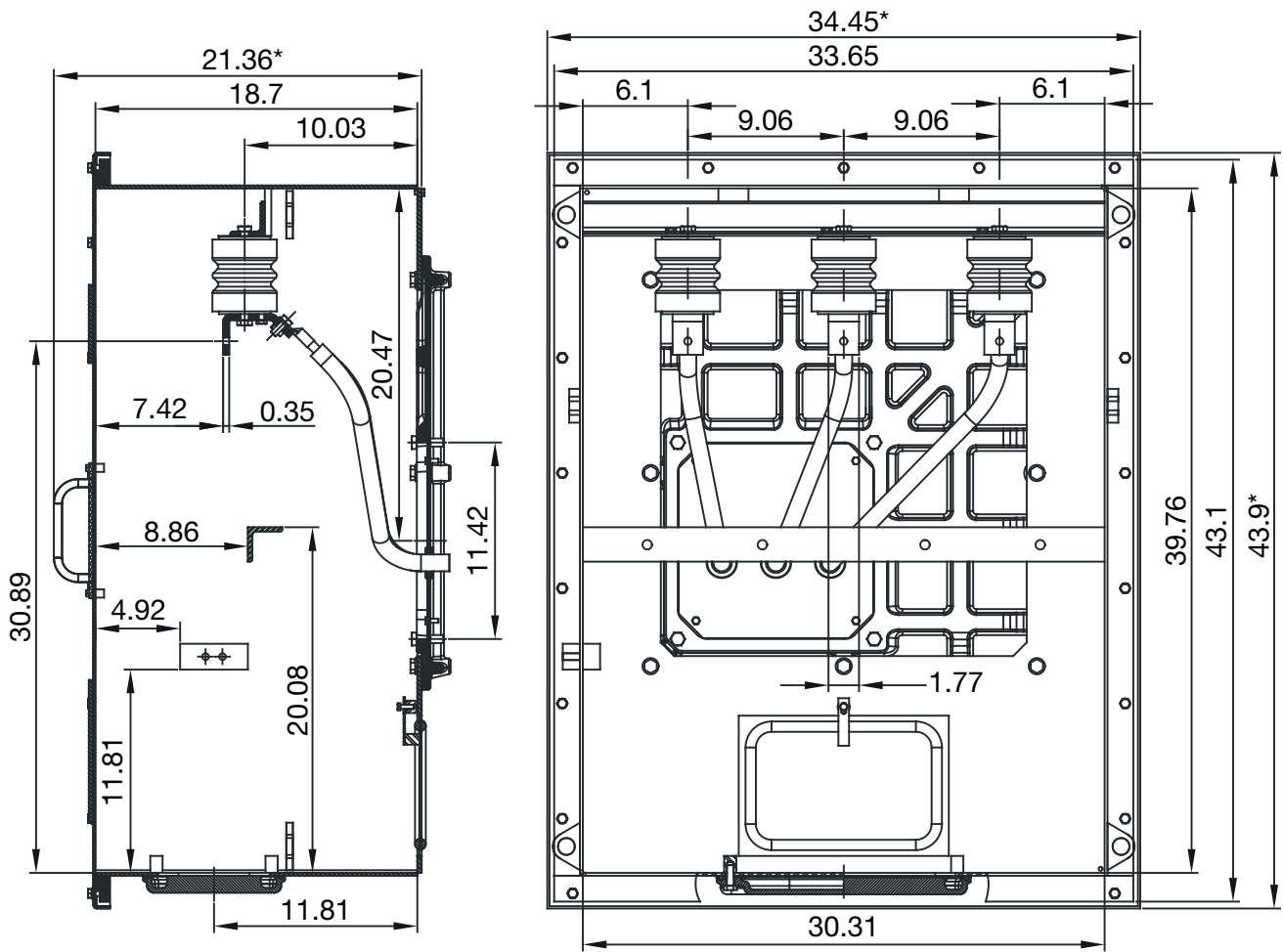
Technical data	
Maximum quantity of leads	1 per phase
Entry plates for leads designation	Type 01
Internal volume	14,157.5 in ³
Grounding terminal	Internal or external
Approximate weight	297.62 lb
Degree of protection	IP66
General data	
Minimum terminal box thickness	0.132 in
With eyebolts	4 eyebolts
Rotate in steps of 90°	
Pressure relief device in the back of the terminal box in case of short circuit	Yes

2.15.2.3 Steel 06



Technical data	
Maximum quantity of leads	2 per phase
Entry plates for leads designation	Type 01
Internal volume	25,446.9 in ³
Grounding terminal	Internal or external
Approximate weight	429.9 lb
Degree of protection	IP66
General data	
Minimum terminal box thickness	0.132 in
With eyebolts	4 eyebolts
Rotate in steps of 90°	
Pressure relief device in the back of the terminal box in case of short circuit	Yes

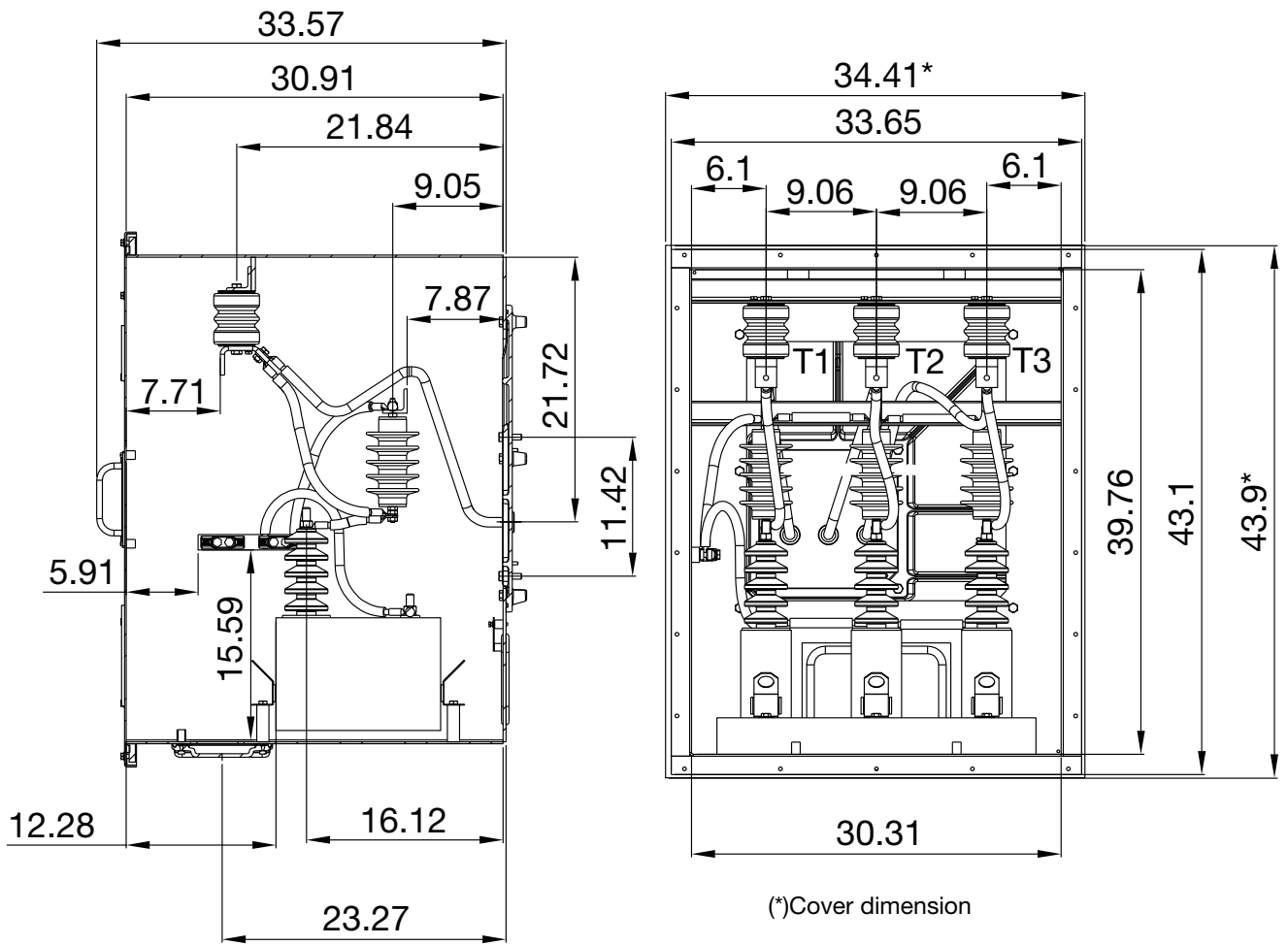
2.15.2.4 Steel 07



(*)Cover dimension

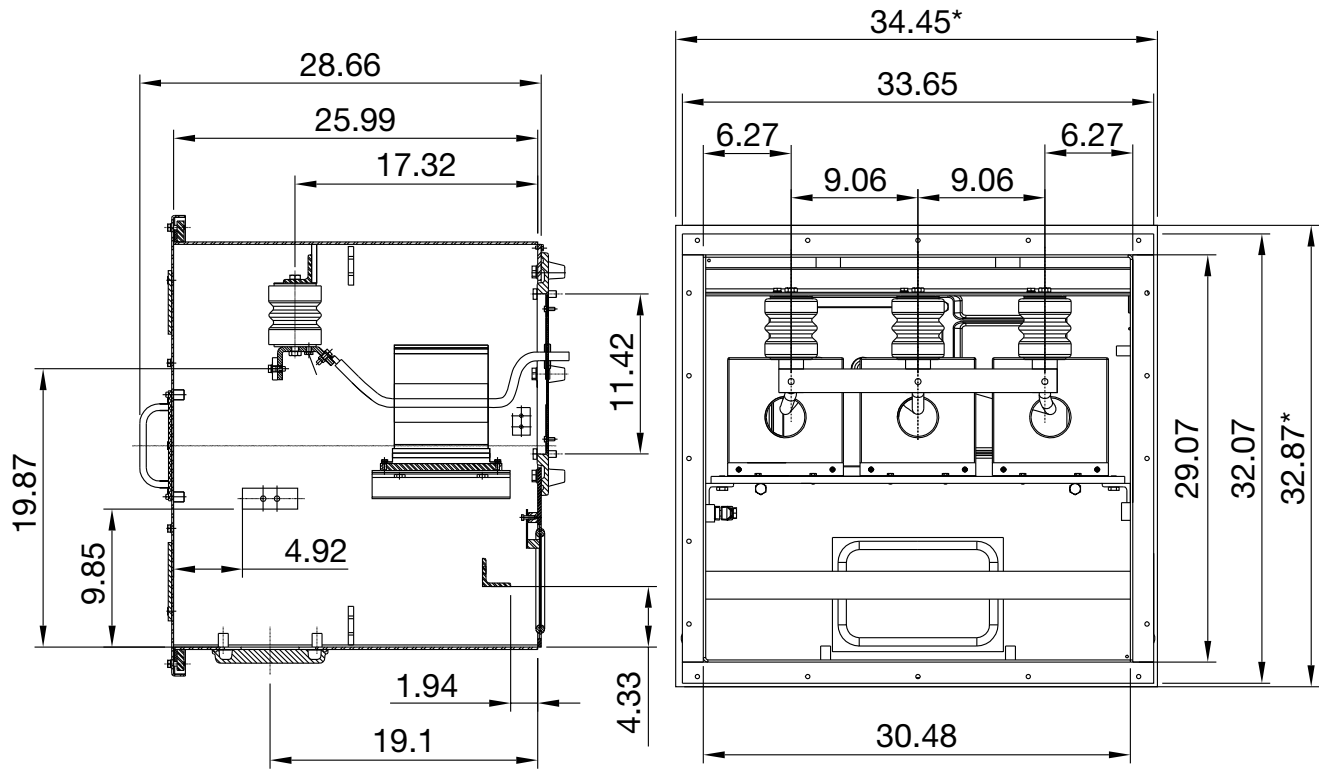
Technical data	
Maximum quantity of leads	1 per phase
Entry plates for leads designation	Type 01
Internal volume	22,517.8 in ³
Grounding terminal	Internal or external
Approximate weight	374.8 lb
Degree of protection	IP66
General data	
Minimum terminal box thickness	0.132 in
With eyebolts	4 eyebolts
Rotate in steps of 90°	
Pressure relief device in the back of the terminal box in case of short circuit	Yes

2.15.2.5 Steel 08



Technical data	
Maximum quantity of leads	1 per phase
Entry plates for leads designation	Type 01
Internal volume	35,637.9 in ³
Grounding terminal	Internal or external
Approximate weight	628.3 lb
Degree of protection	IP66
General data	
Minimum terminal box thickness	0.132 in
With eyebolts	4 eyebolts
Rotate in steps of 90°	
Pressure relief device in the back of the terminal box in case of short circuit	Yes

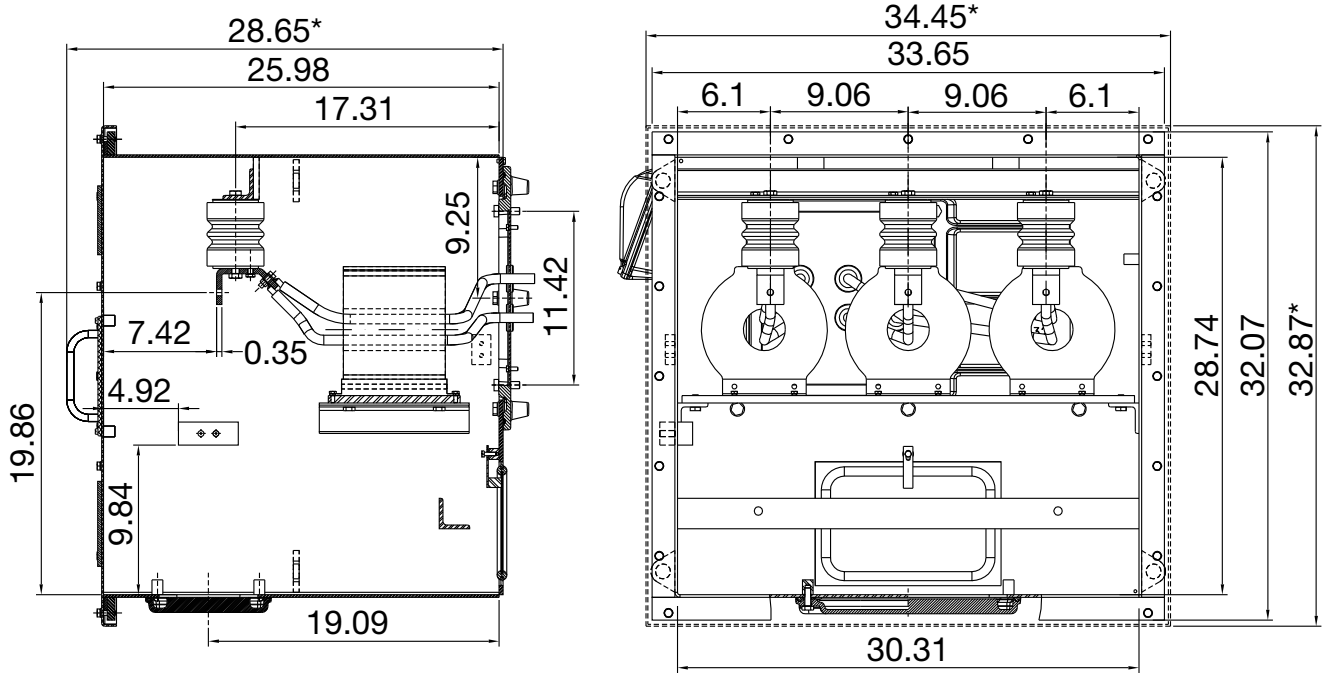
2.15.2.6 Steel 09



(*)Cover dimension

Technical data	
Maximum quantity of leads	2 per phase
Entry plates for leads designation	Type 01
Internal volume	22,633.7 in ³
Grounding terminal	Internal or external
Approximate weight	562.2 lb
Degree of protection	IP66
General data	
Minimum terminal box thickness	0.132 in
With eyebolts	4 eyebolts
Rotate in steps of 90°	
Pressure relief device in the back of the terminal box in case of short circuit	Yes

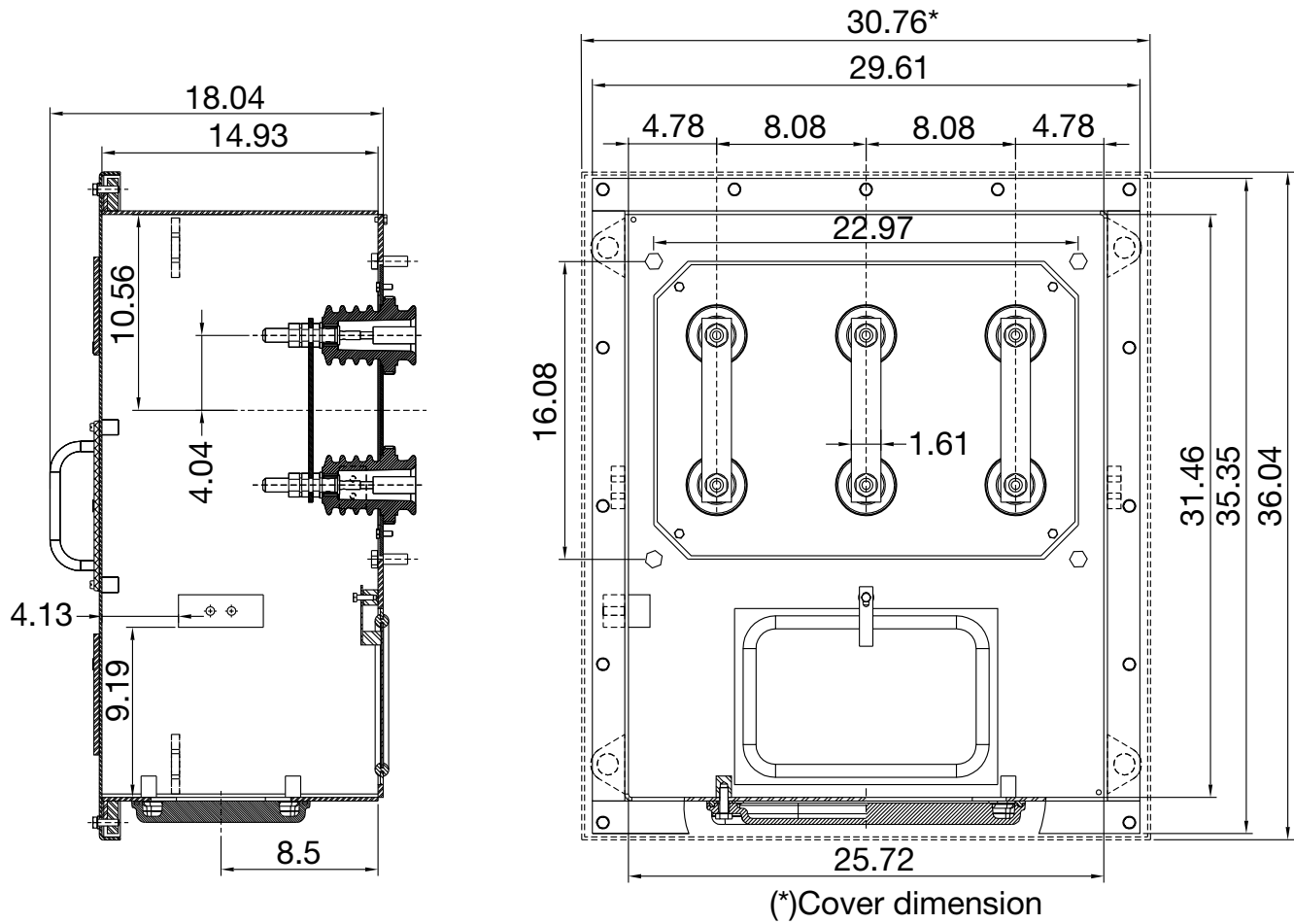
2.15.2.7 Steel 10



(*)Cover dimension

Technical data	
Maximum quantity of leads	2 per phase
Entry plates for leads designation	Type 01
Internal volume	22,633.7 in ³
Grounding terminal	Internal or external
Approximate weight	562.2 lb
Degree of protection	IP66
General data	
Minimum terminal box thickness	0.132 in
With eyebolts	4 eyebolts
Rotate in steps of 90°	Yes
Pressure relief device in the back of the terminal box in case of short circuit	

2.15.2.8 Steel 11



Technical data	
Maximum quantity of leads	2 per phase
Entry plates for leads designation	Type 01
Internal volume	7,609.7 in ³
Grounding terminal	Internal or external
Approximate weight	220.5 lb
Degree of protection	IP66
General data	
Minimum terminal box thickness	0.132 in
With eyebolts	4 eyebolts
Rotate in steps of 90°	
Pressure relief device in the back of the terminal box in case of short circuit	Yes

3. W60 MOTORS (FRAMES 70 UP TO 160)

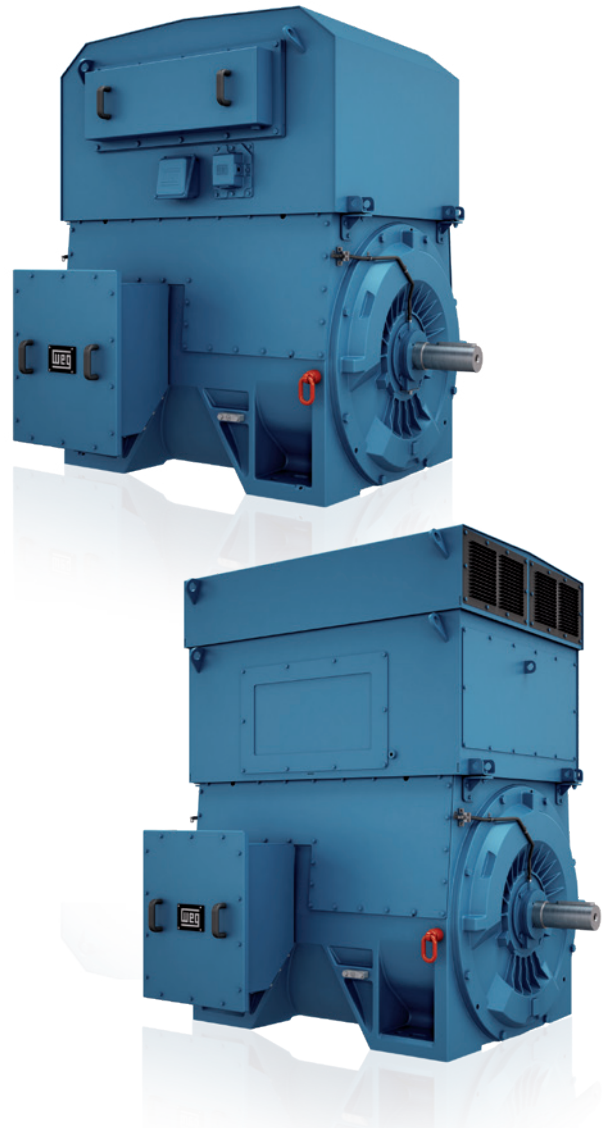
The information included in this section refers to standard construction features and the most common variations for medium voltage W60 motors on larger frames from size 70 up to 160, cast iron and steel fabricated.

W60 motors for these larger frame sizes and/or customized applications are available on request.

For more information, please contact your WEG office or distributor.

3.1 Optional Features

- Hazardous area certification:
 - ATEX / IECEx / INMETRO / TR CU / PESO:
 - Ex ec IIC T3/T4 Gc (Increased Safety)
 - Ex pzc IIC T3/T4 Gc (Pressurized)
 - Ex pxb IIC T3/T4 Gb (Pressurized)
 - Ex tc IIIC T125°C / T160°C Dc (Dust Ignition Proof)
 - Ex tb IIIC T125°C / T160°C Db (Dust Ignition Proof)
 - NEC/CEC cCSAus - Division System:
 - Class I, Division 2, Groups A, B, C and D; T3/ T3C/T3B (Non-Incendive)
 - Class II, Division 2, Groups F and G, T3C/T3B (Dust Ignition Proof)
 - NEC/CEC cCSAus - Zone System:
 - Class I, Zone 2, AEx ec IIC T3/T4 Gc (Increased Safety)
 - Class II, Zone 22, AEx tc IIIC T125°C/T160°C Dc (Dust Ignition Proof)
 - Class II, Zone 21, AEx tb IIC T125°C/T160°C Db (Dust Ignition Proof)
 - Ex ec IIC T3/T4 Gc (Increased Safety)
 - Ex tc IIIC T125°C / T160°C Dc (Dust Ignition Proof)
 - Ex tb IIIC T125°C / T160°C Db (Dust Ignition Proof)
 - Ex tb IIIC T125°C / T160°C Db (Dust Ignition Proof)
- Safe Area Certification:
 - cULus / cCSAus
 - Listed for ordinary location
- Cooling method: WP11, TEAAC, TEWAC
- Degree of protection: IP56 and IP65
- Air filters
- Differential pressure switch (air cooled)
- Water leakage detector (water cooled)
- Thermometers
- Encoder (VFD operation)
- Surge protection (lightning arrestors and capacitors)
- Vibration sensors (acceleration, velocity and displacement)
- Several others available upon request



3.2.Design Details

Electrical Performance

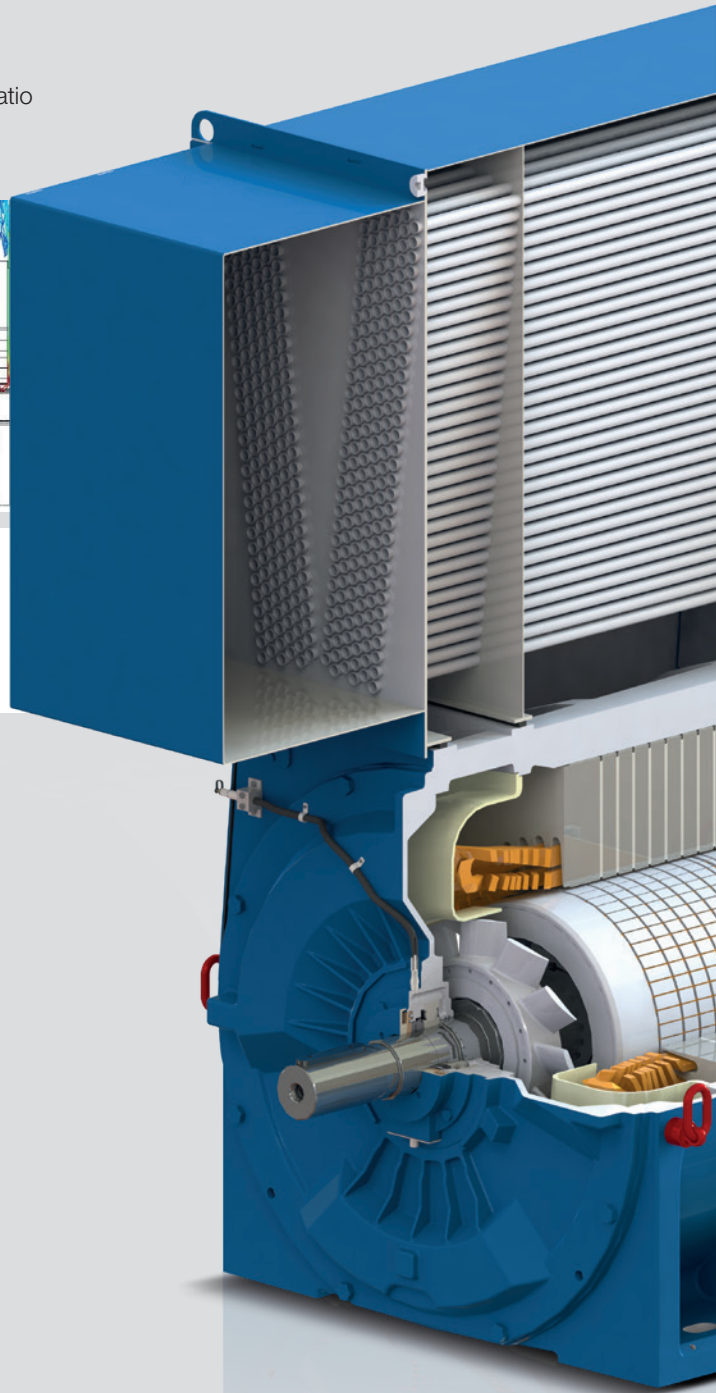
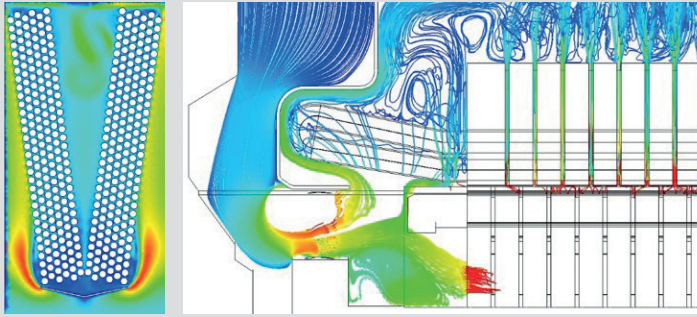
With an optimized concept for heat exchanging and magnetic flow, the W60 allows several different configurations that suits all sort of applications, from self-cooled to forced ventilation.

Cooling System

- Increased air flow
- Low losses fans
- Easy assembly
- Mechanically strong

Electrical Core

- High quality lamination
- Energy efficient
- Increased power density ratio

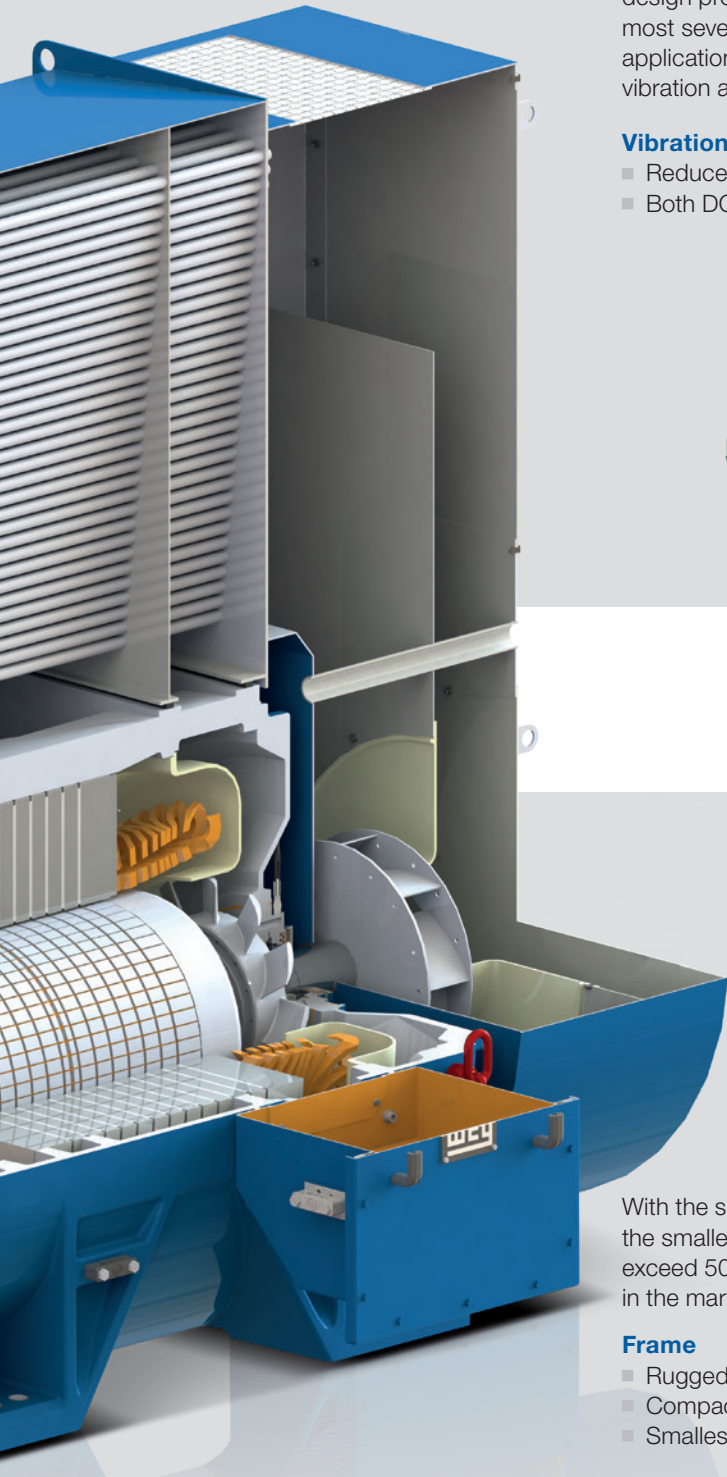


Bearings



Ball bearings are standard up to 88 frame even on 2 pole motors. Its compact design allows utilization of antifricition ball bearings, grease lubricated, where other motors cannot.

Sleeve bearings are standard for larger 2 and 4 poles motors and are available when required for the entire range.



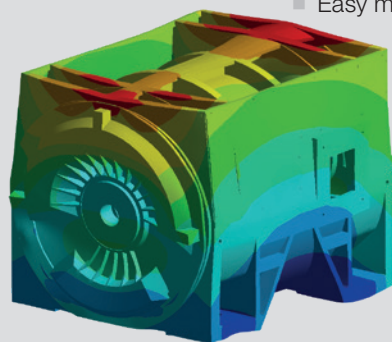
Designed using the most advanced software the W60 frame design provides a solid structure that allows operation in the most severe environments, suitable for high impact and speed applications, while providing a smooth operation, with low vibration and noise levels.

Vibration Level

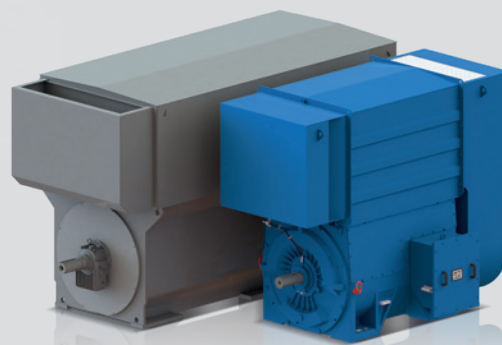
- Reduced vibration levels
- Both DOL and VFD operation

Noise Suppressors

- Carefully designed system
- Superior noise cancelling
- Simplified assembly
- Easy maintenance



Mechanical Features



With the shortest frame available in the market, the W60 requires the smallest footprint installation area. Total enclosure volume may exceed 50% reduction when compared to similar motors available in the market.

Frame

- Rugged design
- Compact and lighter
- Smallest footprint area

End Shields

- Reinforced structure
- High quality cast iron

Compact and Robust

3.3. Electrical Data

3.3.1 W60 WPII High Voltage (1.2 up to 5.0 kV)

Output		Frame	Full load torque (ft.lb)	Locked rotor current	Locked rotor torque Ti/Tn	Break-down torque Tb/Tn	Inertia J (sq.ft.lb)	Allowable locked rotor time (s)	Weight (lb)	Sound dB(A)	Service Factor	4160 V								
												Rated speed (rpm)	% of full load						Full load current In (A)	
													Efficiency			Power factor				
HP	kW		II/In				Hot					50	75	100	50	75	100			
II Poles																				
2125	1600	70	3124	6.0	0.6	2.0	295.9	9	9433	83	1.00	3574	95.3	96.0	95.5	0.88	0.90	0.91	253.2	
2250	1700	70	3308	5.7	0.6	2.0	300.4	9	9635	83	1.00	3574	95.4	96.1	95.6	0.88	0.90	0.91	267.8	
2375	1800	70	3491	6.5	0.6	2.0	341.5	9	9992	83	1.00	3575	95.6	96.2	95.8	0.87	0.91	0.91	282.1	
2500	1900	70	3675	6.1	0.6	2.0	346.7	9	10220	83	1.00	3575	95.7	96.3	95.9	0.87	0.91	0.91	296.6	
2700	2000	70	3970	6.5	0.6	2.1	368.1	9	10285	83	1.00	3574	95.9	96.1	96.1	0.88	0.90	0.90	323.2	
2875	2120	70	4227	6.1	0.6	2.1	373.7	9	10530	83	1.00	3574	96.0	96.2	96.2	0.88	0.90	0.90	343.8	
3000	2250	70	4411	6.3	0.5	2.1	386.8	12	10575	83	1.00	3574	96.1	96.3	96.3	0.87	0.91	0.91	354.4	
3175	2360	70	4668	5.9	0.5	2.1	392.7	12	10835	83	1.00	3574	96.2	96.4	96.4	0.87	0.91	0.91	374.7	
3350	2500	80	4921	5.7	0.6	2.0	434.7	10	12345	83	1.00	3577	96.1	96.3	96.3	0.86	0.90	0.90	400.2	
3500	2650	80	5139	6.6	0.6	2.2	486.6	9	12706	83	1.00	3579	96.3	96.3	96.4	0.87	0.90	0.91	413.1	
3700	2800	80	5432	6.2	0.6	2.2	494.1	9	13030	83	1.00	3579	96.4	96.4	96.5	0.87	0.90	0.91	436.2	
4000	3000	80	5874	6.3	0.6	2.0	510.9	10	13011	83	1.00	3578	96.1	96.3	96.3	0.88	0.90	0.90	477.8	
4250	3150	80	6241	5.9	0.6	2.0	518.7	10	13355	83	1.00	3578	96.2	96.4	96.4	0.88	0.90	0.90	507.2	
4500	3350	80	6609	5.9	0.5	2.0	545.3	12	13486	83	1.00	3578	96.4	96.5	96.6	0.87	0.91	0.91	530.0	
4750	3550	80	6976	5.6	0.5	2.0	553.6	12	13855	83	1.00	3578	96.5	96.6	96.7	0.87	0.91	0.91	558.9	
5000	3750	88	7343	5.8	0.6	2.1	670.6	9	15980	85	1.00	3578	96.4	96.5	96.5	0.87	0.90	0.91	589.5	
5300	4000	88	7779	5.8	0.6	2.1	708.1	10	16275	85	1.00	3580	96.3	96.4	96.5	0.84	0.89	0.90	631.8	
5700	4250	88	8366	5.6	0.5	2.1	751.3	11	16655	85	1.00	3580	96.5	96.7	96.7	0.88	0.91	0.91	670.6	
6000	4500	88	8799	6.1	0.5	2.0	880.4	13	20684	85	1.00	3583	96.7	96.7	96.8	0.87	0.91	0.91	705.2	
6250	4750	88	9166	6.1	0.5	2.0	893.8	13	21091	85	1.00	3583	96.8	96.8	96.9	0.87	0.91	0.91	733.8	
6700	5000	88	9826	6.1	0.5	2.0	907.4	13	21516	85	1.00	3583	96.9	96.9	97.0	0.87	0.91	0.91	785.9	
7000	5300	88	10266	5.8	0.5	2.0	921.2	13	22075	85	1.00	3583	97.0	97.0	97.1	0.87	0.91	0.91	820.2	
IV Poles																				
1900	1400	70	5596	5.5	0.8	1.9	578.0	10	9757	82	1.00	1784	95.5	96.2	95.7	0.85	0.89	0.90	228.4	
2000	1500	70	5891	5.2	0.8	1.9	586.8	10	9975	82	1.00	1784	95.6	96.3	95.8	0.85	0.89	0.90	240.2	
2125	1600	70	6252	6.3	0.9	2.2	654.9	8	10297	82	1.00	1786	95.8	96.4	96.0	0.83	0.88	0.89	257.5	
2250	1700	70	6620	5.9	0.9	2.2	664.9	8	10545	82	1.00	1786	95.9	96.5	96.1	0.83	0.88	0.89	272.4	
2375	1800	70	6988	6.3	0.9	2.2	689.5	8	10504	82	1.00	1786	95.8	96.4	96.0	0.84	0.88	0.89	287.8	
2500	1900	70	7355	5.9	0.9	2.2	700.0	8	10760	82	1.00	1786	95.9	96.5	96.1	0.84	0.88	0.89	302.6	
2700	2000	70	7953	5.6	0.8	2.0	739.1	8	10844	82	1.00	1784	96.1	96.4	96.3	0.86	0.89	0.90	322.5	
2875	2120	70	8468	5.3	0.8	2.0	750.3	8	11120	82	1.00	1784	96.2	96.5	96.4	0.86	0.89	0.90	343.1	
3000	2250	80	8816	5.4	0.7	2.0	740.6	9	12315	82	1.00	1788	96.4	96.6	96.6	0.80	0.86	0.88	365.4	
3175	2360	80	9331	6.0	0.7	2.1	835.1	9	12681	82	1.00	1788	96.4	96.6	96.6	0.82	0.88	0.89	382.4	
3350	2500	80	9845	5.7	0.7	2.1	847.9	9	13005	82	1.00	1788	96.5	96.7	96.7	0.82	0.88	0.89	403.0	
3500	2650	80	10286	5.7	0.7	2.0	878.4	8	12983	82	1.00	1788	96.4	96.7	96.6	0.83	0.88	0.89	421.5	
3700	2800	80	10874	5.4	0.7	2.0	891.8	8	13325	82	1.00	1788	96.5	96.8	96.7	0.83	0.88	0.89	445.1	
4000	3000	80	11749	6.5	0.8	2.3	940.6	7	13384	82	1.00	1789	96.7	96.7	96.8	0.78	0.85	0.87	491.8	
4250	3150	80	12483	6.1	0.8	2.3	954.9	7	13745	82	1.00	1789	96.8	96.8	96.9	0.78	0.85	0.87	522.0	
4500	3350	88	13217	5.7	0.7	2.2	1025.6	7	16165	83	1.00	1789	96.8	96.9	97.0	0.77	0.84	0.87	552.1	
4750	3550	88	13944	5.5	0.6	2.1	1114.1	7	16685	83	1.00	1790	96.9	97.0	97.1	0.77	0.84	0.87	582.2	
5000	3750	88	14669	6.1	0.7	2.3	1191.9	7	17145	83	1.00	1791	97.1	97.1	97.2	0.76	0.84	0.87	612.2	
5300	4000	88	15567	5.7	0.6	2.0	1810.3	8	21445	83	1.00	1789	96.6	96.8	96.8	0.84	0.88	0.89	636.9	
5700	4250	88	16742	5.7	0.6	2.0	1837.8	8	21884	83	1.00	1789	96.7	96.9	96.9	0.84	0.88	0.89	684.3	
6000	4500	88	17623	5.7	0.6	2.0	1865.8	8	22342	83	1.00	1789	96.8	97.0	97.0	0.84	0.88	0.89	719.6	
6250	4750	88	18357	5.7	0.6	2.0	1894.2	8	22818	83	1.00	1789	96.9	97.1	97.1	0.84	0.88	0.89	748.8	
6700	5000	88	19679	5.4	0.6	2.0	1923.1	8	23445	83	1.00	1789	97.0	97.2	97.2	0.84	0.88	0.89	801.9	

Note: Valid for motors operating with sine-wave power supply.

Output		Frame	Full load torque (ft.lb)	Locked rotor current	Locked rotor torque Tl/Tn	Break-down torque Tb/Tn	Inertia J (sq.ft.lb)	Allowable locked rotor time (s)	Weight (lb)	Sound dB(A)	Service Factor	4160 V							
												Rated speed (rpm)	% of full load			Full load current In (A)			
													Efficiency		Power factor				
HP	kW			II/In				Hot				50	75	100	50	75	100		
VI Poles																			
1300	950	70	5731	6.1	0.7	2.1	868.1	18	10496	80	1.00	1192	95.5	96.0	95.9	0.74	0.82	0.84	167.1
1350	1000	70	5951	5.8	0.7	2.1	881.3	18	10755	80	1.00	1192	95.6	96.1	96.0	0.74	0.82	0.84	173.3
1400	1060	70	6172	6.1	0.8	2.1	919.1	16	10734	80	1.00	1192	95.7	96.1	95.9	0.76	0.82	0.85	177.8
1500	1120	70	6612	5.8	0.8	2.1	933.1	16	11005	80	1.00	1192	95.8	96.2	96.0	0.76	0.82	0.85	190.3
1575	1180	70	6949	6.1	0.8	2.1	919.1	14	10765	80	1.00	1191	95.8	96.2	95.9	0.74	0.82	0.84	202.4
1650	1250	70	7280	5.8	0.8	2.1	933.1	14	11035	80	1.00	1191	95.9	96.3	96.0	0.74	0.82	0.84	211.8
1750	1320	70	7721	5.7	0.8	2.1	987.2	15	11285	80	1.00	1191	95.8	96.3	96.0	0.75	0.82	0.85	222.0
1900	1400	80	8383	5.5	0.6	1.9	1065.2	14	12890	80	1.00	1191	95.9	96.3	96.0	0.78	0.84	0.86	238.3
2000	1500	80	8824	5.2	0.6	1.9	1081.4	14	13225	80	1.00	1191	96.0	96.4	96.1	0.78	0.84	0.86	250.5
2125	1600	80	9375	5.5	0.6	1.9	1114.1	12	12962	80	1.00	1191	95.8	96.3	96.0	0.77	0.84	0.86	266.5
2250	1700	80	9927	5.5	0.6	1.9	1131.1	12	13229	80	1.00	1191	95.9	96.4	96.1	0.77	0.84	0.86	281.9
2375	1800	80	10478	5.2	0.6	1.9	1148.3	12	13580	80	1.00	1191	96.0	96.5	96.2	0.77	0.84	0.86	297.2
2500	1900	80	11030	5.5	0.6	1.9	1179.0	11	13323	80	1.00	1191	96.1	96.3	96.4	0.74	0.82	0.85	315.9
2700	2000	80	11912	5.5	0.6	1.9	1196.9	11	13605	80	1.00	1191	96.2	96.4	96.5	0.74	0.82	0.85	340.8
2875	2120	80	12684	5.2	0.6	1.9	1215.2	11	13980	80	1.00	1191	96.3	96.5	96.6	0.74	0.82	0.85	362.5
3000	2250	80	13225	5.5	0.6	2.0	1262.9	10	13997	80	1.00	1192	96.2	96.4	96.5	0.73	0.81	0.84	383.2
3175	2360	80	13996	5.2	0.6	2.0	1282.1	10	14390	80	1.00	1192	96.3	96.5	96.6	0.73	0.81	0.84	405.1
3350	2500	88	14755	5.4	0.6	2.0	1801.3	13	17415	81	1.00	1193	96.4	96.6	96.8	0.72	0.81	0.84	426.6
3500	2650	88	15416	5.3	0.5	1.9	1872.0	13	17328	81	1.00	1193	96.5	96.6	96.7	0.75	0.82	0.85	440.9
3700	2800	88	16297	5.0	0.5	1.9	1900.5	13	17820	81	1.00	1193	96.6	96.7	96.8	0.75	0.82	0.85	465.6
4000	3000	88	17618	5.2	0.5	2.0	1923.1	12	17985	81	1.00	1193	96.6	96.7	96.8	0.72	0.80	0.84	509.3
4250	3150	88	18719	5.9	0.6	2.1	2463.9	10	21702	81	1.00	1193	96.4	96.5	96.6	0.74	0.81	0.85	535.9
4500	3350	88	19820	5.9	0.6	2.1	2501.4	10	22152	81	1.00	1193	96.5	96.6	96.7	0.74	0.81	0.85	566.8
4750	3550	88	20922	5.9	0.6	2.1	2539.5	10	22620	81	1.00	1193	96.6	96.7	96.8	0.74	0.81	0.85	597.7
5000	3750	88	22023	5.9	0.6	2.1	2578.2	10	23108	81	1.00	1193	96.7	96.8	96.9	0.74	0.81	0.85	628.5
5300	4000	88	23344	5.6	0.6	2.1	2617.4	10	23750	81	1.00	1193	96.8	96.9	97.0	0.74	0.81	0.85	665.5
VIII Poles																			
850	630	70	5013	5.3	0.7	1.9	967.9	14	9076	78	1.00	891	94.6	95.4	94.8	0.73	0.80	0.83	111.8
970	710	70	5721	5.3	0.7	1.9	997.6	14	9368	78	1.00	891	94.8	95.6	95.0	0.73	0.80	0.83	127.4
1000	750	70	5897	5.3	0.7	1.9	1012.8	14	9523	78	1.00	891	94.9	95.7	95.1	0.73	0.80	0.83	131.2
1100	800	70	6487	5.3	0.7	1.9	1028.2	14	9684	78	1.00	891	95.0	95.8	95.2	0.73	0.80	0.83	144.1
1250	900	70	7372	5.3	0.7	1.9	1059.8	14	10027	78	1.00	891	95.2	96.0	95.4	0.73	0.80	0.83	163.4
1300	950	70	7667	5.0	0.7	1.9	1075.9	14	10260	78	1.00	891	95.3	96.1	95.5	0.73	0.80	0.83	169.8
1350	1000	80	7953	5.2	0.7	1.9	1499.5	15	11340	78	1.00	892	94.7	95.4	94.9	0.74	0.81	0.84	175.3
1400	1060	80	8247	5.2	0.7	1.9	1522.3	15	11540	78	1.00	892	94.8	95.5	95.0	0.74	0.81	0.84	181.6
1500	1120	80	8836	5.2	0.7	1.9	1545.5	15	11747	78	1.00	892	94.9	95.6	95.1	0.74	0.81	0.84	194.4
1575	1180	80	9278	5.2	0.7	1.9	1569.0	15	11963	78	1.00	892	95.0	95.7	95.2	0.74	0.81	0.84	203.9
1650	1250	80	9720	5.2	0.7	1.9	1592.9	15	12189	78	1.00	892	95.1	95.8	95.3	0.74	0.81	0.84	213.4
1750	1320	80	10309	5.2	0.7	1.9	1617.2	15	12423	78	1.00	892	95.2	95.9	95.4	0.74	0.81	0.84	226.1
1900	1400	80	11193	5.2	0.7	1.9	1641.8	15	12668	78	1.00	892	95.3	96.0	95.5	0.74	0.81	0.84	245.2
2000	1500	80	11782	4.9	0.7	1.9	1666.8	15	12990	78	1.00	892	95.4	96.1	95.6	0.74	0.81	0.84	257.9
2125	1600	88	12504	5.0	0.6	1.9	2449.6	16	14534	79	1.00	893	95.7	96.0	95.9	0.75	0.82	0.84	273.1
2250	1700	88	13239	5.0	0.6	1.9	2486.9	16	14808	79	1.00	893	95.8	96.1	96.0	0.75	0.82	0.84	288.9
2375	1800	88	13975	5.0	0.6	1.9	2524.7	16	15092	79	1.00	893	95.9	96.2	96.1	0.75	0.82	0.84	304.6
2500	1900	88	14711	5.0	0.6	1.9	2563.2	16	15389	79	1.00	893	96.0	96.3	96.2	0.75	0.82	0.84	320.3
2700	2000	88	15887	4.7	0.6	1.9	2602.2	16	15780	79	1.00	893	96.1	96.4	96.3	0.75	0.82	0.84	345.6
2875	2120	88	16879	6.0	0.7	2.0	4098.2	18	21081	79	1.00	895	96.0	96.1	96.3	0.76	0.83	0.86	359.4
3000	2250	88	17613	6.0	0.7	2.0	4160.7	18	21505	79	1.00	895	96.1	96.2	96.4	0.76	0.83	0.86	374.7
3175	2360	88	18641	6.0	0.7	2.0	4224.0	18	21947	79	1.00	895	96.2	96.3	96.5	0.76	0.83	0.86	396.1
3350	2500	88	19668	6.0	0.7	2.0	4288.3	18	22406	79	1.00	895	96.3	96.4	96.6	0.76	0.83	0.86	417.5
3500	2650	88	20549	6.0	0.7	2.0	4353.6	18	22886	79	1.00	895	96.4	96.5	96.7	0.76	0.83	0.86	435.7
3700	2800	88	21723	5.7	0.7	2.0	4419.9	18	23520	79	1.00	895	96.5	96.6	96.8	0.76	0.83	0.86	460.2

Note: Valid for motors operating with sine-wave power supply.



3.3.2 W60 TEAAC High Voltage (1.2 up to 5.0 kV)

Output		Frame	Full load torque (ft.lb)	Locked rotor current	Locked rotor torque Ti/Tn	Break-down torque Tb/Tn	Inertia J (sq.ft.lb)	Allowable locked rotor time (s)	Weight (lb)	Sound dB(A)	Service Factor	4160 V							
												Rated speed (rpm)	% of full load			Full load current In (A)			
													Efficiency		Power factor				
HP	kW		II/In				Hot					50	75	100	50	75	100		
II Poles																			
1650	1250	70	2427	5.9	0.6	2.1	300.4	11	10490	82	1.00	3573	95.0	95.6	95.3	0.87	0.90	0.90	199.2
1750	1320	70	2571	6.4	0.6	2.1	322.8	14	10646	82	1.00	3576	95.3	95.8	95.6	0.87	0.90	0.90	210.6
1900	1400	70	2792	6.0	0.6	2.1	327.7	14	10865	82	1.00	3576	95.4	95.9	95.7	0.87	0.90	0.90	228.4
2000	1500	70	2938	6.6	0.6	2.2	341.5	12	10862	83	1.00	3577	95.2	95.8	95.6	0.86	0.90	0.90	240.7
2125	1600	70	3122	6.2	0.6	2.2	346.7	12	11095	83	1.00	3577	95.3	95.9	95.7	0.86	0.90	0.90	255.4
2250	1700	70	3306	6.3	0.5	2.2	386.8	12	11437	83	1.00	3576	95.6	96.0	95.8	0.87	0.91	0.91	267.2
2375	1800	70	3490	5.9	0.5	2.2	392.7	12	11700	83	1.00	3576	95.7	96.1	95.9	0.87	0.91	0.91	281.8
2500	1900	80	3671	5.8	0.5	2.0	393.6	15	12742	82	1.00	3578	95.3	95.7	95.9	0.85	0.89	0.89	303.3
2700	2000	80	3965	5.5	0.5	2.0	399.6	15	13015	82	1.00	3578	95.4	95.8	96.0	0.85	0.89	0.89	327.2
2875	2120	80	4221	6.1	0.5	2.0	452.3	14	13427	83	1.00	3579	95.6	95.9	96.1	0.87	0.90	0.90	344.2
3000	2250	80	4405	5.8	0.5	2.0	459.2	14	13735	83	1.00	3579	95.7	96.0	96.2	0.87	0.90	0.90	358.7
3175	2360	80	4660	6.4	0.5	2.2	486.6	13	13821	83	1.00	3580	95.6	95.9	96.1	0.88	0.90	0.91	375.9
3350	2500	80	4917	6.0	0.5	2.2	494.1	13	14150	84	1.00	3580	95.7	96.0	96.2	0.88	0.90	0.91	396.2
3500	2650	80	5137	6.9	0.6	2.2	510.9	10	14116	84	1.00	3580	95.7	96.0	96.3	0.85	0.89	0.90	418.1
3700	2800	80	5431	6.5	0.6	2.2	518.7	10	14465	84	1.00	3580	95.8	96.1	96.4	0.85	0.89	0.90	441.5
4000	3000	88	5871	5.9	0.5	2.1	773.4	13	16900	83	1.00	3580	95.8	96.1	96.3	0.87	0.90	0.91	472.6
4250	3150	88	6238	6.1	0.5	2.1	821.1	14	17015	84	1.00	3580	95.5	95.9	96.2	0.87	0.90	0.91	502.6
4500	3350	88	6605	5.8	0.5	2.1	833.6	14	17430	84	1.00	3580	95.6	96.0	96.3	0.87	0.90	0.91	531.7
4750	3550	88	6968	6.2	0.5	2.2	875.6	13	20735	83	1.00	3582	95.8	96.2	96.4	0.85	0.89	0.90	566.8
5000	3750	88	7329	6.5	0.5	2.1	933.8	19	22808	83	1.00	3585	96.4	96.6	96.8	0.87	0.91	0.91	587.7
5300	4000	88	7768	6.5	0.5	2.1	948.0	19	23253	84	1.00	3585	96.5	96.7	96.9	0.87	0.91	0.91	622.3
5700	4250	88	8355	6.1	0.5	2.1	962.5	19	23840	84	1.00	3585	96.6	96.8	97.0	0.87	0.91	0.91	668.6
IV Poles																			
1400	1060	70	4121	6.1	0.8	2.2	557.9	13	10605	79	1.00	1785	94.8	95.5	95.3	0.83	0.88	0.89	170.9
1500	1120	70	4416	5.8	0.8	2.2	566.4	13	10825	79	1.00	1785	94.9	95.6	95.4	0.83	0.88	0.89	182.9
1575	1180	70	4639	5.7	0.8	2.0	632.4	12	10919	79	1.00	1784	95.2	95.6	95.3	0.86	0.89	0.89	192.3
1650	1250	70	4860	5.7	0.8	2.0	642.1	12	11104	79	1.00	1784	95.3	95.7	95.4	0.86	0.89	0.89	201.2
1750	1320	70	5154	5.4	0.8	2.0	651.9	12	11350	79	1.00	1784	95.4	95.8	95.5	0.86	0.89	0.89	213.2
1900	1400	70	5593	5.9	0.8	2.0	676.7	11	11340	80	1.00	1785	95.5	95.9	95.6	0.85	0.89	0.90	228.6
2000	1500	70	5888	5.6	0.8	2.0	686.9	11	11595	80	1.00	1785	95.6	96.0	95.7	0.85	0.89	0.90	240.4
2125	1600	70	6255	6.0	0.8	2.1	726.2	10	11693	80	1.00	1785	95.7	96.1	95.8	0.85	0.89	0.89	258.0
2250	1700	70	6623	5.7	0.8	2.1	737.3	10	11970	80	1.00	1785	95.8	96.2	95.9	0.85	0.89	0.89	272.9
2375	1800	80	6972	6.3	0.8	2.4	729.9	10	13395	82	1.00	1790	95.5	96.1	96.1	0.75	0.83	0.86	297.5
2500	1900	80	7343	6.1	0.7	2.2	824.6	11	13748	82	1.00	1789	95.8	96.1	96.3	0.82	0.87	0.89	302.0
2700	2000	80	7930	5.8	0.7	2.2	837.2	11	14075	82	1.00	1789	95.9	96.2	96.4	0.82	0.87	0.89	325.8
2875	2120	80	8440	6.8	0.8	2.4	868.1	9	14012	83	1.00	1790	95.9	96.2	96.5	0.78	0.85	0.87	354.5
3000	2250	80	8807	6.4	0.8	2.4	881.3	9	14355	83	1.00	1790	96.0	96.3	96.6	0.78	0.85	0.87	369.6
3175	2360	80	9320	6.7	0.8	2.4	930.1	9	14428	83	1.00	1790	96.1	96.3	96.6	0.79	0.86	0.88	386.7
3350	2500	80	9834	6.3	0.8	2.4	944.2	9	14790	83	1.00	1790	96.2	96.4	96.7	0.79	0.86	0.88	407.6
3500	2650	88	10286	5.6	0.7	2.1	947.8	9	17015	82	1.00	1788	96.3	96.5	96.6	0.79	0.85	0.87	431.2
3700	2800	88	10868	6.1	0.7	2.2	1063.9	8	17485	83	1.00	1789	96.4	96.5	96.7	0.78	0.85	0.87	455.3
4000	3000	88	11749	5.8	0.7	2.2	1080.2	8	17925	83	1.00	1789	96.5	96.6	96.8	0.78	0.85	0.87	491.8
4250	3150	88	12476	6.0	0.7	2.2	1212.6	9	21690	83	1.00	1790	96.5	96.7	96.9	0.80	0.86	0.88	516.0
4500	3350	88	13217	5.7	0.6	2.0	1837.8	10	23188	82	1.00	1789	96.5	96.6	96.7	0.86	0.89	0.90	535.3
4750	3550	88	13952	5.7	0.6	2.0	1865.8	10	23650	83	1.00	1789	96.6	96.7	96.8	0.86	0.89	0.90	564.5
5000	3750	88	14686	5.7	0.6	2.0	1894.2	10	24131	83	1.00	1789	96.7	96.8	96.9	0.86	0.89	0.90	593.6
5300	4000	88	15567	5.4	0.6	2.0	1923.1	10	24765	83	1.00	1789	96.8	96.9	97.0	0.86	0.89	0.90	628.6

Note: Valid for motors operating with sine-wave power supply.

Output		Frame	Full load torque (ft.lb)	Locked rotor current	Locked rotor torque Tl/Tn	Break-down torque Tb/Tn	Inertia J (sq.ft.lb)	Allowable locked rotor time (s)	Weight (lb)	Sound dB(A)	Service Factor	4160 V							Full load current In (A)
												Rated speed (rpm)	% of full load			Power factor			
													Efficiency			Power factor			
HP	kW			II/In				Hot				50	75	100	50	75	100		
VI Poles																			
970	710	70	4290	5.9	1.0	2.1	742.3	12	10880	77	1.00	1188	94.3	95.1	95.0	0.76	0.82	0.85	124.4
1000	750	70	4419	6.0	1.0	2.0	758.5	11	10737	77	1.00	1189	94.4	95.2	95.0	0.76	0.82	0.85	128.2
1100	800	70	4861	5.7	1.0	2.0	770.0	11	10965	77	1.00	1189	94.5	95.3	95.1	0.76	0.82	0.85	140.9
1250	900	70	5515	5.8	0.9	2.0	823.9	15	11285	77	1.00	1191	94.8	95.5	95.5	0.76	0.83	0.85	159.4
1300	950	70	5726	6.4	0.7	2.2	971.4	16	11890	77	1.00	1193	95.1	95.8	95.7	0.77	0.84	0.86	163.5
1350	1000	70	5946	6.0	0.7	2.2	986.2	16	12175	77	1.00	1193	95.2	95.9	95.8	0.77	0.84	0.86	169.7
1400	1060	80	6177	5.8	0.8	2.0	854.2	12	12663	77	1.00	1191	94.9	95.5	95.4	0.75	0.82	0.85	178.7
1500	1120	80	6618	5.8	0.80	2.0	867.2	12	12875	77	1.00	1191	95.0	95.6	95.5	0.75	0.82	0.85	191.3
1575	1180	80	6949	5.5	0.8	2.0	880.4	12	13155	77	1.00	1191	95.1	95.7	95.6	0.75	0.82	0.85	200.7
1650	1250	80	7274	6.1	0.8	2.1	1065.2	13	13929	79	1.00	1192	95.2	95.8	95.8	0.76	0.83	0.86	207.4
1750	1320	80	7714	5.8	0.8	2.1	1081.4	13	14265	79	1.00	1192	95.3	95.9	95.9	0.76	0.83	0.86	219.7
1900	1400	80	8376	5.9	0.7	2.0	1196.9	13	14646	79	1.00	1192	95.4	96.0	95.9	0.78	0.84	0.86	238.5
2000	1500	80	8816	5.6	0.7	2.0	1215.2	13	15020	79	1.00	1192	95.5	96.1	96.0	0.78	0.84	0.86	250.8
2125	1600	80	9367	5.8	0.6	2.1	1262.9	14	14966	79	1.00	1192	95.5	96.1	95.9	0.77	0.84	0.86	266.8
2250	1700	80	9919	5.5	0.6	2.1	1282.1	14	15360	79	1.00	1192	95.6	96.2	96.0	0.77	0.84	0.86	282.2
2375	1800	88	10478	5.4	0.7	2.0	1496.6	11	17160	79	1.00	1191	95.8	96.2	95.9	0.80	0.86	0.87	294.7
2500	1900	88	11030	5.5	0.6	1.9	1571.9	11	17290	79	1.00	1191	95.9	96.1	96.3	0.78	0.85	0.87	308.9
2700	2000	88	11912	5.2	0.6	1.9	1595.8	11	17720	79	1.00	1191	96.0	96.2	96.4	0.78	0.85	0.87	333.3
2875	2120	88	12663	5.4	0.5	1.9	1865.2	17	18514	82	1.00	1193	96.0	96.3	96.5	0.78	0.84	0.86	358.7
3000	2250	88	13214	5.1	0.5	1.9	1893.6	17	19005	82	1.00	1193	96.1	96.4	96.6	0.78	0.84	0.86	373.9
3175	2360	88	13984	5.9	0.6	2.1	2463.9	14	22877	79	1.00	1193	96.0	96.2	96.4	0.78	0.84	0.86	396.5
3350	2500	88	14755	5.9	0.6	2.1	2501.4	14	23326	79	1.00	1193	96.1	96.3	96.5	0.78	0.84	0.86	417.9
3500	2650	88	15416	5.9	0.6	2.1	2539.5	14	23793	82	1.00	1193	96.2	96.4	96.6	0.78	0.84	0.86	436.2
3700	2800	88	16297	5.9	0.6	2.1	2578.2	14	24279	82	1.00	1193	96.3	96.5	96.7	0.78	0.84	0.86	460.6
4000	3000	88	17618	5.6	0.6	2.1	2617.4	14	24920	82	1.00	1193	96.4	96.6	96.8	0.78	0.84	0.86	497.5
VIII Poles																			
850	630	70	5007	5.9	0.8	2.1	1052.3	16	10565	77	1.00	892	94.9	95.6	95.1	0.72	0.80	0.83	111.5
970	710	70	5714	5.9	0.8	2.1	1084.6	16	10912	77	1.00	892	95.1	95.8	95.3	0.72	0.80	0.83	127.0
1000	750	70	5891	5.9	0.8	2.1	1101.1	16	11096	77	1.00	892	95.2	95.9	95.4	0.72	0.80	0.83	130.8
1100	800	70	6480	5.6	0.8	2.1	1117.9	16	11340	77	1.00	892	95.3	96.0	95.5	0.72	0.80	0.83	143.7
1250	900	80	7355	5.4	0.7	1.9	1563.5	18	12534	77	1.00	893	94.9	95.5	95.1	0.76	0.83	0.85	160.1
1300	950	80	7649	5.4	0.7	1.9	1587.3	18	12740	77	1.00	893	95.0	95.6	95.2	0.76	0.83	0.85	166.3
1350	1000	80	7944	5.4	0.7	1.9	1611.5	18	12956	77	1.00	893	95.1	95.7	95.3	0.76	0.83	0.85	172.5
1400	1060	80	8238	5.4	0.7	1.9	1636.0	18	13180	77	1.00	893	95.2	95.8	95.4	0.76	0.83	0.85	178.7
1500	1120	80	8826	5.4	0.7	1.9	1660.9	18	13413	77	1.00	893	95.3	95.9	95.5	0.76	0.83	0.85	191.3
1575	1180	80	9268	5.4	0.7	1.9	1686.2	18	13657	77	1.00	893	95.4	96.0	95.6	0.76	0.83	0.85	200.7
1650	1250	80	9709	5.4	0.7	1.9	1711.9	18	13910	77	1.00	893	95.5	96.1	95.7	0.76	0.83	0.85	210.0
1750	1320	80	10297	5.1	0.7	1.9	1737.9	18	14245	77	1.00	893	95.6	96.2	95.8	0.76	0.83	0.85	222.5
1900	1400	88	11168	5.3	0.6	1.9	2402.9	17	15817	77	1.00	894	95.5	96.1	95.7	0.75	0.82	0.84	244.7
2000	1500	88	11755	5.3	0.6	1.9	2439.6	17	16093	77	1.00	894	95.6	96.2	95.8	0.75	0.82	0.84	257.3
2125	1600	88	12490	5.3	0.6	1.9	2476.7	17	16381	77	1.00	894	95.7	96.3	95.9	0.75	0.82	0.84	273.1
2250	1700	88	13225	5.0	0.6	1.9	2514.4	17	16760	77	1.00	894	95.8	96.4	96.0	0.75	0.82	0.84	288.9
2375	1800	88	13944	5.8	0.6	2.0	4235.1	23	21843	77	1.00	895	95.5	95.8	96.0	0.76	0.83	0.85	301.3
2500	1900	88	14678	5.8	0.6	2.0	4299.6	23	22249	77	1.00	895	95.6	95.9	96.1	0.76	0.83	0.85	316.9
2700	2000	88	15852	5.8	0.6	2.0	4365.0	23	22671	77	1.00	895	95.7	96.0	96.2	0.76	0.83	0.85	341.9
2875	2120	88	16879	5.8	0.6	2.0	4431.5	23	23111	77	1.00	895	95.8	96.1	96.3	0.76	0.83	0.85	363.6
3000	2250	88	17613	5.8	0.6	2.0	4499.0	23	23569	77	1.00	895	95.9	96.2	96.4	0.76	0.83	0.85	379.1
3175	2360	88	18641	5.8	0.6	2.0	4567.5	23	24047	77	1.00	895	96.0	96.3	96.5	0.76	0.83	0.85	400.8
3350	2500	88	19668	5.5	0.6	2.0	4637.1	23	24675	77	1.00	895	96.1	96.4	96.6	0.76	0.83	0.85	422.4

Note: Valid for motors operating with sine-wave power supply.



3.3.3 W60 TEWAC High Voltage (1.2 up to 5.0 kV)

Output		Frame	Full load torque (ft.lb)	Locked rotor current II/In	Locked rotor torque TI/Tn	Break-down torque Tb/Tn	Inertia J (sq.ft.lb)	Allowable locked rotor time (s)	Weight (lb)	Sound dB(A)	Service Factor	4160 V						Full load current In (A)	
												Rated speed (rpm)	% of full load			Power factor			
													50	75	100	50	75		100
II Poles																			
2125	1600	70	3124	6.0	0.6	2.0	295.9	9	9907	80	1.00	3574	95.3	96.0	95.5	0.88	0.90	0.91	253.2
2250	1700	70	3308	5.7	0.6	2.0	300.4	9	10110	80	1.00	3574	95.4	96.1	95.6	0.88	0.90	0.91	267.8
2375	1800	70	3491	6.5	0.6	2.0	341.5	9	10466	80	1.00	3575	95.6	96.2	95.8	0.87	0.91	0.91	282.1
2500	1900	70	3675	6.1	0.6	2.0	346.7	9	10695	80	1.00	3575	95.7	96.3	95.9	0.87	0.91	0.91	296.6
2700	2000	70	3970	6.5	0.6	2.1	368.1	9	10759	80	1.00	3574	95.9	96.1	96.1	0.88	0.90	0.90	323.2
2875	2120	70	4227	6.1	0.6	2.1	373.7	9	11005	80	1.00	3574	96.0	96.2	96.2	0.88	0.90	0.90	343.8
3000	2250	70	4411	6.3	0.5	2.1	386.8	12	11049	80	1.00	3574	96.1	96.3	96.3	0.87	0.91	0.91	354.4
3175	2360	70	4668	5.9	0.5	2.1	392.7	12	11310	80	1.00	3574	96.2	96.4	96.4	0.87	0.91	0.91	374.7
3350	2500	80	4921	5.7	0.6	2.0	434.7	10	12865	80	1.00	3577	96.1	96.3	96.3	0.86	0.90	0.90	400.2
3500	2650	80	5139	6.6	0.6	2.2	486.6	9	13224	80	1.00	3579	96.3	96.3	96.4	0.87	0.90	0.91	413.1
3700	2800	80	5432	6.2	0.6	2.2	494.1	9	13550	80	1.00	3579	96.4	96.4	96.5	0.87	0.90	0.91	436.2
4000	3000	80	5874	6.3	0.6	2.0	510.9	10	13529	80	1.00	3578	96.1	96.3	96.3	0.88	0.90	0.90	477.8
4250	3150	80	6241	5.9	0.6	2.0	518.7	10	13870	80	1.00	3578	96.2	96.4	96.4	0.88	0.90	0.90	507.2
4500	3350	80	6609	5.9	0.5	2.0	545.3	12	14004	80	1.00	3578	96.4	96.5	96.6	0.87	0.91	0.91	530.0
4750	3550	80	6976	5.6	0.5	2.0	553.6	12	14370	80	1.00	3578	96.5	96.6	96.7	0.87	0.91	0.91	558.9
5000	3750	88	7343	5.8	0.6	2.1	670.6	9	16550	81	1.00	3578	96.4	96.5	96.5	0.87	0.90	0.91	589.5
5300	4000	88	7779	5.8	0.6	2.1	708.1	10	16850	81	1.00	3580	96.3	96.4	96.5	0.84	0.89	0.90	631.8
5700	4250	88	8366	5.6	0.5	2.1	751.3	11	17230	81	1.00	3580	96.5	96.7	96.7	0.88	0.91	0.91	670.6
6000	4500	88	8799	6.1	0.5	2.0	880.4	13	21257	81	1.00	3583	96.7	96.7	96.8	0.87	0.91	0.91	705.2
6250	4750	88	9166	6.1	0.5	2.0	893.8	13	21665	81	1.00	3583	96.8	96.8	96.9	0.87	0.91	0.91	733.8
6700	5000	88	9826	6.1	0.5	2.0	907.4	13	22089	81	1.00	3583	96.9	96.9	97.0	0.87	0.91	0.91	785.9
7000	5300	88	10266	5.8	0.5	2.0	921.2	13	22650	81	1.00	3583	97.0	97.0	97.1	0.87	0.91	0.91	820.2
IV Poles																			
1900	1400	70	5596	5.5	0.8	1.9	578.0	10	10231	79	1.00	1784	95.5	96.2	95.7	0.85	0.89	0.90	228.4
2000	1500	70	5891	5.2	0.8	1.9	586.8	10	10450	79	1.00	1784	95.6	96.3	95.8	0.85	0.89	0.90	240.2
2125	1600	70	6252	6.3	0.9	2.2	654.9	8	10771	79	1.00	1786	95.8	96.4	96.0	0.83	0.88	0.89	257.5
2250	1700	70	6620	5.9	0.9	2.2	664.9	8	11015	79	1.00	1786	95.9	96.5	96.1	0.83	0.88	0.89	272.4
2375	1800	70	6988	6.3	0.9	2.2	689.5	8	10978	79	1.00	1786	95.8	96.4	96.0	0.84	0.88	0.89	287.8
2500	1900	70	7355	5.9	0.9	2.2	700.0	8	11235	79	1.00	1786	95.9	96.5	96.1	0.84	0.88	0.89	302.6
2700	2000	70	7953	5.6	0.8	2.0	739.1	8	11318	79	1.00	1784	96.1	96.4	96.3	0.86	0.89	0.90	322.5
2875	2120	70	8468	5.3	0.8	2.0	750.3	8	11595	79	1.00	1784	96.2	96.5	96.4	0.86	0.89	0.90	343.1
3000	2250	80	8816	5.4	0.7	2.0	740.6	9	12835	80	1.00	1788	96.4	96.6	96.6	0.80	0.86	0.88	365.4
3175	2360	80	9331	6.0	0.7	2.1	835.1	9	13199	80	1.00	1788	96.4	96.6	96.6	0.82	0.88	0.89	382.4
3350	2500	80	9845	5.7	0.7	2.1	847.9	9	13525	80	1.00	1788	96.5	96.7	96.7	0.82	0.88	0.89	403.0
3500	2650	80	10286	5.7	0.7	2.0	878.4	8	13501	80	1.00	1788	96.4	96.7	96.6	0.83	0.88	0.89	421.5
3700	2800	80	10874	5.4	0.7	2.0	891.8	8	13840	80	1.00	1788	96.5	96.8	96.7	0.83	0.88	0.89	445.1
4000	3000	80	11749	6.5	0.8	2.3	940.6	7	13902	80	1.00	1789	96.7	96.7	96.8	0.78	0.85	0.87	491.8
4250	3150	80	12483	6.1	0.8	2.3	954.9	7	14265	80	1.00	1789	96.8	96.8	96.9	0.78	0.85	0.87	522.0
4500	3350	88	13217	5.7	0.7	2.2	1025.6	7	16735	80	1.00	1789	96.8	96.9	97.0	0.77	0.84	0.87	552.1
4750	3550	88	13944	5.5	0.6	2.1	1114.1	7	17255	80	1.00	1790	96.9	97.0	97.1	0.77	0.84	0.87	582.2
5000	3750	88	14669	6.1	0.7	2.3	1191.9	7	17715	80	1.00	1791	97.1	97.1	97.2	0.76	0.84	0.87	612.2
5300	4000	88	15567	5.7	0.6	2.0	1810.3	8	22019	80	1.00	1789	96.6	96.8	96.8	0.84	0.88	0.89	636.9
5700	4250	88	16742	5.7	0.6	2.0	1837.8	8	22458	80	1.00	1789	96.7	96.9	96.9	0.84	0.88	0.89	684.3
6000	4500	88	17623	5.7	0.6	2.0	1865.8	8	22915	80	1.00	1789	96.8	97.0	97.0	0.84	0.88	0.89	719.6
6250	4750	88	18357	5.7	0.6	2.0	1894.2	8	23391	80	1.00	1789	96.9	97.1	97.1	0.84	0.88	0.89	748.8
6700	5000	88	19679	5.4	0.6	2.0	1923.1	8	24020	80	1.00	1789	97.0	97.2	97.2	0.84	0.88	0.89	801.9

Note: Valid for motors operating with sine-wave power supply.

Output		Frame	Full load torque (ft.lb)	Locked rotor current	Locked rotor torque Tl/Tn	Break-down torque Tb/Tn	Inertia J (sq.ft.lb)	Allowable locked rotor time (s)	Weight (lb)	Sound dB(A)	Service Factor	4160 V						Full load current In (A)	
												Rated speed (rpm)	Efficiency			Power factor			
													50	75	100	50	75		100
HP	kW			II/In				Hot											
VI Poles																			
1300	950	70	5731	6.1	0.7	2.1	868.1	18	10970	76	1.00	1192	95.5	96.0	95.9	0.74	0.82	0.84	167.1
1350	1000	70	5951	5.8	0.7	2.1	881.3	18	11225	76	1.00	1192	95.6	96.1	96.0	0.74	0.82	0.84	173.3
1400	1060	70	6172	6.1	0.8	2.1	919.1	16	11208	76	1.00	1192	95.7	96.1	95.9	0.76	0.82	0.85	177.8
1500	1120	70	6612	5.8	0.8	2.1	933.1	16	11475	76	1.00	1192	95.8	96.2	96.0	0.76	0.82	0.85	190.3
1575	1180	70	6949	6.1	0.8	2.1	919.1	14	11239	76	1.00	1191	95.8	96.2	95.9	0.74	0.82	0.84	202.4
1650	1250	70	7280	5.8	0.8	2.1	933.1	14	11510	76	1.00	1191	95.9	96.3	96.0	0.74	0.82	0.84	211.8
1750	1320	70	7721	5.7	0.8	2.1	987.2	15	11760	76	1.00	1191	95.8	96.3	96.0	0.75	0.82	0.85	222.0
1900	1400	80	8383	5.5	0.6	1.9	1065.2	14	13408	77	1.00	1191	95.9	96.3	96.0	0.78	0.84	0.86	238.3
2000	1500	80	8824	5.2	0.6	1.9	1081.4	14	13745	77	1.00	1191	96.0	96.4	96.1	0.78	0.84	0.86	250.5
2125	1600	80	9375	5.5	0.6	1.9	1114.1	12	13480	77	1.00	1191	95.8	96.3	96.0	0.77	0.84	0.86	266.5
2250	1700	80	9927	5.5	0.6	1.9	1131.1	12	13747	77	1.00	1191	95.9	96.4	96.1	0.77	0.84	0.86	281.9
2375	1800	80	10478	5.2	0.6	1.9	1148.3	12	14100	77	1.00	1191	96.0	96.5	96.2	0.77	0.84	0.86	297.2
2500	1900	80	11030	5.5	0.6	1.9	1179.0	11	13841	77	1.00	1191	96.1	96.3	96.4	0.74	0.82	0.85	315.9
2700	2000	80	11912	5.5	0.6	1.9	1196.9	11	14123	77	1.00	1191	96.2	96.4	96.5	0.74	0.82	0.85	340.8
2875	2120	80	12684	5.2	0.6	1.9	1215.2	11	14495	77	1.00	1191	96.3	96.5	96.6	0.74	0.82	0.85	362.5
3000	2250	80	13225	5.5	0.6	2.0	1262.9	10	14515	77	1.00	1192	96.2	96.4	96.5	0.73	0.81	0.84	383.2
3175	2360	80	13996	5.2	0.6	2.0	1282.1	10	14910	77	1.00	1192	96.3	96.5	96.6	0.73	0.81	0.84	405.1
3350	2500	88	14755	5.4	0.6	2.0	1801.3	13	17990	79	1.00	1193	96.4	96.6	96.8	0.72	0.81	0.84	426.6
3500	2650	88	15416	5.3	0.5	1.9	1872.0	13	17901	79	1.00	1193	96.5	96.6	96.7	0.75	0.82	0.85	440.9
3700	2800	88	16297	5.0	0.5	1.9	1900.5	13	18395	79	1.00	1193	96.6	96.7	96.8	0.75	0.82	0.85	465.6
4000	3000	88	17618	5.2	0.5	2.0	1923.1	12	18555	79	1.00	1193	96.6	96.7	96.8	0.72	0.80	0.84	509.3
4250	3150	88	18719	5.9	0.6	2.1	2463.9	10	22275	79	1.00	1193	96.4	96.5	96.6	0.74	0.81	0.85	535.9
4500	3350	88	19820	5.9	0.6	2.1	2501.4	10	22725	79	1.00	1193	96.5	96.6	96.7	0.74	0.81	0.85	566.8
4750	3550	88	20922	5.9	0.6	2.1	2539.5	10	23193	79	1.00	1193	96.6	96.7	96.8	0.74	0.81	0.85	597.7
5000	3750	88	22023	5.9	0.6	2.1	2578.2	10	23681	79	1.00	1193	96.7	96.8	96.9	0.74	0.81	0.85	628.5
5300	4000	88	23344	5.6	0.6	2.1	2617.4	10	24325	79	1.00	1193	96.8	96.9	97.0	0.74	0.81	0.85	665.5
VIII Poles																			
850	630	70	5013	5.3	0.7	1.9	967.9	14	9550	77	1.00	891	94.6	95.4	94.8	0.73	0.80	0.83	111.8
970	710	70	5721	5.3	0.7	1.9	997.6	14	9842	77	1.00	891	94.8	95.6	95.0	0.73	0.80	0.83	127.4
1000	750	70	5897	5.3	0.7	1.9	1012.8	14	9997	77	1.00	891	94.9	95.7	95.1	0.73	0.80	0.83	131.2
1100	800	70	6487	5.3	0.7	1.9	1028.2	14	10158	77	1.00	891	95.0	95.8	95.2	0.73	0.80	0.83	144.1
1250	900	70	7372	5.3	0.7	1.9	1059.9	14	10501	77	1.00	891	95.2	96.0	95.4	0.73	0.80	0.83	163.4
1300	950	70	7667	5.0	0.7	1.9	1075.9	14	10735	77	1.00	891	95.3	96.1	95.5	0.73	0.80	0.83	169.8
1350	1000	80	7953	5.2	0.7	1.9	1499.5	15	11858	77	1.00	892	94.7	95.4	94.9	0.74	0.81	0.84	175.3
1400	1060	80	8247	5.2	0.7	1.9	1522.3	15	12058	77	1.00	892	94.8	95.5	95.0	0.74	0.81	0.84	181.6
1500	1120	80	8836	5.2	0.7	1.9	1545.5	15	12265	77	1.00	892	94.9	95.6	95.1	0.74	0.81	0.84	194.4
1575	1180	80	9278	5.2	0.7	1.9	1569.0	15	12481	77	1.00	892	95.0	95.7	95.2	0.74	0.81	0.84	203.9
1650	1250	80	9720	5.2	0.7	1.9	1592.9	15	12707	77	1.00	892	95.1	95.8	95.3	0.74	0.81	0.84	213.4
1750	1320	80	10309	5.2	0.7	1.9	1617.2	15	12941	77	1.00	892	95.2	95.9	95.4	0.74	0.81	0.84	226.1
1900	1400	80	11193	5.2	0.7	1.9	1641.8	15	13186	77	1.00	892	95.3	96.0	95.5	0.74	0.81	0.84	245.2
2000	1500	80	11782	4.9	0.7	1.9	1666.8	15	13510	77	1.00	892	95.4	96.1	95.6	0.74	0.81	0.84	257.9
2125	1600	88	12504	5.0	0.6	1.9	2449.6	16	15108	77	1.00	893	95.7	96.0	95.9	0.75	0.82	0.84	273.1
2250	1700	88	13239	5.0	0.6	1.9	2486.9	16	15381	77	1.00	893	95.8	96.1	96.0	0.75	0.82	0.84	288.9
2375	1800	88	13975	5.0	0.6	1.9	2524.7	16	15665	77	1.00	893	95.9	96.2	96.1	0.75	0.82	0.84	304.6
2500	1900	88	14711	5.0	0.6	1.9	2563.2	16	15962	77	1.00	893	96.0	96.3	96.2	0.75	0.82	0.84	320.3
2700	2000	88	15887	4.7	0.6	1.9	2602.2	16	16355	77	1.00	893	96.1	96.4	96.3	0.75	0.82	0.84	345.6
2875	2120	88	16879	6.0	0.7	2.0	4098.2	18	21654	77	1.00	895	96.0	96.1	96.3	0.76	0.83	0.86	359.4
3000	2250	88	17613	6.0	0.7	2.0	4160.7	18	22078	77	1.00	895	96.1	96.2	96.4	0.76	0.83	0.86	374.7
3175	2360	88	18641	6.0	0.7	2.0	4224.0	18	22520	77	1.00	895	96.2	96.3	96.5	0.76	0.83	0.86	396.1
3350	2500	88	19668	6.0	0.7	2.0	4288.3	18	22980	77	1.00	895	96.3	96.4	96.6	0.76	0.83	0.86	417.5
3500	2650	88	20549	6.0	0.7	2.0	4353.6	18	23459	77	1.00	895	96.4	96.5	96.7	0.76	0.83	0.86	435.7
3700	2800	88	21723	5.7	0.7	2.0	4419.9	18	24090	77	1.00	895	96.5	96.6	96.8	0.76	0.83	0.86	460.2

Note: Valid for motors operating with sine-wave power supply.



3.3.4 W60 WPII High Voltage (5.1 up to 6.6 kV)

Output		Frame	Full load torque (ft.lb)	Locked rotor current II/In	Locked rotor torque TI/Tn	Break-down torque Tb/Tn	Inertia J (sq.ft.lb)	Allowable locked rotor time (s) Hot	Weight (lb)	Sound dB(A)	Service Factor	6600 V								
												Rated speed (rpm)	% of full load			Power factor			Full load current In (A)	
													50	75	100	50	75	100		
II Poles																				
2125	1600	70	3125	5.6	0.6	1.9	300.4	10	9635	83	1.00	3573	95.2	95.9	95.4	0.87	0.90	0.90	161.5	
2250	1700	70	3307	6.6	0.6	2.1	341.5	7	9944	83	1.00	3575	95.4	96.1	95.6	0.88	0.91	0.91	168.8	
2375	1800	70	3491	6.2	0.6	2.1	346.7	7	10170	83	1.00	3575	95.5	96.2	95.7	0.88	0.91	0.91	178.0	
2500	1900	70	3675	6.4	0.6	2.1	368.1	8	10234	83	1.00	3575	95.7	95.9	95.9	0.88	0.91	0.91	186.9	
2700	2000	70	3969	6.0	0.6	2.1	373.7	8	10480	83	1.00	3575	95.8	96.0	96.0	0.88	0.91	0.91	201.7	
2875	2120	70	4222	6.7	0.6	2.2	386.8	7	10465	83	1.00	3578	95.9	96.1	96.1	0.88	0.91	0.91	214.5	
3000	2250	70	4406	6.3	0.6	2.2	392.7	7	10720	83	1.00	3578	96.0	96.2	96.2	0.88	0.91	0.91	223.6	
3175	2360	80	4664	5.5	0.5	1.9	434.7	9	12295	83	1.00	3577	95.9	96.1	96.1	0.87	0.90	0.90	239.6	
3350	2500	80	4921	5.9	0.5	2.0	452.3	9	12304	83	1.00	3577	95.9	96.0	96.0	0.87	0.90	0.90	253.0	
3500	2650	80	5141	5.6	0.5	2.0	459.2	9	12610	83	1.00	3577	96.0	96.1	96.1	0.87	0.90	0.90	264.1	
3700	2800	80	5434	6.1	0.5	2.0	486.6	8	12702	83	1.00	3578	96.1	96.2	96.2	0.87	0.90	0.90	278.9	
4000	3000	80	5874	5.8	0.5	2.0	494.1	8	13025	83	1.00	3578	96.2	96.3	96.3	0.87	0.90	0.90	301.2	
4250	3150	80	6241	5.9	0.6	2.0	518.7	9	13335	83	1.00	3578	96.3	96.3	96.4	0.87	0.90	0.90	319.7	
4500	3350	88	6603	6.1	0.6	2.2	636.4	9	15655	85	1.00	3581	96.2	96.4	96.5	0.83	0.88	0.89	341.9	
4750	3550	88	6970	6.1	0.6	2.0	685.1	9	16160	85	1.00	3581	96.2	96.4	96.5	0.85	0.89	0.89	360.9	
5000	3750	88	7335	6.5	0.6	2.2	719.0	7	16470	85	1.00	3582	96.4	96.5	96.6	0.86	0.89	0.90	375.3	
5300	4000	88	7770	6.3	0.5	2.1	854.1	12	19877	85	1.00	3584	96.5	96.7	96.7	0.88	0.91	0.91	393.0	
5700	4250	88	8357	6.3	0.5	2.1	867.1	12	20251	85	1.00	3584	96.6	96.8	96.8	0.88	0.91	0.91	422.3	
6000	4500	88	8797	6.3	0.5	2.1	880.4	12	20640	85	1.00	3584	96.7	96.9	96.9	0.88	0.91	0.91	444.0	
6250	4750	88	9163	6.3	0.5	2.1	893.8	12	21045	85	1.00	3584	96.8	97.0	97.0	0.88	0.91	0.91	462.1	
6700	5000	88	9823	6.3	0.5	2.1	907.4	12	21468	85	1.00	3584	96.9	97.1	97.1	0.88	0.91	0.91	494.8	
7000	5300	88	10263	5.9	0.5	2.1	921.2	12	22025	85	1.00	3584	97.0	97.2	97.2	0.88	0.91	0.91	516.4	
IV Poles																				
1900	1400	70	5584	5.8	0.8	2.1	592.3	13	9985	82	1.00	1788	95.8	96.3	96.0	0.83	0.88	0.89	145.1	
2000	1500	70	5881	5.5	0.7	1.9	618.2	14	10008	82	1.00	1787	95.7	96.3	95.9	0.85	0.89	0.89	152.9	
2125	1600	70	6248	5.2	0.7	1.9	627.7	14	10240	82	1.00	1787	95.8	96.4	96.0	0.85	0.89	0.89	162.3	
2250	1700	70	6616	5.6	0.7	1.9	667.6	12	10344	82	1.00	1787	95.8	96.4	96.0	0.86	0.89	0.90	169.9	
2375	1800	70	6984	5.3	0.7	1.9	677.7	12	10595	82	1.00	1787	95.9	96.5	96.1	0.86	0.89	0.90	179.2	
2500	1900	70	7347	5.9	0.7	2.0	702.4	11	10559	82	1.00	1788	96.2	96.4	96.4	0.84	0.88	0.90	188.0	
2700	2000	70	7935	5.6	0.7	2.0	713.1	11	10820	82	1.00	1788	96.3	96.5	96.5	0.84	0.88	0.90	202.9	
2875	2120	80	8444	5.6	0.7	2.1	740.6	10	12270	82	1.00	1789	96.3	96.5	96.5	0.78	0.85	0.87	223.5	
3000	2250	80	8816	5.8	0.7	2.0	835.1	9	12617	82	1.00	1788	96.2	96.5	96.4	0.83	0.88	0.89	228.2	
3175	2360	80	9331	5.5	0.7	2.0	847.9	9	12940	82	1.00	1788	96.3	96.6	96.5	0.83	0.88	0.89	241.2	
3350	2500	80	9845	5.8	0.7	2.0	878.4	9	12931	82	1.00	1788	96.3	96.6	96.5	0.83	0.88	0.89	254.5	
3500	2650	80	10286	5.5	0.7	2.0	891.8	9	13270	82	1.00	1788	96.4	96.7	96.6	0.83	0.88	0.89	265.7	
3700	2800	80	10874	5.8	0.7	2.0	940.6	9	13354	82	1.00	1788	96.5	96.7	96.7	0.83	0.88	0.89	280.6	
4000	3000	80	11755	5.5	0.7	2.0	954.9	9	13715	82	1.00	1788	96.6	96.8	96.8	0.83	0.88	0.89	303.0	
4250	3150	88	12483	6.2	0.8	2.3	1025.6	6	16035	83	1.00	1789	96.6	96.8	96.8	0.75	0.83	0.86	333.2	
4500	3350	88	13217	5.1	0.6	1.9	1098.9	7	16485	83	1.00	1789	96.6	96.9	96.8	0.79	0.85	0.87	348.7	
4750	3550	88	13944	5.8	0.8	2.1	1176.8	6	16955	83	1.00	1790	96.7	96.9	96.9	0.76	0.84	0.86	372.0	
5000	3750	88	14678	5.9	0.6	2.0	1783.1	8	20999	83	1.00	1790	96.4	96.5	96.6	0.83	0.88	0.89	379.5	
5300	4000	88	15558	5.9	0.6	2.0	1810.3	8	21419	83	1.00	1790	96.5	96.6	96.7	0.83	0.88	0.89	401.9	
5700	4250	88	16733	5.9	0.6	2.0	1837.8	8	21857	83	1.00	1790	96.6	96.7	96.8	0.83	0.88	0.89	431.8	
6000	4500	88	17613	5.9	0.6	2.0	1865.8	8	22314	83	1.00	1790	96.7	96.8	96.9	0.83	0.88	0.89	454.0	
6250	4750	88	18347	5.9	0.6	2.0	1894.2	8	22789	83	1.00	1790	96.8	96.9	97.0	0.83	0.88	0.89	472.4	
6700	5000	88	19668	5.6	0.6	2.0	1923.1	8	23415	83	1.00	1790	96.9	97.0	97.1	0.83	0.88	0.89	505.9	

Note: Valid for motors operating with sine-wave power supply.

Output		Frame	Full load torque (ft.lb)	Locked rotor current	Locked rotor torque Tl/Tn	Break-down torque Tb/Tn	Inertia J (sq.ft.lb)	Allowable locked rotor time (s)	Weight (lb)	Sound dB(A)	Service Factor	6600 V							
												Rated speed (rpm)	% of full load			Full load current In (A)			
													Efficiency		Power factor				
HP	kW			II/In								50	75	100	50	75	100		
VI Poles																			
1250	900	70	5515	5.6	0.8	2.0	824.8	16	10435	80	1.00	1191	95.4	95.9	95.7	0.77	0.83	0.85	100.3
1300	950	70	5731	6.3	0.9	2.1	865.8	14	10471	80	1.00	1192	95.4	95.9	95.7	0.76	0.83	0.85	104.3
1350	1000	70	5951	5.9	0.9	2.1	878.9	14	10725	80	1.00	1192	95.5	96.0	95.8	0.76	0.83	0.85	108.2
1400	1060	70	6177	5.7	0.8	1.9	919.1	15	10705	80	1.00	1191	95.4	96.0	95.6	0.78	0.84	0.86	111.1
1500	1120	70	6618	5.4	0.8	1.9	933.1	15	10975	80	1.00	1191	95.5	96.1	95.7	0.78	0.84	0.86	118.9
1575	1180	70	6955	5.8	0.9	2.0	972.4	11	10879	80	1.00	1190	95.4	95.8	95.5	0.76	0.82	0.84	128.1
1650	1250	70	7286	5.5	0.9	2.0	987.2	11	11155	80	1.00	1190	95.5	95.9	95.6	0.76	0.82	0.84	134.1
1750	1320	80	7714	5.6	0.6	2.0	1065.2	15	12872	80	1.00	1192	95.8	96.2	96.0	0.77	0.84	0.86	138.3
1900	1400	80	8376	5.3	0.6	2.0	1081.4	15	13205	80	1.00	1192	95.9	96.3	96.1	0.77	0.84	0.86	150.0
2000	1500	80	8816	5.6	0.7	1.9	1114.1	11	12951	80	1.00	1192	95.7	96.2	95.9	0.75	0.82	0.85	160.1
2125	1600	80	9367	5.6	0.7	1.9	1131.1	11	13217	80	1.00	1192	95.8	96.3	96.0	0.75	0.82	0.85	169.9
2250	1700	80	9919	5.3	0.7	1.9	1148.3	11	13570	80	1.00	1192	95.9	96.4	96.1	0.75	0.82	0.85	179.8
2375	1800	80	10470	6.0	0.7	2.1	1196.9	10	13615	80	1.00	1192	95.8	96.3	96.1	0.72	0.80	0.84	192.0
2500	1900	80	11021	5.7	0.7	2.1	1215.2	10	13990	80	1.00	1192	95.9	96.4	96.2	0.72	0.80	0.84	201.9
2700	2000	80	11902	5.8	0.7	2.1	1262.9	11	13904	80	1.00	1192	96.0	96.3	96.4	0.73	0.81	0.84	217.6
2875	2120	80	12674	5.5	0.7	2.1	1282.1	11	14295	80	1.00	1192	96.1	96.4	96.5	0.73	0.81	0.84	231.5
3000	2250	88	13214	5.6	0.6	2.1	1812.0	11	17235	81	1.00	1193	96.3	96.5	96.6	0.73	0.82	0.85	238.4
3175	2360	88	13984	6.0	0.6	2.1	1882.8	10	17238	81	1.00	1193	96.4	96.5	96.7	0.71	0.80	0.84	255.1
3350	2500	88	14755	5.7	0.6	2.1	1911.4	10	17725	81	1.00	1193	96.5	96.6	96.8	0.71	0.80	0.84	268.9
3500	2650	88	15416	5.6	0.6	2.1	1940.6	10	17850	81	1.00	1193	96.6	96.7	96.8	0.72	0.80	0.84	280.9
3700	2800	88	16297	5.9	0.6	2.2	2390.5	10	20818	81	1.00	1193	96.1	96.2	96.4	0.72	0.81	0.84	298.2
4000	3000	88	17618	5.9	0.6	2.2	2426.9	10	21231	81	1.00	1193	96.2	96.3	96.5	0.72	0.81	0.84	322.0
4250	3150	88	18719	5.9	0.6	2.2	2463.9	10	21661	81	1.00	1193	96.3	96.4	96.6	0.72	0.81	0.84	341.8
4500	3350	88	19820	5.9	0.6	2.2	2501.4	10	22109	81	1.00	1193	96.4	96.5	96.7	0.72	0.81	0.84	361.5
4750	3550	88	20922	5.9	0.6	2.2	2539.5	10	22576	81	1.00	1193	96.5	96.6	96.8	0.72	0.81	0.84	381.2
5000	3750	88	22023	5.9	0.6	2.2	2578.2	10	23062	81	1.00	1193	96.6	96.7	96.9	0.72	0.81	0.84	400.9
5300	4000	88	23344	5.6	0.6	2.2	2617.4	10	23705	81	1.00	1193	96.7	96.8	97.0	0.72	0.81	0.84	424.5
VIII Poles																			
850	630	70	5013	6.4	0.9	2.4	966.4	10	9304	78	1.00	891	94.4	95.0	94.6	0.68	0.78	0.82	71.5
970	710	70	5721	6.4	0.9	2.4	996.02	10	9615	78	1.00	891	94.6	95.2	94.8	0.68	0.78	0.82	81.4
1000	750	70	5897	6.4	0.9	2.4	1011.2	10	9780	78	1.00	891	94.7	95.3	94.9	0.68	0.78	0.82	83.9
1100	800	70	6487	6.4	0.9	2.4	1026.6	10	9952	78	1.00	891	94.8	95.4	95.0	0.68	0.78	0.82	92.1
1250	900	80	7364	4.9	0.6	1.9	1563.5	15	11340	78	1.00	892	94.4	95.2	94.6	0.78	0.84	0.85	101.4
1300	950	80	7658	4.9	0.6	1.9	1587.3	15	11540	78	1.00	892	94.5	95.3	94.7	0.78	0.84	0.85	105.4
1350	1000	80	7953	4.9	0.6	1.9	1611.5	15	11747	78	1.00	892	94.6	95.4	94.8	0.78	0.84	0.85	109.3
1400	1060	80	8247	4.9	0.6	1.9	1636.0	15	11964	78	1.00	892	94.7	95.5	94.9	0.78	0.84	0.85	113.3
1500	1120	80	8836	4.9	0.6	1.9	1660.9	15	12189	78	1.00	892	94.8	95.6	95.0	0.78	0.84	0.85	121.2
1575	1180	80	9278	4.9	0.6	1.9	1686.2	15	12424	78	1.00	892	94.9	95.7	95.1	0.78	0.84	0.85	127.1
1650	1250	80	9720	4.9	0.6	1.9	1711.9	15	12668	78	1.00	892	95.0	95.8	95.2	0.78	0.84	0.85	133.1
1750	1320	80	10309	4.6	0.6	1.9	1737.9	15	12990	78	1.00	892	95.1	95.9	95.3	0.78	0.84	0.85	141.0
1900	1400	88	11180	5.1	0.6	1.9	2290.1	16	14152	79	1.00	893	95.2	95.8	95.4	0.75	0.82	0.84	154.7
2000	1500	88	11768	5.1	0.6	1.9	2324.9	16	14409	79	1.00	893	95.3	95.9	95.5	0.75	0.82	0.84	162.7
2125	1600	88	12504	5.1	0.6	1.9	2360.4	16	14677	79	1.00	893	95.4	96.0	95.6	0.75	0.82	0.84	172.7
2250	1700	88	13239	5.1	0.6	1.9	2396.3	16	14956	79	1.00	893	95.5	96.1	95.7	0.75	0.82	0.84	182.7
2375	1800	88	13975	4.8	0.6	1.9	2432.8	16	15325	79	1.00	893	95.6	96.2	95.8	0.75	0.82	0.84	192.6
2500	1900	88	14678	5.8	0.6	2.0	3995.2	19	20379	79	1.00	895	95.9	96.0	96.0	0.76	0.83	0.86	197.6
2700	2000	88	15852	5.8	0.6	2.0	4056.0	19	20773	79	1.00	895	96.0	96.1	96.1	0.76	0.83	0.86	213.2
2875	2120	88	16879	5.8	0.6	2.0	4117.8	19	21184	79	1.00	895	96.1	96.2	96.2	0.76	0.83	0.86	226.8
3000	2250	88	17613	5.8	0.6	2.0	4180.5	19	21613	79	1.00	895	96.2	96.3	96.3	0.76	0.83	0.86	236.4
3175	2360	88	18641	5.8	0.6	2.0	4244.1	19	22059	79	1.00	895	96.3	96.4	96.4	0.76	0.83	0.86	249.9
3350	2500	88	19668	5.8	0.6	2.0	4308.8	19	22523	79	1.00	895	96.4	96.5	96.5	0.76	0.83	0.86	263.4
3500	2650	88	20549	5.5	0.6	2.0	4374.4	19	23135	79	1.00	895	96.5	96.6	96.6	0.76	0.83	0.86	274.9

Note: Valid for motors operating with sine-wave power supply.



3.3.5 W60 TEAAC High Voltage (5.1 up to 6.6 kV)

Output		Frame	Full load torque (ft.lb)	Locked rotor current	Locked rotor torque Ti/Tn	Break-down torque Tb/Tn	Inertia J (sq.ft.lb)	Allowable locked rotor time (s)	Weight (lb)	Sound dB(A)	Service Factor	6600 V						Full load current In (A)	
												Rated speed (rpm)	% of full load			Power factor			
													Efficiency			Power factor			
HP	kW			II/In				Hot				50	75	100	50	75	100		
II Poles																			
1500	1120	70	2213	5.7	0.6	2.0	279.5	14	10400	82	1.00	3561	94.6	95.1	94.8	0.87	0.90	0.90	114.7
1575	1180	70	2314	6.5	0.6	2.1	322.8	11	10532	82	1.00	3576	94.9	95.4	95.2	0.86	0.90	0.90	120.0
1650	1250	70	2425	6.1	0.6	2.1	327.7	11	10745	82	1.00	3576	95.0	95.5	95.3	0.86	0.90	0.90	125.5
1750	1320	70	2571	6.4	0.6	2.1	341.5	12	10784	83	1.00	3576	94.8	95.4	95.2	0.87	0.90	0.90	133.3
1900	1400	70	2792	6.0	0.6	2.1	346.7	12	11010	83	1.00	3576	94.9	95.5	95.3	0.87	0.90	0.90	144.6
2000	1500	70	2937	7.1	0.6	2.3	386.8	10	11310	83	1.00	3578	95.1	95.7	95.5	0.87	0.90	0.91	150.2
2125	1600	70	3121	6.7	0.6	2.3	392.7	10	11565	83	1.00	3578	95.2	95.8	95.6	0.87	0.90	0.91	159.4
2250	1700	80	3302	6.4	0.6	2.1	387.7	15	12543	82	1.00	3580	94.7	95.5	95.4	0.83	0.88	0.89	172.9
2375	1800	80	3486	6.4	0.6	2.1	393.6	15	12750	82	1.00	3580	94.8	95.6	95.5	0.83	0.88	0.89	182.3
2500	1900	80	3669	6.0	0.6	2.1	399.6	15	13025	82	1.00	3580	94.9	95.7	95.6	0.83	0.88	0.89	191.7
2700	2000	80	3965	6.1	0.6	1.9	428.2	13	13102	82	1.00	3578	95.2	95.6	95.8	0.86	0.89	0.90	204.4
2875	2120	80	4222	5.8	0.6	1.9	434.7	13	13395	83	1.00	3578	95.3	95.7	95.9	0.86	0.89	0.90	217.4
3000	2250	80	4403	6.6	0.6	2.2	452.3	12	13416	83	1.00	3580	95.2	95.7	95.9	0.85	0.89	0.90	226.8
3175	2360	80	4660	6.2	0.6	2.2	459.2	12	13725	84	1.00	3580	95.3	95.8	96.0	0.85	0.89	0.90	239.8
3350	2500	80	4917	6.2	0.6	2.1	494.1	12	14165	84	1.00	3580	95.4	95.9	96.1	0.86	0.89	0.90	252.8
3500	2650	88	5136	6.0	0.6	2.2	602.5	13	16550	83	1.00	3581	95.3	95.8	96.1	0.86	0.90	0.91	261.2
3700	2800	88	5429	5.9	0.5	2.1	628.1	13	16905	84	1.00	3581	95.2	95.7	96.0	0.83	0.88	0.88	285.8
4000	3000	88	5866	6.7	0.6	2.3	685.1	11	17405	84	1.00	3583	95.4	95.9	96.2	0.85	0.89	0.90	301.5
4250	3150	88	6229	6.4	0.5	2.1	854.1	18	21077	83	1.00	3585	96.0	96.2	96.4	0.87	0.91	0.91	316.2
4500	3350	88	6596	6.4	0.5	2.1	867.1	18	21450	83	1.00	3585	96.1	96.3	96.5	0.87	0.91	0.91	334.4
4750	3550	88	6962	6.4	0.5	2.1	880.4	18	21839	83	1.00	3585	96.2	96.4	96.6	0.87	0.91	0.91	352.6
5000	3750	88	7329	6.4	0.5	2.1	893.8	18	22245	84	1.00	3585	96.3	96.5	96.7	0.87	0.91	0.91	370.8
5300	4000	88	7768	6.4	0.5	2.1	907.4	18	22667	84	1.00	3585	96.4	96.6	96.8	0.87	0.91	0.91	392.6
5700	4250	88	8355	6.0	0.5	2.1	921.2	18	23225	84	1.00	3585	96.5	96.7	96.9	0.87	0.91	0.91	421.8
IV Poles																			
1350	1000	70	3970	6.6	1.0	2.4	566.4	12	10755	79	1.00	1787	94.4	95.2	95.2	0.80	0.86	0.88	105.2
1400	1060	70	4124	5.7	0.8	2.0	583.6	13	10632	79	1.00	1784	94.7	95.3	95.1	0.84	0.88	0.89	107.9
1500	1120	70	4418	5.7	0.8	2.0	592.5	13	10805	79	1.00	1784	94.8	95.4	95.2	0.84	0.88	0.89	115.5
1575	1180	70	4639	5.4	0.8	2.0	601.6	13	11035	79	1.00	1784	94.9	95.5	95.3	0.84	0.88	0.89	121.2
1650	1250	70	4860	5.8	0.8	2.0	676.7	13	11294	80	1.00	1784	95.1	95.6	95.3	0.85	0.89	0.89	127.0
1750	1320	70	5154	5.5	0.8	2.0	686.9	13	11550	80	1.00	1784	95.2	95.7	95.4	0.85	0.89	0.89	134.5
1900	1400	70	5593	6.1	0.9	2.1	726.2	11	11646	80	1.00	1785	95.3	95.8	95.6	0.85	0.89	0.90	144.1
2000	1500	70	5888	5.8	0.9	2.1	737.3	11	11920	80	1.00	1785	95.4	95.9	95.7	0.85	0.89	0.90	151.5
2125	1600	80	6241	5.6	0.7	2.1	729.9	13	13290	82	1.00	1789	95.4	95.9	95.7	0.83	0.88	0.89	162.8
2250	1700	80	6605	6.6	0.8	2.4	762.5	11	13292	82	1.00	1790	95.4	96.0	95.8	0.79	0.86	0.88	174.2
2375	1800	80	6972	6.2	0.8	2.4	774.1	11	13595	82	1.00	1790	95.5	96.1	95.9	0.79	0.86	0.88	183.7
2500	1900	80	7343	6.1	0.7	2.2	868.1	12	14004	83	1.00	1789	95.8	96.1	96.3	0.83	0.88	0.89	190.4
2700	2000	80	7930	5.8	0.7	2.2	881.3	12	14345	83	1.00	1789	95.9	96.2	96.4	0.83	0.88	0.89	205.4
2875	2120	80	8444	6.3	0.7	2.2	930.1	11	14401	83	1.00	1789	96.0	96.2	96.4	0.83	0.88	0.89	218.7
3000	2250	80	8812	5.9	0.7	2.2	944.2	11	14760	83	1.00	1789	96.1	96.3	96.5	0.83	0.88	0.89	227.9
3175	2360	88	9326	5.9	0.7	2.3	947.8	9	16970	82	1.00	1789	95.9	96.3	96.5	0.77	0.84	0.87	246.8
3350	2500	88	9840	6.1	0.7	2.2	1063.9	10	17333	82	1.00	1789	96.1	96.3	96.5	0.81	0.86	0.88	257.4
3500	2650	88	10280	5.8	0.7	2.2	1080.2	10	17765	83	1.00	1789	96.2	96.4	96.6	0.81	0.86	0.88	268.7
3700	2800	88	10861	6.4	0.7	2.2	1140.6	9	17895	83	1.00	1790	96.3	96.5	96.7	0.80	0.86	0.88	283.7
4000	3000	88	11742	6.0	0.7	2.2	1158.0	9	18355	83	1.00	1790	96.4	96.6	96.8	0.80	0.86	0.88	306.4
4250	3150	88	12483	5.5	0.6	1.9	1810.3	10	22685	82	1.00	1789	96.3	96.4	96.5	0.86	0.89	0.90	319.3
4500	3350	88	13217	5.5	0.6	1.9	1837.8	10	23126	82	1.00	1789	96.4	96.5	96.6	0.86	0.89	0.90	337.8
4750	3550	88	13952	5.5	0.6	1.9	1865.8	10	23585	83	1.00	1789	96.5	96.6	96.7	0.86	0.89	0.90	356.2
5000	3750	88	14686	5.5	0.6	1.9	1894.2	10	24063	83	1.00	1789	96.6	96.7	96.8	0.86	0.89	0.90	374.5
5300	4000	88	15567	5.2	0.6	1.9	1923.1	10	24695	83	1.00	1789	96.7	96.8	96.9	0.86	0.89	0.90	396.6

Note: Valid for motors operating with sine-wave power supply.

Output		Frame	Full load torque (ft.lb)	Locked rotor current	Locked rotor torque Tl/Tn	Break-down torque Tb/Tn	Inertia J (sq.ft.lb)	Allowable locked rotor time (s)	Weight (lb)	Sound dB(A)	Service Factor	6600 V							
												Rated speed (rpm)	% of full load			Full load current In (A)			
													Efficiency		Power factor				
HP	kW			II/In				Hot				50	75	100	50	75	100		
VI Poles																			
850	630	70	3760	5.3	0.9	1.9	661.8	13	10345	77	1.00	1188	93.9	94.7	94.5	0.77	0.83	0.85	69.1
970	710	70	4294	5.1	0.8	1.9	770.0	14	10905	77	1.00	1187	94.5	95.1	94.7	0.79	0.84	0.86	77.7
1000	750	70	4408	6.4	0.9	2.1	918.1	19	11454	77	1.00	1192	94.5	95.3	95.2	0.76	0.83	0.85	80.6
1100	800	70	4849	6.0	0.9	2.1	932.1	19	11715	77	1.00	1192	94.6	95.4	95.3	0.76	0.83	0.85	88.6
1250	900	70	5510	5.9	0.8	2.0	986.2	18	12030	77	1.00	1192	94.8	95.5	95.4	0.78	0.84	0.86	99.4
1300	950	80	5740	5.7	0.8	2.0	919.3	10	12947	77	1.00	1190	94.7	95.3	95.2	0.76	0.83	0.86	103.6
1350	1000	80	5961	5.7	0.8	2.0	933.3	10	13171	77	1.00	1190	94.8	95.4	95.3	0.76	0.83	0.86	107.5
1400	1060	80	6182	5.4	0.8	2.0	947.5	10	13465	77	1.00	1190	94.9	95.5	95.4	0.76	0.83	0.86	111.4
1500	1120	80	6623	5.7	0.8	2.0	999.2	10	13533	77	1.00	1190	94.7	95.4	95.4	0.74	0.82	0.84	122.2
1575	1180	80	6955	5.4	0.8	2.0	1014.5	10	13850	77	1.00	1190	94.8	95.5	95.5	0.74	0.82	0.84	128.1
1650	1250	80	7267	6.1	0.8	2.1	1131.1	14	14211	79	1.00	1193	94.9	95.7	95.6	0.74	0.82	0.84	134.1
1750	1320	80	7708	5.8	0.8	2.1	1148.3	14	14565	79	1.00	1193	95.0	95.8	95.7	0.74	0.82	0.84	142.1
1900	1400	80	8376	5.6	0.7	1.9	1262.9	15	14862	79	1.00	1192	95.2	95.9	95.7	0.77	0.84	0.85	152.4
2000	1500	80	8816	5.3	0.7	1.9	1282.1	15	15250	79	1.00	1192	95.3	96.0	95.8	0.77	0.84	0.85	160.3
2125	1600	88	9375	5.5	0.6	2.0	1449.2	12	16575	79	1.00	1191	95.4	95.9	95.7	0.76	0.83	0.86	168.5
2250	1700	88	9927	5.2	0.6	2.0	1471.3	12	16965	79	1.00	1191	95.5	96.0	95.8	0.76	0.83	0.86	178.2
2375	1800	88	10452	5.6	0.6	2.1	1695.3	18	17975	82	1.00	1194	95.7	96.2	96.1	0.75	0.83	0.86	187.5
2500	1900	88	11011	5.5	0.5	1.9	1865.2	20	18412	82	1.00	1193	95.9	96.1	96.3	0.78	0.84	0.86	197.0
2700	2000	88	11892	5.2	0.5	1.9	1893.6	20	18900	82	1.00	1193	96.0	96.2	96.4	0.78	0.84	0.86	212.5
2875	2120	88	12652	5.9	0.6	2.2	2358.2	15	22095	79	1.00	1194	95.5	95.9	96.2	0.73	0.81	0.84	232.2
3000	2250	88	13203	5.9	0.6	2.2	2394.1	15	22511	79	1.00	1194	95.6	96.0	96.3	0.73	0.81	0.84	242.0
3175	2360	88	13973	5.9	0.6	2.2	2430.6	15	22944	79	1.00	1194	95.7	96.1	96.4	0.73	0.81	0.84	255.9
3350	2500	88	14743	5.9	0.6	2.2	2467.6	15	23396	82	1.00	1194	95.8	96.2	96.5	0.73	0.81	0.84	269.7
3500	2650	88	15403	5.9	0.6	2.2	2505.2	15	23866	82	1.00	1194	95.9	96.3	96.6	0.73	0.81	0.84	281.5
3700	2800	88	16283	5.9	0.6	2.2	2543.3	15	24356	82	1.00	1194	96.0	96.4	96.7	0.73	0.81	0.84	297.3
4000	3000	88	17603	5.6	0.6	2.2	2582.1	15	25000	82	1.00	1194	96.1	96.5	96.8	0.73	0.81	0.84	321.0
VIII Poles																			
680	500	70	4010	5.7	0.8	2.0	1020.8	17	10212	77	1.00	891	94.3	95.0	94.5	0.73	0.80	0.83	56.6
710	530	70	4187	5.7	0.8	2.0	1036.3	17	10367	77	1.00	891	94.4	95.1	94.6	0.73	0.80	0.83	59.0
750	560	70	4423	5.7	0.8	2.0	1052.1	17	10529	77	1.00	891	94.5	95.2	94.7	0.73	0.80	0.83	62.3
850	630	70	5013	5.7	0.8	2.0	1084.4	17	10873	77	1.00	891	94.7	95.4	94.9	0.73	0.80	0.83	70.4
970	710	70	5721	5.4	0.8	2.0	1117.7	17	11300	77	1.00	891	94.9	95.6	95.1	0.73	0.80	0.83	80.2
1000	750	80	5884	5.7	0.7	1.9	1514.6	18	12131	77	1.00	893	94.6	95.2	94.8	0.74	0.82	0.84	81.9
1100	800	80	6473	5.7	0.7	1.9	1537.7	18	12321	77	1.00	893	94.7	95.3	94.9	0.74	0.82	0.84	90.0
1250	900	80	7355	5.7	0.7	1.9	1584.9	18	12725	77	1.00	893	94.9	95.5	95.1	0.74	0.82	0.84	102.1
1300	950	80	7649	5.7	0.7	1.9	1609.0	18	12939	77	1.00	893	95.0	95.6	95.2	0.74	0.82	0.84	106.1
1350	1000	80	7944	5.7	0.7	1.9	1633.5	18	13163	77	1.00	893	95.1	95.7	95.3	0.74	0.82	0.84	110.1
1400	1060	80	8238	5.7	0.7	1.9	1658.4	18	13396	77	1.00	893	95.2	95.8	95.4	0.74	0.82	0.84	114.0
1500	1120	80	8826	5.7	0.7	1.9	1683.6	18	13638	77	1.00	893	95.3	95.9	95.5	0.74	0.82	0.84	122.0
1575	1180	80	9268	5.4	0.7	1.9	1709.3	18	13960	77	1.00	893	95.4	96.0	95.6	0.74	0.82	0.84	128.0
1650	1250	88	9709	5.0	0.6	1.9	2402.9	21	15820	77	1.00	893	95.3	95.9	95.5	0.78	0.84	0.85	132.6
1750	1320	88	10297	5.0	0.6	1.9	2439.6	21	16097	77	1.00	893	95.4	96.0	95.6	0.78	0.84	0.85	140.5
1900	1400	88	11180	5.0	0.6	1.9	2476.7	21	16385	77	1.00	893	95.5	96.1	95.7	0.78	0.84	0.85	152.4
2000	1500	88	11768	4.7	0.6	1.9	2514.4	21	16765	77	1.00	893	95.6	96.2	95.8	0.78	0.84	0.85	160.3
2125	1600	88	12476	5.9	0.6	2.0	4171.5	24	21324	77	1.00	895	95.2	95.5	95.8	0.76	0.83	0.85	170.3
2250	1700	88	13210	5.9	0.6	2.0	4235.1	24	21708	77	1.00	895	95.3	95.6	95.9	0.76	0.83	0.85	180.1
2375	1800	88	13944	5.9	0.6	2.0	4299.6	24	22108	77	1.00	895	95.4	95.7	96.0	0.76	0.83	0.85	189.9
2500	1900	88	14678	5.9	0.6	2.0	4365.0	24	22524	77	1.00	895	95.5	95.8	96.1	0.76	0.83	0.85	199.7
2700	2000	88	15852	5.9	0.6	2.0	4431.5	24	22958	77	1.00	895	95.6	95.9	96.2	0.76	0.83	0.85	215.5
2875	2120	88	16879	5.9	0.6	2.0	4499.0	24	23410	77	1.00	895	95.7	96.0	96.3	0.76	0.83	0.85	229.2
3000	2250	88	17613	5.9	0.6	2.0	4567.5	24	23881	77	1.00	895	95.8	96.1	96.4	0.76	0.83	0.85	238.9
3175	2360	88	18641	5.6	0.6	2.0	4637.1	24	24500	77	1.00	895	95.9	96.2	96.5	0.76	0.83	0.85	252.6

Note: Valid for motors operating with sine-wave power supply.



3.3.6 W60 TEWAC High Voltage (5.1 up to 6.6 kV)

Output		Frame	Full load torque (ft.lb)	Locked rotor current Il/In	Locked rotor torque TI/Tn	Break-down torque Tb/Tn	Inertia J (sq.ft.lb)	Allowable locked rotor time (s) Hot	Weight (lb)	Sound dB(A)	Service Factor	6600 V								
												Rated speed (rpm)	% of full load			Power factor			Full load current In (A)	
													50	75	100	50	75	100		
II Poles																				
2125	1600	70	3125	5.6	0.6	1.9	300.4	10	10110	80	1.00	3573	95.2	95.9	95.4	0.87	0.90	0.90	161.5	
2250	1700	70	3307	6.6	0.6	2.1	341.5	7	10418	80	1.00	3575	95.4	96.1	95.6	0.88	0.91	0.91	168.8	
2375	1800	70	3491	6.2	0.6	2.1	346.7	7	10645	80	1.00	3575	95.5	96.2	95.7	0.88	0.91	0.91	178.0	
2500	1900	70	3675	6.4	0.6	2.1	368.1	8	10708	80	1.00	3575	95.7	95.9	95.9	0.88	0.91	0.91	186.9	
2700	2000	70	3969	6.0	0.6	2.1	373.7	8	10950	80	1.00	3575	95.8	96.0	96.0	0.88	0.91	0.91	201.7	
2875	2120	70	4222	6.7	0.6	2.2	386.8	7	10939	80	1.00	3578	95.9	96.1	96.1	0.88	0.91	0.91	214.5	
3000	2250	70	4406	6.3	0.6	2.2	392.7	7	11195	80	1.00	3578	96.0	96.2	96.2	0.88	0.91	0.91	223.6	
3175	2360	80	4664	5.5	0.5	1.9	434.7	9	12815	80	1.00	3577	95.9	96.1	96.1	0.87	0.90	0.90	239.6	
3350	2500	80	4921	5.9	0.5	2.0	452.3	9	12822	80	1.00	3577	95.9	96.0	96.0	0.87	0.90	0.90	253.0	
3500	2650	80	5141	5.6	0.5	2.0	459.2	9	13125	80	1.00	3577	96.0	96.1	96.1	0.87	0.90	0.90	264.1	
3700	2800	80	5434	6.1	0.5	2.0	486.6	8	13220	80	1.00	3578	96.1	96.2	96.2	0.87	0.90	0.90	278.9	
4000	3000	80	5874	5.8	0.5	2.0	494.1	8	13545	80	1.00	3578	96.2	96.3	96.3	0.87	0.90	0.90	301.2	
4250	3150	80	6241	5.9	0.6	2.0	518.7	9	13855	80	1.00	3578	96.3	96.3	96.4	0.87	0.90	0.90	319.7	
4500	3350	88	6603	6.1	0.6	2.2	636.4	9	16225	81	1.00	3581	96.2	96.4	96.5	0.83	0.88	0.89	341.9	
4750	3550	88	6970	6.1	0.6	2.0	685.1	9	16735	81	1.00	3581	96.2	96.4	96.5	0.85	0.89	0.89	360.9	
5000	3750	88	7335	6.5	0.6	2.2	719.0	7	17045	81	1.00	3582	96.4	96.5	96.6	0.86	0.89	0.90	375.3	
5300	4000	88	7770	6.3	0.5	2.1	854.1	12	20450	81	1.00	3584	96.5	96.7	96.7	0.88	0.91	0.91	393.0	
5700	4250	88	8357	6.3	0.5	2.1	867.1	12	20824	81	1.00	3584	96.6	96.8	96.8	0.88	0.91	0.91	422.3	
6000	4500	88	8797	6.3	0.5	2.1	880.4	12	21213	81	1.00	3584	96.7	96.9	96.9	0.88	0.91	0.91	444.0	
6250	4750	88	9163	6.3	0.5	2.1	893.8	12	21619	81	1.00	3584	96.8	97.0	97.0	0.88	0.91	0.91	462.1	
6700	5000	88	9823	6.3	0.5	2.1	907.4	12	22041	81	1.00	3584	96.9	97.1	97.1	0.88	0.91	0.91	494.8	
7000	5300	88	10263	5.9	0.5	2.1	921.2	12	22600	81	1.00	3584	97.0	97.2	97.2	0.88	0.91	0.91	516.4	
IV Poles																				
1900	1400	70	5584	5.8	0.8	2.1	592.3	13	10455	79	1.00	1788	95.8	96.3	96.0	0.83	0.88	0.89	145.1	
2000	1500	70	5881	5.5	0.7	1.9	618.2	14	10482	79	1.00	1787	95.7	96.3	95.9	0.85	0.89	0.89	152.9	
2125	1600	70	6248	5.2	0.7	1.9	627.7	14	10715	79	1.00	1787	95.8	96.4	96.0	0.85	0.89	0.89	162.3	
2250	1700	70	6616	5.6	0.7	1.9	667.6	12	10818	79	1.00	1787	95.8	96.4	96.0	0.86	0.89	0.90	169.9	
2375	1800	70	6984	5.3	0.7	1.9	677.7	12	11065	79	1.00	1787	95.9	96.5	96.1	0.86	0.89	0.90	179.2	
2500	1900	70	7347	5.9	0.7	2.0	702.4	11	11033	79	1.00	1788	96.2	96.4	96.4	0.84	0.88	0.90	188.0	
2700	2000	70	7935	5.6	0.7	2.0	713.1	11	11295	79	1.00	1788	96.3	96.5	96.5	0.84	0.88	0.90	202.9	
2875	2120	80	8444	5.6	0.7	2.1	740.6	10	12785	80	1.00	1789	96.3	96.5	96.5	0.78	0.85	0.87	223.5	
3000	2250	80	8816	5.8	0.7	2.0	835.1	9	13135	80	1.00	1788	96.2	96.5	96.4	0.83	0.88	0.89	228.2	
3175	2360	80	9331	5.5	0.7	2.0	847.9	9	13455	80	1.00	1788	96.3	96.6	96.5	0.83	0.88	0.89	241.2	
3350	2500	80	9845	5.8	0.7	2.0	878.4	9	13449	80	1.00	1788	96.3	96.6	96.5	0.83	0.88	0.89	254.5	
3500	2650	80	10286	5.5	0.7	2.0	891.8	9	13785	80	1.00	1788	96.4	96.7	96.6	0.83	0.88	0.89	265.7	
3700	2800	80	10874	5.8	0.7	2.0	940.6	9	13872	80	1.00	1788	96.5	96.7	96.7	0.83	0.88	0.89	280.6	
4000	3000	80	11755	5.5	0.7	2.0	954.9	9	14230	80	1.00	1788	96.6	96.8	96.8	0.83	0.88	0.89	303.0	
4250	3150	88	12483	6.2	0.8	2.3	1025.6	6	16610	80	1.00	1789	96.6	96.8	96.8	0.75	0.83	0.86	333.2	
4500	3350	88	13217	5.1	0.6	1.9	1098.9	7	17055	80	1.00	1789	96.6	96.9	96.8	0.79	0.85	0.87	348.7	
4750	3550	88	13944	5.8	0.8	2.1	1176.8	6	17530	80	1.00	1790	96.7	96.9	96.9	0.76	0.84	0.86	372.0	
5000	3750	88	14678	5.9	0.6	2.0	1783.1	8	21572	80	1.00	1790	96.4	96.5	96.6	0.83	0.88	0.89	379.5	
5300	4000	88	15558	5.9	0.6	2.0	1810.3	8	21993	80	1.00	1790	96.5	96.6	96.7	0.83	0.88	0.89	401.9	
5700	4250	88	16733	5.9	0.6	2.0	1837.8	8	22431	80	1.00	1790	96.6	96.7	96.8	0.83	0.88	0.89	431.8	
6000	4500	88	17613	5.9	0.6	2.0	1865.8	8	22887	80	1.00	1790	96.7	96.8	96.9	0.83	0.88	0.89	454.0	
6250	4750	88	18347	5.9	0.6	2.0	1894.2	8	23362	80	1.00	1790	96.8	96.9	97.0	0.83	0.88	0.89	472.4	
6700	5000	88	19668	5.6	0.6	2.0	1923.1	8	23990	80	1.00	1790	96.9	97.0	97.1	0.83	0.88	0.89	505.9	

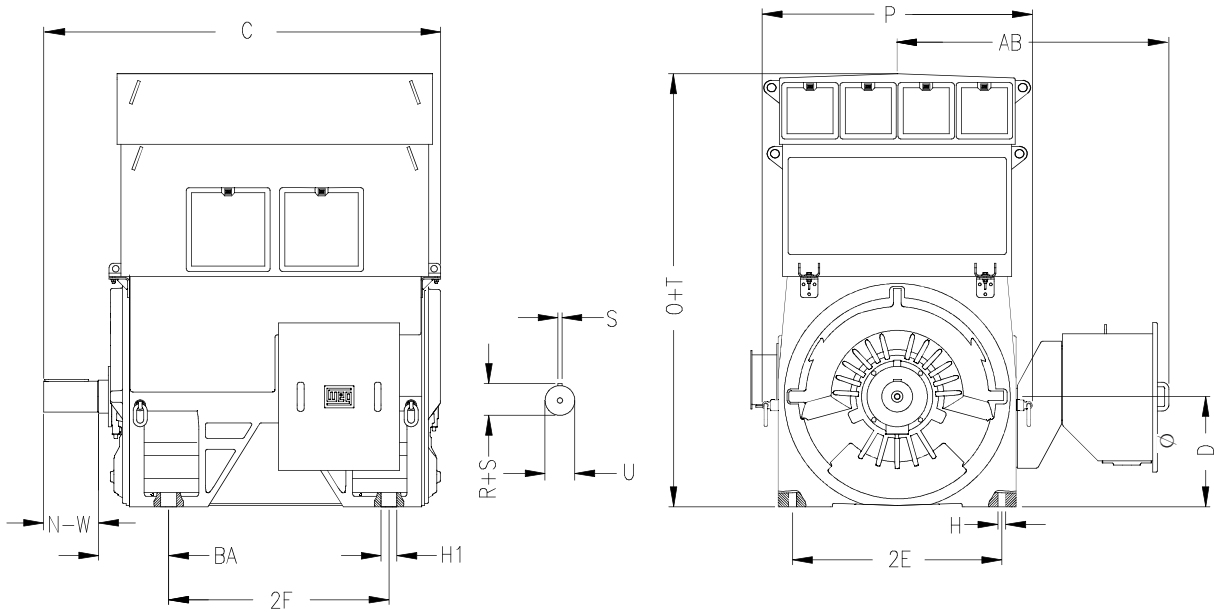
Note: Valid for motors operating with sine-wave power supply.

Output		Frame	Full load torque (ft.lb)	Locked rotor current	Locked rotor torque Tl/Tn	Break-down torque Tb/Tn	Inertia J (sq.ft.lb)	Allowable locked rotor time (s)	Weight (lb)	Sound dB(A)	Service Factor	6600 V						Full load current In (A)	
												Rated speed (rpm)	% of full load			Power factor			
													Efficiency			Power factor			
HP	kW			II/In				Hot					50	75	100	50	75	100	
VI Poles																			
1250	900	70	5515	5.6	0.8	2.0	824.8	16	10910	76	1.00	1191	95.4	95.9	95.7	0.77	0.83	0.85	100.3
1300	950	70	5731	6.3	0.9	2.1	865.8	14	10945	76	1.00	1192	95.4	95.9	95.7	0.76	0.83	0.85	104.3
1350	1000	70	5951	5.9	0.9	2.1	878.9	14	11200	76	1.00	1192	95.5	96.0	95.8	0.76	0.83	0.85	108.2
1400	1060	70	6177	5.7	0.8	1.9	919.1	15	11179	76	1.00	1191	95.4	96.0	95.6	0.78	0.84	0.86	111.1
1500	1120	70	6618	5.4	0.8	1.9	933.1	15	11445	76	1.00	1191	95.5	96.1	95.7	0.78	0.84	0.86	118.9
1575	1180	70	6955	5.8	0.9	2.0	972.4	11	11353	76	1.00	1190	95.4	95.8	95.5	0.76	0.82	0.84	128.1
1650	1250	70	7286	5.5	0.9	2.0	987.2	11	11630	76	1.00	1190	95.5	95.9	95.6	0.76	0.82	0.84	134.1
1750	1320	80	7714	5.6	0.6	2.0	1065.2	15	13390	77	1.00	1192	95.8	96.2	96.0	0.77	0.84	0.86	138.3
1900	1400	80	8376	5.3	0.6	2.0	1081.4	15	13725	77	1.00	1192	95.9	96.3	96.1	0.77	0.84	0.86	150.0
2000	1500	80	8816	5.6	0.7	1.9	1114.1	11	13469	77	1.00	1192	95.7	96.2	95.9	0.75	0.82	0.85	160.1
2125	1600	80	9367	5.6	0.7	1.9	1131.1	11	13735	77	1.00	1192	95.8	96.3	96.0	0.75	0.82	0.85	169.9
2250	1700	80	9919	5.3	0.7	1.9	1148.3	11	14090	77	1.00	1192	95.9	96.4	96.1	0.75	0.82	0.85	179.8
2375	1800	80	10470	6.0	0.7	2.1	1196.9	10	14133	77	1.00	1192	95.8	96.3	96.1	0.72	0.80	0.84	192.0
2500	1900	80	11021	5.7	0.7	2.1	1215.2	10	14505	77	1.00	1192	95.9	96.4	96.2	0.72	0.80	0.84	201.9
2700	2000	80	11902	5.8	0.7	2.1	1262.9	11	14423	77	1.00	1192	96.0	96.3	96.4	0.73	0.81	0.84	217.6
2875	2120	80	12674	5.5	0.7	2.1	1282.1	11	14810	77	1.00	1192	96.1	96.4	96.5	0.73	0.81	0.84	231.5
3000	2250	88	13214	5.6	0.6	2.1	1812.0	11	17810	79	1.00	1193	96.3	96.5	96.6	0.73	0.82	0.85	238.4
3175	2360	88	13984	6.0	0.6	2.1	1882.8	10	17811	79	1.00	1193	96.4	96.5	96.7	0.71	0.80	0.84	255.1
3350	2500	88	14755	5.7	0.6	2.1	1911.4	10	18300	79	1.00	1193	96.5	96.6	96.8	0.71	0.80	0.84	268.9
3500	2650	88	15416	5.6	0.6	2.1	1940.6	10	18425	79	1.00	1193	96.6	96.7	96.8	0.72	0.80	0.84	280.9
3700	2800	88	16297	5.9	0.6	2.2	2390.5	10	21391	79	1.00	1193	96.1	96.2	96.4	0.72	0.81	0.84	298.2
4000	3000	88	17618	5.9	0.6	2.2	2426.9	10	21804	79	1.00	1193	96.2	96.3	96.5	0.72	0.81	0.84	322.0
4250	3150	88	18719	5.9	0.6	2.2	2463.9	10	22234	79	1.00	1193	96.3	96.4	96.6	0.72	0.81	0.84	341.8
4500	3350	88	19820	5.9	0.6	2.2	2501.4	10	22682	79	1.00	1193	96.4	96.5	96.7	0.72	0.81	0.84	361.5
4750	3550	88	20922	5.9	0.6	2.2	2539.5	10	23149	79	1.00	1193	96.5	96.6	96.8	0.72	0.81	0.84	381.2
5000	3750	88	22023	5.9	0.6	2.2	2578.2	10	23635	79	1.00	1193	96.6	96.7	96.9	0.72	0.81	0.84	400.9
5300	4000	88	23344	5.6	0.6	2.2	2617.4	10	24275	79	1.00	1193	96.7	96.8	97.0	0.72	0.81	0.84	424.5
VIII Poles																			
850	630	70	5013	6.4	0.9	2.4	966.4	10	9778	77	1.00	891	94.4	95.0	94.6	0.68	0.78	0.82	71.5
970	710	70	5721	6.4	0.9	2.4	996.0	10	10089	77	1.00	891	94.6	95.2	94.8	0.68	0.78	0.82	81.4
1000	750	70	5897	6.4	0.9	2.4	1011.2	10	10254	77	1.00	891	94.7	95.3	94.9	0.68	0.78	0.82	83.9
1100	800	70	6487	6.4	0.9	2.4	1026.6	10	10426	77	1.00	891	94.8	95.4	95.0	0.68	0.78	0.82	92.1
1250	900	80	7364	4.9	0.6	1.9	1563.5	15	11858	77	1.00	892	94.4	95.2	94.6	0.78	0.84	0.85	101.4
1300	950	80	7658	4.9	0.6	1.9	1587.3	15	12058	77	1.00	892	94.5	95.3	94.7	0.78	0.84	0.85	105.4
1350	1000	80	7953	4.9	0.6	1.9	1611.5	15	12265	77	1.00	892	94.6	95.4	94.8	0.78	0.84	0.85	109.3
1400	1060	80	8247	4.9	0.6	1.9	1636.0	15	12482	77	1.00	892	94.7	95.5	94.9	0.78	0.84	0.85	113.3
1500	1120	80	8836	4.9	0.6	1.9	1660.9	15	12707	77	1.00	892	94.8	95.6	95.0	0.78	0.84	0.85	121.2
1575	1180	80	9278	4.9	0.6	1.9	1686.2	15	12942	77	1.00	892	94.9	95.7	95.1	0.78	0.84	0.85	127.1
1650	1250	80	9720	4.9	0.6	1.9	1711.9	15	13186	77	1.00	892	95.0	95.8	95.2	0.78	0.84	0.85	133.1
1750	1320	80	10309	4.6	0.6	1.9	1737.9	15	13510	77	1.00	892	95.1	95.9	95.3	0.78	0.84	0.85	141.0
1900	1400	88	11180	5.1	0.6	1.9	2290.1	16	14725	77	1.00	893	95.2	95.8	95.4	0.75	0.82	0.84	154.7
2000	1500	88	11768	5.1	0.6	1.9	2324.9	16	14982	77	1.00	893	95.3	95.9	95.5	0.75	0.82	0.84	162.7
2125	1600	88	12504	5.1	0.6	1.9	2360.4	16	15250	77	1.00	893	95.4	96.0	95.6	0.75	0.82	0.84	172.7
2250	1700	88	13239	5.1	0.6	1.9	2396.3	16	15530	77	1.00	893	95.5	96.1	95.7	0.75	0.82	0.84	182.7
2375	1800	88	13975	4.8	0.6	1.9	2432.8	16	15900	77	1.00	893	95.6	96.2	95.8	0.75	0.82	0.84	192.6
2500	1900	88	14678	5.8	0.6	2.0	3995.2	19	20952	77	1.00	895	95.9	96.0	96.0	0.76	0.83	0.86	197.6
2700	2000	88	15852	5.8	0.6	2.0	4056.0	19	21347	77	1.00	895	96.0	96.1	96.1	0.76	0.83	0.86	213.2
2875	2120	88	16879	5.8	0.6	2.0	4117.8	19	21758	77	1.00	895	96.1	96.2	96.2	0.76	0.83	0.86	226.8
3000	2250	88	17613	5.8	0.6	2.0	4180.5	19	22186	77	1.00	895	96.2	96.3	96.3	0.76	0.83	0.86	236.4
3175	2360	88	18641	5.8	0.6	2.0	4244.1	19	22632	77	1.00	895	96.3	96.4	96.4	0.76	0.83	0.86	249.9
3350	2500	88	19668	5.8	0.6	2.0	4308.8	19	23096	77	1.00	895	96.4	96.5	96.5	0.76	0.83	0.86	263.4
3500	2650	88	20549	5.5	0.6	2.0	4374.4	19	23710	77	1.00	895	96.5	96.6	96.6	0.76	0.83	0.86	274.9

Note: Valid for motors operating with sine-wave power supply.

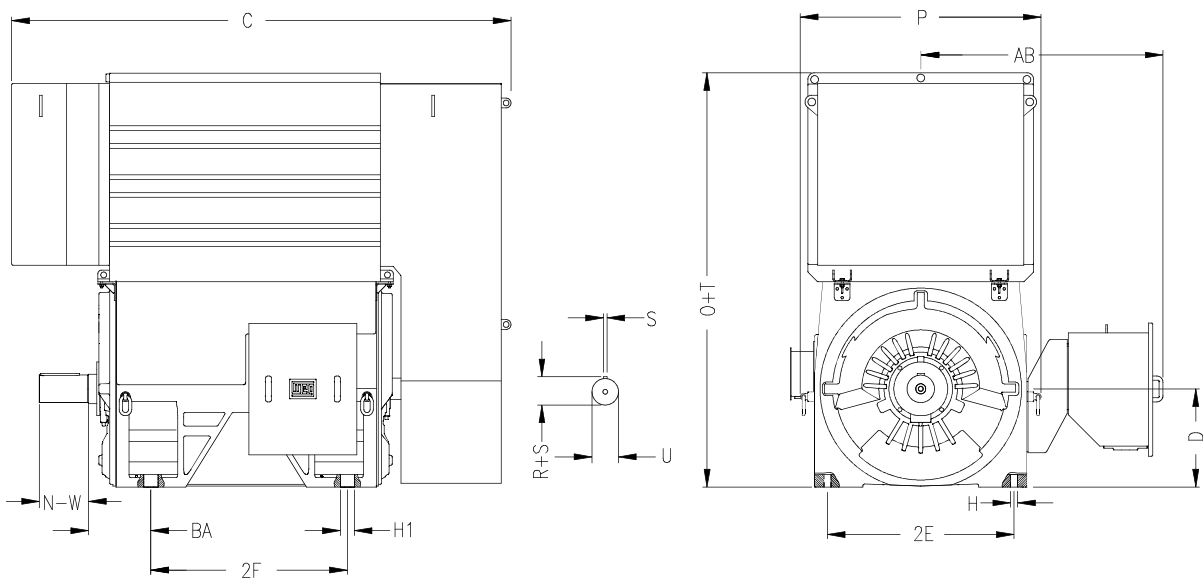
3.4. Mechanical Data

3.4.1 WPII Motors



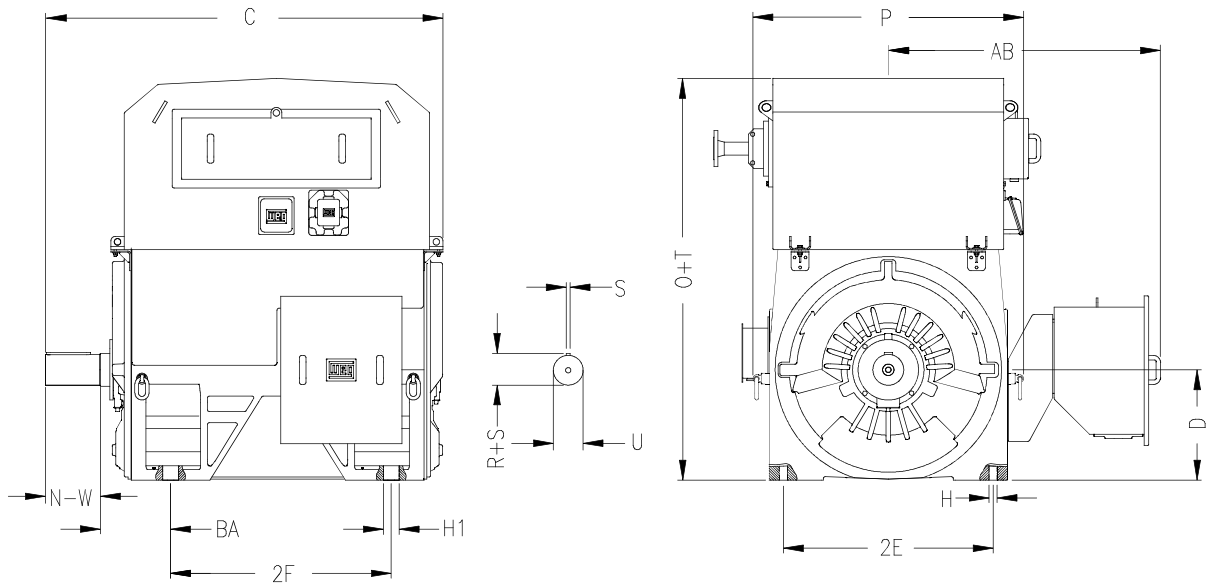
Frame	N° Poles	Mounting (in)					Frame (in)					Shaft Extension - Drive End (in)			
		2E	2F	BA	H	H1	D	O+T	C	P	AB	U	N-W	S	R+S
70	2	34	36	11.5	1.38	2.83	17.5	73.2	68.5	44.3	52.6	4	8.5	1	4.44
	4 up to 8				4.375							4.82			
80	2	38	40	11.5	1.65	2.83	20	77.7	69.6	48.3	54.5	4	9.5	1.25	4.44
	4 up to 8				5.5							6.05			
88	2	42	40	11.5	1.65	2.83	22	81.8	70.8	52.6	56.7	4.375	9.5	1.25	4.82
	4 up to 8				5.5							6.05			

3.4.2 TEAAC Motors



Frame	Poles	Mounting (in)					Frame (in)					Shaft Extension - Drive End (in)			
		2E	2F	BA	H	H1	D	O+T	C	P	AB	U	N-W	S	R+S
70	2	34	36	11.5	1.38	2.83	17.5	67.7	68.5	44.3	52.6	4	8.5	1	4.44
	4 up to 8				4.375							4.82			
80	2	38	40	11.5	1.65	2.83	20	72.2	69.6	48.3	54.5	4	9.5	1.25	4.44
	4 up to 8				5.5							6.05			
88	2	42	40	11.5	1.65	2.83	22	76.3	70.8	52.6	56.7	4.375	9.5	1.25	4.82
	4 up to 8				5.5							6.05			

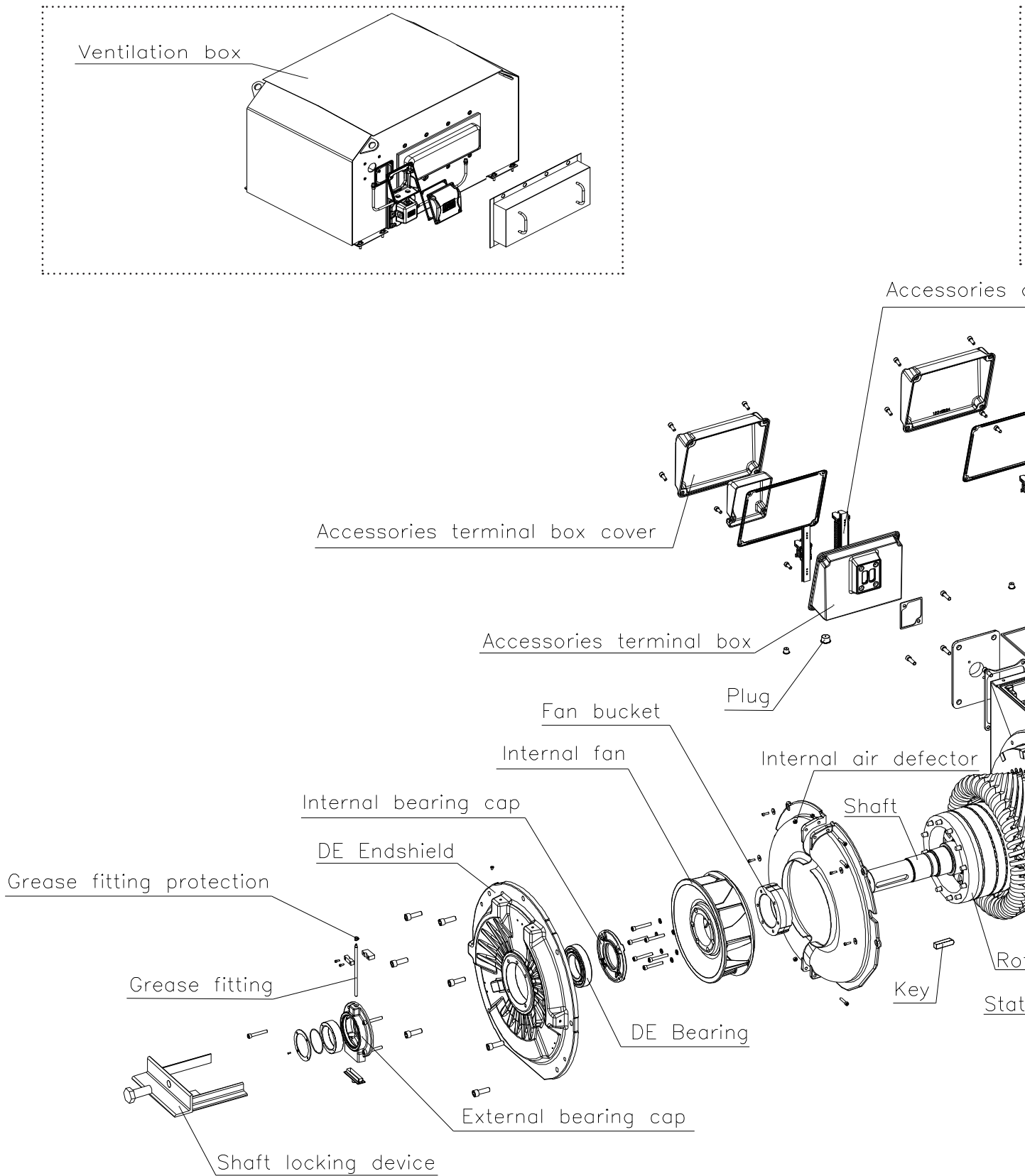
3.4.3 TEWAC Motors

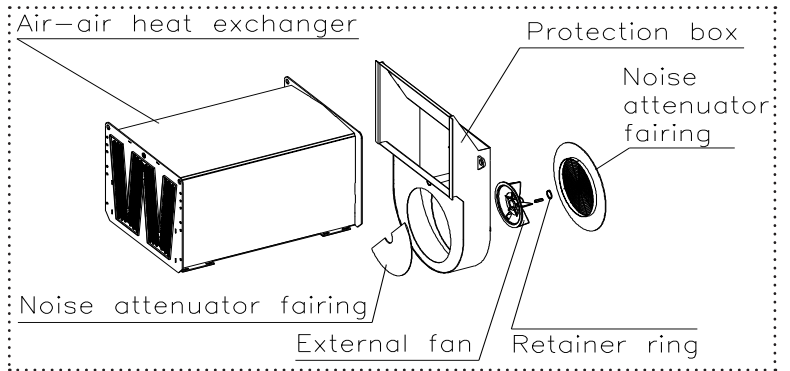
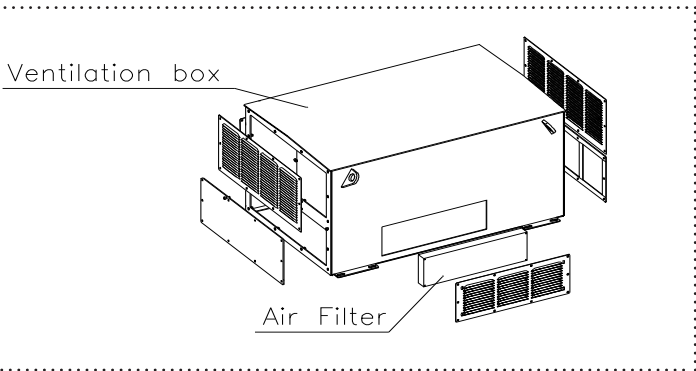


Frame	Poles	Mounting (in)					Frame (in)					Shaft Extension - Drive End (in)			
		2E	2F	BA	H	H1	D	O+T	C	P	AB	U	N-W	S	R+S
70	2	34	36	11.5	1.38	2.83	17.5	77.2	97.2	44.3	52.6	4	8.5	1	4.44
70	4 up to 8				4.375		4.44								
80	2	38	40		1.65		20	83.6	100.6	48.3	54.5	4	9.5	1.25	6.05
80	4 up to 8				5.5		6.05								
88	2	42		40	1.65	22	88.7	108	52.6	56.7	4.375	9.5	1.25	4.82	
88	4 up to 8				5.5	6.05									

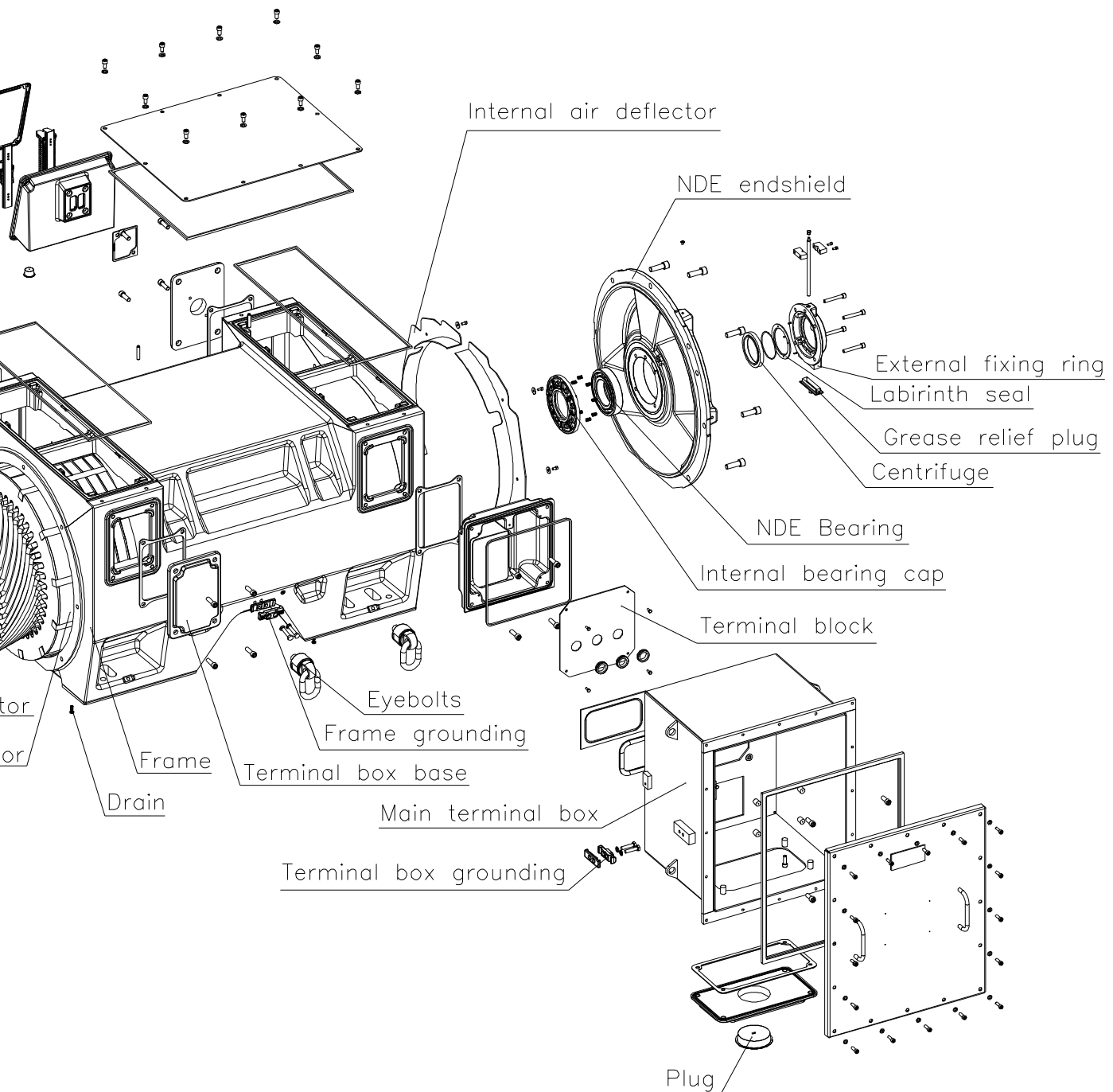


4. Spare Parts





connectors



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The values shown are subject to change without prior notice.
The information contained is reference values.