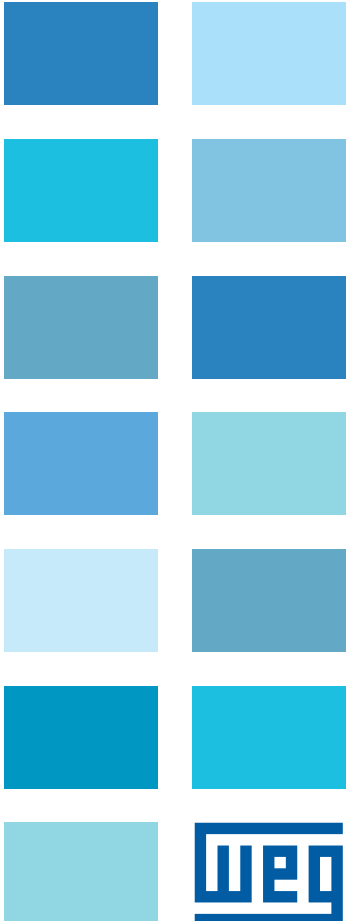
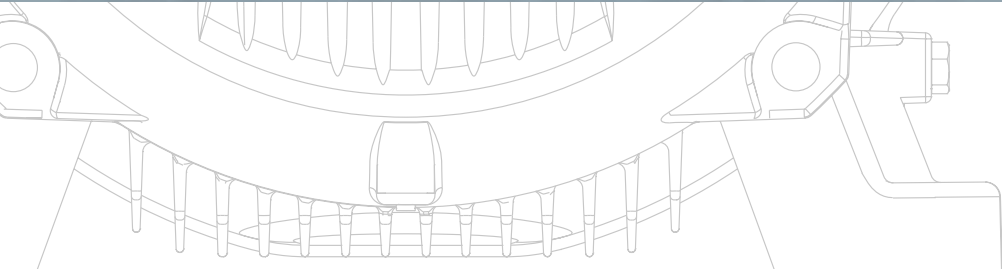
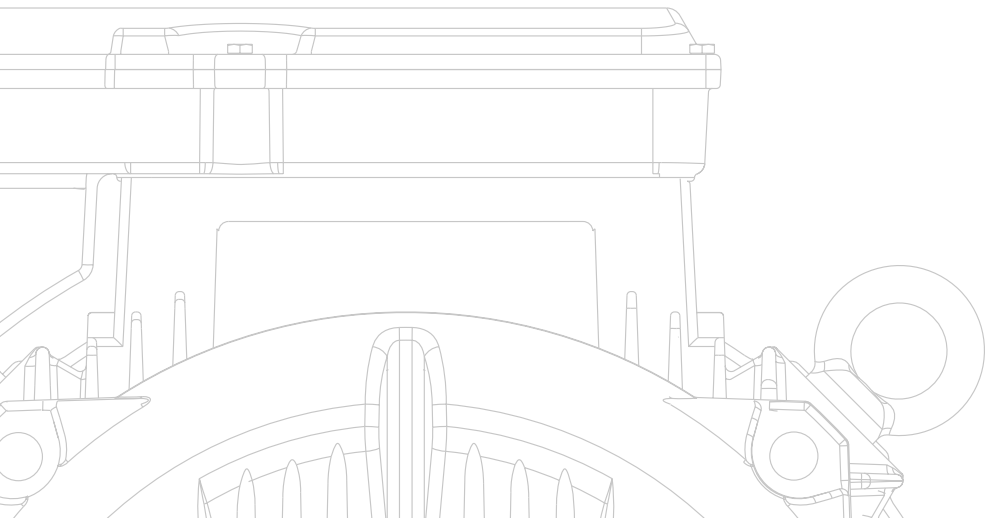


W22Xd

High Efficiency Low Voltage
Flameproof Motors
IEC Frame Sizes 71 to 250

European
Market



W22Xd

The New Generation of Flameproof Motors

The W22Xd line represents all that is most modern in driving equipment for explosive atmospheres.

As a result of intense research and development, WEG launches its new flameproof motor line, the W22Xd. Incorporating the same innovative concepts of the W22 general purpose motors, the W22Xd line is an evolution in the market of classified area products offering high efficiency levels, energy saving, low operational costs, extended lifetime, low maintenance and assured safety!

Learn more about the W22Xd line including the benefits and advantages for your plant.



Standards and Classification of Explosive Atmospheres



ATEX Directives

The ATEX Directives were adopted by the European Union (EU) to simplify free trade between member states whilst aligning the technical and legal requirements for products utilised in potentially explosive atmospheres.

The ATEX Product Directive 94/9/EC (also known as "ATEX 95"), places responsibilities on the equipment manufacturer, whereas the Worker Protection Directive 1999/92/EC ("ATEX 137") places obligations on the end user.

Manufacturers' products must comply with the Essential Health and Safety Requirements for equipment intended for use in potentially explosive atmospheres, and follow a Conformity Assessment Procedure.

This Procedure requires the manufacturer to obtain from a Notified Body ("Ex NB") an EC Type Examination Certificate for the relevant product(s), a Production Quality Assurance Notification (assessed and periodically audited by an ExNB) and the internal production control by the manufacturer to guarantee the products are in compliance with the ATEX Directive.

ATEX compliant products can be easily recognised by the explosion protection symbol  and the  mark certifying conformity with the Product Directive. Directive 1999/99/EC ("ATEX 137") lays down the minimum requirements for improving the safety and health protection of workers at risk from explosive atmospheres, and also classifies the environment into zones and outlines which category of equipment can be used in each zone.

Further, the Directive highlights the responsibilities of End Users to assess potential risks of their workplaces and equipment, prepare an Explosion Protection Document and provide suitable warning signage for areas where explosive atmospheres may occur.

IECEX System

According to its website, www.iecex.com, the objective of the IECEX System is defined as the means "to facilitate international trade in equipment and services utilised in potentially explosive atmospheres, whilst maintaining the required level of safety".

The IECEX System is based on the use of International Electrotechnical Commission (IEC) standards, and is a certification system which verifies compliance to those standards associated with the safe use of equipment in installations where a potential risk of fire or explosion may exist.

Whilst it is voluntary, and differs for example from ATEX (where compliance is mandatory for equipment installed within the European Economic Area), the IECEX System is now accepted in many Countries around the globe, and aims to be the world approval system for electrical equipment intended for installation in potentially explosive atmospheres.

Product Certification under the IECEX Scheme requires the involvement of an IECEX Approved Certification Body ("ExCB") to test products and samples according to IEC standards and issue the IECEX Test Report ("ExTR"). Additionally, it is mandatory to comply with a Quality Management System previously assessed to be in conformity with ISO 9001, following the specific Ex requirements of ISO/IEC80079-34.

An IECEX Quality Assessment Report ("QAR") is provided once the results of an on-site assessment of the manufacturer's quality management system has been conducted by the ExCB, and found to be in compliance with the requirements of the IECEX Certified Equipment Scheme and, most importantly, the document IECEX OD 005.

Thereafter, the ExCB will review and endorse the ExTR and QAR and then issue the IECEX Certificate of Conformity ("CoC").

IECEX certificates are issued electronically and are all available for viewing or printing on the IECEX public access website.



Hazardous Areas

According to the IEC 60079-10-1 and IEC 60079-10-2 standards, the definition of an Explosive Atmosphere is a “mixture with air, under atmospheric conditions, of flammable substances in the form of gas, vapors, dust, fibers, or flyings which, after ignition, permits self-sustaining propagation”.

A Hazardous Area is “an area in which an explosive atmosphere is or may be expected to be present, in quantities such as to require special precautions for the construction, installation and use of equipment”.

Explosions may occur either due to the transfer of flames or through overheating. For this reason, motors with flameproof protection are constructed in such a way as to prevent propagation of an internal explosion in to the hazardous area in which they are installed.

Hazardous areas are classified through Zones, Groups and Temperature Classes.

The classifications according to the International Electrotechnical Commission (IEC) are shown below:

Classification per Zones: based upon the frequency of the occurrence and duration of an explosive atmosphere and based on the type of flammable material (gases/vapors or dusts/fibres):

- **IEC Zone 0 (gases/vapours) or 20 (dusts/fibres)**
An explosive atmosphere with continuous grade of release
- **IEC Zone 1 (gases/vapours) or 21 (dusts/fibres)**
An explosive atmosphere with primary grade of release
- **IEC Zone 2 (gases/vapours) or 22 (dusts/fibres)**
An explosive atmosphere with secondary grade of release

Zone 2/22: area in which an explosive atmosphere is not likely to occur in normal operation but, if it does occur, will persist for a short period only

Zone 1/21: area in which an explosive atmosphere is likely to occur in normal operation occasionally

Zone 0/20: area in which an explosive atmosphere is present continuously or for long periods or frequently

(not applicable for motors and generators)

Classification per Groups: subdivision according to the type of flammable material present.

IEC Group I: gases present in underground coal mines (example: methane)

IEC Group II: gases present in other explosive atmospheres. Group II subdivisions:

- **IEC Group IIA:** example: Propane
- **IEC Group IIB:** example: Ethylene
- **IEC Group IIC:** example: Hydrogen

IEC Group III: dusts or fibres

Group III subdivisions:

- **IEC Group IIIA:** solid particles, larger than 500 µm suspended - combustible fibres
- **IEC Group IIIB:** non-conductive dust, equal or smaller than 500 µm, with electrical resistivity less than or equal to 10³ Ω.m - grime
- **IEC Group IIIC:** conductive dust, equal or smaller than 500 µm, with electrical resistivity less than or equal to 10³ Ω.m - metallic dust

Classification per Temperature Classes: according to the temperature limitation, related to the ignition temperature of the flammable material present. The IEC 60079-0 defines the limits for electrical equipment surface temperature for Groups I, II and III.

Group I - Underground Coal Mines (Methane and Coal Dust)

Conditions	Maximum surface temperature (°C)*
Where coal dust is not likely to form a layer	450
Where coal dust can form a layer	150

*On any surface of the enclosure.

Group II - Gases & Vapours

Temperature class	Maximum surface temperature (°C)
IEC	
T1	450
T2	300
T3	200
T4	135
T5	100
T6	85

Group III - Conductive Dusts

Conditions	Maximum surface temperature (°C)*
With dust layers	Maximum surface temperature of the apparatus must be determined for a given depth of dust layer
Without dust layers	Maximum surface temperature of the apparatus shall not exceed the assigned value. For W22Xd motors the standard assigned temperature is T125 °C.

*On any surface of the enclosure.

Equipment Protection Levels - EPL

In addition to the traditional hazardous area classification of the IEC 60079-10-1 and IEC 60079-10-2, which considers the possibility of an explosion occurring, the new version of the IEC 60079-0, published in 2011, has introduced a new risk assessment approach known as the “Equipment Protection Level” that considers, besides the hazardous location itself, the consequences of a possible explosion. The primary intent of the EPL is to allow flexibility in the use of equipment in the various zones. For example it may be appropriate to use Gc equipment in a Zone 1 area where the amount of flammable gas / vapour is small and the location is unmanned virtually all of the time. Conversely Gb equipment may be selected in Zone 2 to allow this equipment to be used in the event of a persistent emergency condition. IEC 60079-14 explains in detail how to use EPL's in a risk assessment.

The EPL designations are defined as follows:

First Indices

- M** - Mines
- G** - Gas
- D** - Dust

Second Indices

- a** - Equipment having a very high level of protection
- b** - Equipment having a high level of protection
- c** - Equipment having an enhanced high level of protection

Relationship between Groups, Zones and EPL's are detailed in the table below:

Group	Zone	EPL
Group I	-	Ma
		Mb
Group II	0	Ga
	1	Gb
	2	Gc
Group III	20	Da
	21	Db
	22	Dc

Protection

As standard the W22Xd range was designed for operation in hazardous areas classified as IEC Zones 1 and 2, Groups IIA and IIB (W22XdB versions) or IIA, IIB and IIC (W22XdC), Temperature Classification T4 and EPL Gb.

The W22XdBD and W22XdCD versions offer added protection against combustible Dusts, for operation in hazardous areas classified as Zones 21 and 22, Groups IIIA, IIIB and IIIC and EPL Db.

Further, W22XdM versions are prepared for operation in underground coal mines, Group I, Category M2 and EPL Mb.



Features and Benefits

New Concept

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

Energy Efficiency

Besides relying on the safe operation of the product, users of W22Xd motors can also reduce their energy consumption and CO₂ emissions due the technology employed and the levels of performance achieved.

The W22Xd motor line was designed to meet the efficiency levels defined in IEC 60034-30-1. As standard the motors meet the IE2 High Efficiency level, with IE3 Premium and IE4 Super Premium Efficiency available as an option.

The ratios between rated power, speed and frame size of the new W22Xd line follow the applicable parts of the IEC Standards 60034 and 60072. This ensures interchangeability with the existing WEG W21 flameproof line and, where replacing lower efficiency motors, offers users the means to achieve a rapid return on their investment.

Careful Construction

In designing the W22Xd line, special consideration was given to the needs of Industry to reduce their operating costs. Aside from the energy saving aspects afforded by these machines, a variety of carefully chosen features were incorporated as standard to ensure maximum performance and durability:

- IP56 degree of protection: an enhanced protection against the ingress of liquid contaminant agents into the motor enclosure.
- Space heaters: prevent accumulation of condensation inside the motor and maintain the winding insulation resistance within acceptable levels, thus prolonging the life of the motor.
- Eyebolts: ensuring safety to operators, offering easy handling, shipment and storage, and allowing the motors to meet specific local standards and directives regarding product lifting.
- Thermal protection: winding thermistors fitted as standard to protect the motor winding in case of overload.
- Paint finish: high performance polyurethane paint finish protects the motor surface even in the harshest of environments.





Versatility

The new W22Xd line features a comprehensive range of options and accessories making them suitable for a wide variety of customer specifications without losing the primary focus on the safety of the application.

Among the most widely used accessories are winding or bearing thermal protections, additional terminal boxes for accessories, higher degrees of protection (up to IP66), sintered drain plugs for removal of condensed water, stainless steel shafts / hardware and enhanced painting systems.

W22Xd motors can be supplied for mounting with feet, flanges or both, in horizontal or vertical orientations.

Specifically for axial fan applications, they can be supplied without cooling fans and fan covers and with loose leads in lieu of a terminal box.



Easy Installation and Simplified Maintenance

The W22Xd design also focuses on the provision of easier and safer installation and maintenance procedures.

The integrated motor feet are double drilled in order to simplify the replacement of existing motors and have provision for dowel pins to aid the alignment of motors when removed from their mounting bases for maintenance. Also supporting easier installation, jacking screws provision is available on the motor feet.

Extended lubrication intervals for W22Xd motors are achieved primarily due to the reduced bearing temperatures; a benefit obtained with the revolutionary motor cooling system, realized in this case by the endshield designs.

To further extend bearing lifetime, motors in frame sizes 160 and above are supplied with grease fittings to permit re-lubrication.

For motor frame sizes 160-250, flat areas are provided at each end for placement of accelerometers, thus affording easier periodical monitoring of vibration levels in both the vertical and horizontal planes. Additionally for frames 160 and above the SPM nipple is standard.

As an option, threaded nipples for SPM accelerometers can be supplied.



Variable Frequency Drives Operation

The use of VFD's is recognized as one of the major driving forces behind energy saving due to their ability to adjust the motor's output to best suit load requirements.

For this reason, W22Xd motors are equipped with the WISE® insulation (WEG Insulation System Evolution) which permits them to operate with VFD's on supply voltages up to 575 V as standard.

To further enhance their use with VFD's, Insulated Bearings and Shaft Grounding Kits are available for W22Xd motors.

Additionally, for operation at low frequencies the W22Xd line can be produced in TEBC versions (with forced ventilation kit) or fitted with an Encoder* for applications which require precise positioning operations.

Due to their outstanding performance, W22Xd motors are capable of maintaining the T4 temperature class even when driven by VFD's.

*Encoder must be compatible with the hazardous location.

Wide Range of Applications

To further enhance the functionality offered by the W22Xd line, these motors are also certified for applications in which combustible dusts/fibres may occur.

Product Features

Standard Specification

- Product version:
 - W22XdB** - suitable for IEC Zones 1 and 2, Groups IIA and IIB
- Temperature class: T4
- Certifying body: BASEEFA (ATEX - IECEx)
- Efficiency level: High Efficiency - IE2 according standard IEC 60034-30-1
- Cooling method: TEFC (Totally Enclosed Fan Cooled) – IC411
- Degree of protection: IP56
- Rated outputs: 0.12 to 75 kW
- Frame sizes: 71 to 250S/M
- Number of poles: 2, 4, 6 and 8
- Frequency: 50/60 Hz
- Rated voltage: 220-240/380-415//460 V for frames 71 to 100L, 380-415/660-690//460 V for frames 112M to 250S/M
- Insulation class: "F" (ΔT 80K)
- Mounting: IM B3T Foot with terminal box on top
- Suitable for variable frequency drive operation at voltages up to 575 V*
- Thermal protections: PTC Thermistors in windings for tripping at 150 °C
- Ambient temperature: -20 °C to +40 °C
- Space heaters 220-240 V
- Enclosure material: frame, endshields, terminal box and fan cover in FC-200 (EN GJL 200) cast iron
- Terminal box: main cable entry closed with threaded plastic plug for transport and storage (when supplied with two cable entries, one plug is certified)
- Terminal box: accessories cable entries 2 x M20x1.5 (supplied with certified threaded plugs)
- 6-pin BMC terminal block
- Fan material: aluminium
- Shaft sealing: Oil Seal / Lip Seal
- Joints seal: lumomoly PT/4
- Grease fittings for frames 160M/L to 250S/M
- Ball bearings
- Provision for SPM vibration detector for frames 160M/L to 250S/M
- Shaft material: AISI 1040/45
- AISI 304 stainless steel laser engraved nameplate
- Painting plan: 202P - meeting "C3 Medium" (corrosive category) and High durability criteria of the ISO 12944 Standards

Other Features Available Under Request

- Product versions:
 - W22XdBE** – suitable for IEC Zones 1 and 2, Groups IIA and IIB with increased safety terminal box
 - W22XdBD / W22XdBED** – suitable for IEC Zones 1, 2, 21 and 22, Groups IIA, IIB, IIIA, IIIB and IIIC with / without increased safety terminal box
 - W22XdC / W22XdCE** - suitable for IEC Zones 1 and 2, Groups IIA, IIB and IIC with / without increased safety terminal box
 - W22XdCD / W22XdCED** - suitable for IEC Zones 1, 2, 21 and 22, Groups IIA, IIB, IIC, IIIA, IIIB and IIIC with / without increased safety terminal box
 - W22XdM / W22XdME** - suitable for Group I mines with / without increased safety terminal box
- Temperature class: T5 or T6
- Efficiency levels: Super Premium Efficiency - IE4
Premium Efficiency - IE3
Standard Efficiency IE1
- Cooling method: TEAO, TEBC and TENV
- Degree of protection: IP65 and IP66
- Number of poles: 10 and 12
- Two speed motors
- Rated voltage: rated voltages up to 1140 V
- Insulation Class: H
- Other mounting configurations with or without flange: B5T, B35T, B14T, B34T, V1, etc.
- Fan material: cast iron
- Shaft sealing: W3 Seal or Labyrinth Seal
- Insulated NDE bearing
- Threaded nipple for SPM vibration detector for frames 160M/L to 250S/M
- Shaft grounding kit
- Additional / alternative thermal protections in windings or bearings
- Additional terminal box for accessories connexion
- Ambient temperature: -55 °C to +80 °C
- Ex certified drain plug
- Cable glands
- Shaft material: stainless steel or high tensile carbon steel
- Double shaft end
- Internal epoxy coating (tropical treatment)
- Alternative painting plans up to C5/I and C5/M
- Other features available on request
- Certification according TR/CU, INMETRO, CCOE, CSA, ANZEx

*For the application of hazardous atmosphere motors with frequency inverters please contact the nearest WEG office.



WEG

A Leading Supplier of Hazardous Area Motors

Meet the Other Members of the W22X Family

W22XnCD

Non-sparking motors/dust ignition proof motors
(Ex nA/Ex tc machines)
For use in areas classified as Zone 2 and 22
Power ratings 0.12 kW to 450 kW
Frames 63 to 355A/B
Voltage: up to 690 V

W22Xtb

Dust ignition proof motors (Ex tb machines)
For use in areas classified as Zone 21
Power ratings 0.12 kW to 450 kW
Frames 63 to 355A/B
Voltage: up to 690 V

W22Xd High Voltage

Flameproof motors (Ex d/Ex de machines)
For use in areas classified as Zone 1 and 2
Power ratings 90 kW to 4,500 kW
Frames 315 to 710
Voltage: up to 11,000 V

Other WEG Industrial Motors for Hazardous Locations

Pressurized Motors (Ex p machines)

For use in areas classified as Zone 1 and 2
Power ratings up to 50,000 kW (other rating outputs
under request)
Frames 280 to 1800
Voltages: up to 13,800 V

HGF Non-Sparking Motors

Non-sparking motors (Ex nA machines)
For use in areas classified as Zone 2
Power ratings 75 kW to 3150 kW
Frames: 315L/A/B to 630
Voltage: up to 11,000 V

Increased Safety Motors (Ex e Machines)

For use in areas classified as Zone 1 and 2
Power ratings 0.18 kW to 100 kW
Frames: 63 to 315S/M
Voltage: up to 690 V

Please visit us at www.weg.net to find out more about our products.

Electrical Data

W22Xd - High Efficiency - IE2

Output kW	HP	Frame	Full load torque (Nm)	Locked rotor current I/In	Locked rotor torque Tl/Tn	Breakdown torque Tb/Tn	Inertia J (kgm ²)	Allowable locked rotor time (s)		Weight (kg)	Sound dB(A)	400 V						Full load current In (A)	
								Hot	Cold			% of full load			Power factor				
												Rated speed (rpm)	50	75	100	50	75		100
VI poles																			
0.18	0.25	71	1.93	3.2	2.0	2.0	0.0008	96	211	20.0	43.0	890	52.0	58.0	59.0	0.40	0.51	0.61	0.722
0.25	0.33	71	2.78	3.2	1.9	2.1	0.0008	70	154	20.0	43.0	860	53.0	60.0	61.6	0.37	0.48	0.58	1.01
0.37	0.5	80	3.84	3.9	1.8	2.0	0.0022	27	59	22.5	43.0	920	65.0	67.0	67.6	0.51	0.66	0.74	1.07
0.55	0.75	80	5.77	4.1	2.2	2.4	0.0030	21	46	24.5	43.0	910	65.0	71.0	73.1	0.50	0.65	0.74	1.47
0.75	1	90S/L	7.75	4.5	2.0	2.1	0.0052	23	51	45.0	45.0	925	74.5	76.0	76.0	0.51	0.64	0.73	1.95
1.1	1.5	90S/L	11.4	4.7	2.3	2.2	0.0060	17	37	46.5	45.0	925	76.0	78.1	78.1	0.50	0.63	0.73	2.78
1.5	2	100L	15.3	5.0	2.0	2.4	0.0110	23	51	49.0	44.0	940	79.5	80.0	80.0	0.51	0.64	0.73	3.71
2.2	3	112M	21.8	7.1	3.5	3.9	0.0257	17	37	71.0	52.0	965	80.8	82.7	83.5	0.41	0.54	0.64	5.94
3	4	132S/M	29.9	5.7	2.0	2.4	0.0359	31	68	88.0	53.0	960	82.5	83.6	83.6	0.50	0.63	0.71	7.30
4	5.5	132S/M	39.8	6.0	2.1	2.5	0.0453	21	46	94.0	53.0	960	84.0	84.8	84.8	0.51	0.64	0.72	9.46
5.5	7.5	132S/M	54.7	6.4	2.2	2.7	0.0604	19	42	104	53.0	960	85.5	86.1	86.1	0.51	0.64	0.72	12.8
7.5	10	160M/L	73.9	5.8	2.0	2.6	0.1229	17	37	165	56.0	970	88.3	88.7	88.3	0.64	0.76	0.82	15.0
9.2	12.5	160M/L	90.6	6.0	2.2	2.6	0.1492	14	31	176	56.0	970	88.5	88.9	88.6	0.64	0.76	0.82	18.3
11	15	160M/L	108	6.0	2.3	2.7	0.1664	13	29	184	56.0	970	89.0	89.5	89.2	0.62	0.74	0.81	22.0
18.5	25	200M/L	181	5.7	2.1	2.5	0.3517	15	33	293	60.0	975	91.0	91.4	91.2	0.67	0.77	0.82	35.7
22	30	200M/L	216	6.0	2.2	2.7	0.4037	14	31	310	60.0	975	91.4	91.7	91.5	0.65	0.76	0.82	42.3
30	40	225S/M	291	6.8	2.1	2.5	0.7192	12	26	493	63.0	985	92.6	92.7	92.6	0.71	0.81	0.86	54.4
37	50	250S/M	359	6.7	2.2	2.5	1.10	16	35	593	64.0	985	93.0	93.2	93.0	0.73	0.82	0.86	66.8
Optional frames (high-output design)																			
0.25	0.33	80	2.62	3.9	1.8	2.0	0.0022	27	59	22.5	43.0	910	63.0	67.0	67.0	0.51	0.66	0.76	0.709
1.1	1.5	100L	11.1	5.2	2.4	2.6	0.0093	21	46	47.0	44.0	945	75.5	78.1	78.1	0.49	0.63	0.72	2.82
1.5	2	112M	14.9	7.5	3.5	3.9	0.0224	0	0	68.0	52.0	960	80.5	82.5	83.4	0.42	0.54	0.63	4.12
5.5	7.5	160M/L	54.2	6.0	2.1	2.6	0.1053	19	42	158	56.0	970	87.5	88.0	87.5	0.63	0.75	0.81	11.2
15	20	180M/L	148	7.0	2.4	3.0	0.2565	7	15	233	56.0	970	90.3	90.5	90.3	0.70	0.81	0.86	27.9
37	50	225S/M	359	6.8	2.1	2.5	0.8876	11	24	531	63.0	985	93.0	93.2	93.0	0.72	0.81	0.86	66.8
45	60	250S/M	437	6.4	2.1	2.3	1.2880	15	33	626	64.0	985	93.4	93.5	93.4	0.76	0.84	0.87	79.9
VIII poles																			
0.12	0.16	71	1.76	2.3	1.9	2.0	0.0008	172	378	20.0	41.0	650	40.0	48.0	50.0	0.35	0.43	0.52	0.666
0.18	0.25	80	2.57	3.1	1.9	2.1	0.0024	48	106	23.0	42.0	670	47.0	53.0	55.0	0.44	0.55	0.65	0.727
0.25	0.33	80	3.57	3.2	1.9	2.1	0.0029	42	92	24.0	42.0	670	49.0	55.0	57.0	0.43	0.55	0.66	0.959
0.37	0.5	90S/L	5.12	3.5	1.8	2.0	0.0055	37	81	45.5	43.0	690	56.0	62.0	62.0	0.41	0.52	0.62	1.39
0.55	0.75	90S/L	7.67	3.5	1.9	2.0	0.0055	31	68	45.5	43.0	685	61.0	64.0	64.0	0.44	0.56	0.66	1.88
0.75	1	100L	10.1	4.6	2.0	2.4	0.0110	42	92	49.0	50.0	710	71.0	74.0	74.0	0.40	0.52	0.62	2.36
1.1	1.5	100L	14.9	4.6	2.1	2.3	0.0127	29	64	52.0	50.0	705	71.0	75.0	75.0	0.40	0.53	0.62	3.41
1.5	2	112M	20.5	4.7	2.4	2.3	0.0202	29	64	66.0	46.0	700	77.0	79.0	79.0	0.44	0.57	0.67	4.09
2.2	3	132S/M	30.0	5.5	2.2	2.4	0.0592	25	55	94.0	48.0	700	81.0	81.5	81.0	0.52	0.65	0.72	5.44
3	4	132S/M	41.0	5.5	2.3	2.4	0.0740	19	42	102	48.0	700	82.0	82.5	82.0	0.54	0.66	0.73	7.23
4	5.5	160M/L	52.7	4.7	2.0	2.2	0.1053	29	64	158	51.0	725	84.0	85.0	85.0	0.52	0.65	0.72	9.43
5.5	7.5	160M/L	72.5	4.7	2.0	2.2	0.1404	21	46	173	51.0	725	85.0	86.0	85.5	0.52	0.65	0.73	12.7
7.5	10	160M/L	98.8	4.9	2.2	2.3	0.1756	22	48	188	51.0	725	86.0	87.0	87.0	0.52	0.65	0.73	17.0
9.2	12.5	180M/L	121	6.0	2.0	2.5	0.2033	11	24	214	51.0	725	88.0	88.0	87.5	0.63	0.75	0.82	18.5
11	15	180M/L	145	6.0	2.1	2.4	0.2439	11	24	228	51.0	725	88.0	88.5	88.0	0.67	0.77	0.83	21.7
15	20	200M/L	196	4.9	1.9	2.0	0.4220	30	66	315	56.0	730	90.0	90.5	90.0	0.58	0.70	0.76	31.7
18.5	25	225S/M	241	6.3	2.0	2.4	0.6183	17	37	470	56.0	735	91.5	91.9	91.7	0.65	0.77	0.82	35.5
22	30	225S/M	286	6.1	2.0	2.4	0.7203	16	35	493	56.0	735	91.7	92.0	92.0	0.67	0.78	0.81	42.6
30	40	250S/M	390	6.6	2.1	2.7	1.06	13	29	585	56.0	735	92.0	92.4	92.3	0.68	0.79	0.83	56.5
Optional frames (high-output design)																			
37	50	250S/M	484	7.5	2.1	2.6	1.6682	12	26	693	56.0	730	92.5	93.0	93.0	0.66	0.77	0.82	70.0



Ex d / Ex de IIB T4 Gb*
Ex d / Ex de IIC T4 Gb*

Output		380 V									415 V								
		Rated speed (rpm)	% of full load			Full load current In (A)	Rated speed (rpm)	% of full load			Full load current In (A)								
			Efficiency		Power factor			Efficiency		Power factor									
kW	HP	50	75	100	50	75	100	50	75	100	50	75	100	50	75	100			
VI poles																			
0.18	0.25	875	54.2	59.0	58.7	0.43	0.55	0.65	0.717	900	50.1	56.8	58.6	0.38	0.48	0.58	0.737		
0.25	0.33	845	56.3	60.0	61.6	0.41	0.52	0.62	0.995	865	53.0	60.0	61.6	0.35	0.45	0.54	1.05		
0.37	0.5	895	64.0	67.0	67.6	0.56	0.70	0.76	1.09	915	62.0	67.0	67.6	0.48	0.62	0.72	1.06		
0.55	0.75	910	67.5	71.8	73.1	0.55	0.69	0.79	1.45	915	62.5	69.6	70.9	0.47	0.61	0.72	1.50		
0.75	1	915	75.8	75.9	75.9	0.55	0.68	0.76	1.98	930	73.2	75.6	76.4	0.48	0.61	0.71	1.92		
1.1	1.5	915	77.9	78.5	78.5	0.55	0.67	0.77	2.76	930	74.3	77.3	78.1	0.46	0.59	0.70	2.80		
1.5	2	930	80.7	80.1	79.8	0.55	0.69	0.76	3.76	945	78.3	79.7	80.3	0.48	0.61	0.70	3.71		
2.2	3	960	82.0	83.1	84.2	0.46	0.60	0.68	5.84	970	79.8	83.2	84.4	0.38	0.50	0.60	6.04		
3	4	955	83.4	83.8	83.3	0.54	0.67	0.74	7.39	960	81.4	83.1	83.6	0.46	0.59	0.68	7.34		
4	5.5	955	84.9	85.0	84.6	0.55	0.68	0.74	9.71	960	83.0	84.4	84.9	0.47	0.61	0.69	9.50		
5.5	7.5	955	86.4	86.3	86.0	0.56	0.68	0.75	13.0	965	84.6	85.7	86.2	0.47	0.61	0.69	12.9		
7.5	10	965	88.7	88.6	87.7	0.68	0.79	0.84	15.5	970	87.8	88.6	88.5	0.61	0.73	0.80	14.7		
9.2	12.5	965	88.9	88.8	88.1	0.68	0.79	0.84	18.9	970	88.0	88.8	88.8	0.61	0.73	0.80	18.0		
11	15	965	89.6	89.5	88.8	0.66	0.77	0.83	22.7	970	88.4	89.3	89.3	0.59	0.71	0.79	21.7		
18.5	25	970	91.5	91.4	90.8	0.71	0.80	0.84	36.9	975	90.5	91.2	91.3	0.63	0.74	0.80	35.2		
22	30	970	92.0	91.8	91.2	0.70	0.79	0.84	43.6	975	90.8	91.5	91.6	0.61	0.73	0.80	41.8		
30	40	980	92.8	92.5	92.1	0.75	0.83	0.87	56.9	985	92.2	92.6	92.7	0.68	0.79	0.84	53.6		
37	50	980	93.2	93.0	92.6	0.77	0.84	0.87	69.8	985	92.7	93.2	93.2	0.70	0.80	0.85	65.0		
Optional frames (high-output design)																			
0.25	0.33	895	65.2	67.7	66.0	0.56	0.70	0.80	0.719	915	60.5	65.9	67.1	0.48	0.62	0.73	0.710		
1.1	1.5	945	76.5	78.1	78.1	0.52	0.65	0.74	2.89	956	75.5	78.1	78.1	0.44	0.58	0.67	2.92		
1.5	2	945	81.7	82.9	84.0	0.46	0.59	0.68	3.99	965	79.5	82.8	84.1	0.39	0.51	0.60	4.14		
5.5	7.5	965	87.9	87.9	86.9	0.67	0.78	0.83	11.6	970	87.0	87.9	87.8	0.60	0.73	0.79	11.0		
15	20	965	90.6	90.4	89.7	0.74	0.84	0.88	28.9	970	89.9	90.5	90.6	0.67	0.79	0.85	27.1		
37	50	980	93.1	92.9	92.4	0.76	0.83	0.87	69.9	985	92.8	93.2	93.2	0.69	0.79	0.85	65.0		
45	60	980	93.4	93.2	92.8	0.79	0.86	0.88	83.7	985	93.3	93.6	93.7	0.73	0.82	0.86	77.7		
VIII poles																			
0.12	0.16	635	42.9	50.1	50.8	0.37	0.47	0.56	0.641	655	37.1	45.7	48.8	0.34	0.41	0.49	0.698		
0.18	0.25	660	49.3	54.4	54.9	0.47	0.59	0.69	0.722	675	45.0	51.8	54.5	0.42	0.53	0.62	0.741		
0.25	0.33	660	51.1	56.2	56.8	0.47	0.59	0.70	0.955	675	47.0	53.8	56.8	0.42	0.53	0.63	0.972		
0.37	0.5	680	59.5	63.8	62.4	0.44	0.56	0.67	1.34	695	53.1	59.9	60.9	0.39	0.49	0.59	1.43		
0.55	0.75	675	63.3	65.1	63.5	0.47	0.61	0.70	1.88	690	58.5	62.8	63.9	0.41	0.53	0.63	1.90		
0.75	1	705	73.0	75.0	73.9	0.44	0.57	0.65	2.37	715	69.2	73.0	73.7	0.38	0.49	0.59	2.40		
1.1	1.5	700	73.6	76.2	74.9	0.45	0.57	0.66	3.38	705	68.8	73.6	74.5	0.37	0.49	0.59	3.48		
1.5	2	695	78.8	79.6	78.5	0.49	0.61	0.70	4.15	705	75.3	78.2	78.9	0.41	0.53	0.63	4.20		
2.2	3	695	81.8	81.5	79.9	0.57	0.69	0.75	5.58	705	80.1	81.4	81.4	0.49	0.62	0.70	5.37		
3	4	690	82.7	82.4	80.8	0.58	0.70	0.75	7.52	705	81.1	82.4	82.5	0.50	0.63	0.71	7.13		
4	5.5	720	84.8	85.0	84.4	0.56	0.68	0.74	9.73	730	83.2	84.7	85.2	0.49	0.62	0.70	9.33		
5.5	7.5	720	85.8	86.0	84.9	0.56	0.68	0.75	13.1	725	84.2	85.7	85.7	0.49	0.62	0.71	12.6		
7.5	10	720	86.8	87.2	86.6	0.56	0.69	0.76	17.3	725	85.1	86.7	87.1	0.49	0.62	0.71	16.9		
9.2	12.5	720	88.5	87.9	86.8	0.67	0.78	0.84	19.2	725	87.4	87.9	87.8	0.59	0.72	0.80	18.2		
11	15	720	88.4	88.3	87.2	0.71	0.80	0.85	22.5	725	87.5	88.5	88.4	0.64	0.75	0.81	21.4		
15	20	725	90.5	90.4	89.4	0.62	0.73	0.78	32.7	730	89.4	90.4	90.2	0.55	0.67	0.74	31.3		
18.5	25	730	91.8	91.8	91.2	0.69	0.80	0.84	36.7	735	91.1	91.9	91.9	0.62	0.74	0.80	35.0		
22	30	730	91.9	91.8	91.4	0.70	0.81	0.83	44.1	735	91.4	92.0	92.2	0.64	0.76	0.80	41.5		
30	40	730	92.3	92.3	91.8	0.73	0.82	0.85	58.4	735	91.6	92.3	92.5	0.64	0.76	0.81	55.7		
Optional frames (high-output design)																			
37	50	730	92.7	92.9	92.9	0.70	0.79	0.83	72.9	735	92.5	93.1	93.1	0.64	0.75	0.81	68.3		

* 71/80 frames are available only in Ex d executions.

Electrical Data

W22Xd - Premium Efficiency - IE3

Output		Frame	Full load torque (Nm)	Locked rotor current I _L /I _n	Locked rotor torque T _L /T _n	Breakdown torque T _b /T _n	Inertia J (kgm ²)	Allowable locked rotor time (s)		Weight (kg)	Sound dB(A)	400 V								
								Rated speed (rpm)	% of full load			Power factor			Full load current I _n (A)					
									Efficiency			Power factor								
kW	HP							Hot	Cold			50	75	100	50	75	100			
II poles																				
0.37	0.5	71	1.25	6.0	2.5	2.5	0.0004	12	26	19.1	56.0	2820	73.0	73.8	73.8	0.66	0.79	0.85	0.851	
0.55	0.75	71	1.90	5.9	3.0	3.0	0.0005	18	40	19.5	56.0	2770	75.0	76.0	77.8	0.68	0.81	0.86	1.19	
0.75	1	80	2.54	7.5	3.5	3.5	0.0008	25	55	23.0	59.0	2825	80.0	82.0	81.0	0.63	0.76	0.82	1.63	
1.1	1.5	80	3.71	7.4	3.6	3.6	0.0009	23	51	24.0	59.0	2830	81.0	83.5	83.0	0.63	0.76	0.82	2.33	
1.5	2	90S/L	4.99	7.6	3.3	3.3	0.0020	15	33	43.5	62.0	2875	83.0	85.0	84.5	0.64	0.76	0.83	3.09	
2.2	3	90S/L	7.32	7.5	3.4	3.5	0.0026	12	26	46.5	62.0	2870	86.0	86.5	86.3	0.65	0.77	0.83	4.43	
3	4	100L	9.85	8.5	3.4	3.4	0.0064	15	33	52.0	67.0	2910	85.5	87.3	87.3	0.69	0.81	0.86	5.77	
4	5.5	112M	13.2	7.7	2.9	3.5	0.0080	22	48	66.0	64.0	2900	88.1	89.1	88.4	0.69	0.80	0.86	7.59	
5.5	7.5	132S/M	17.9	7.9	2.4	3.5	0.0180	16	35	89.0	67.0	2930	86.9	88.7	89.4	0.66	0.78	0.84	10.6	
7.5	10	132S/M	24.5	8.8	2.7	3.6	0.0234	10	22	97.0	67.0	2930	88.5	89.8	90.3	0.68	0.80	0.85	14.1	
9.2	12.5	132S/M	30.0	8.5	2.9	3.3	0.0306	16	35	107	67.0	2930	90.4	91.1	90.7	0.75	0.84	0.88	16.6	
11	15	160M/L	35.7	8.0	2.6	3.4	0.0482	12	26	161	67.0	2945	90.3	91.4	91.4	0.71	0.82	0.87	20.0	
15	20	160M/L	48.7	8.3	2.8	3.5	0.0551	8	18	169	67.0	2945	90.9	91.8	92.1	0.67	0.79	0.85	27.7	
18.5	25	160M/L	60.0	8.6	3.1	3.7	0.0663	6	13	180	67.0	2945	91.5	92.3	92.6	0.69	0.80	0.85	33.9	
22	30	180M/L	71.3	8.3	2.7	3.6	0.0968	6	13	228	67.0	2950	92.3	93.0	92.9	0.69	0.80	0.86	39.7	
30	40	200M/L	96.8	7.7	3.0	3.0	0.1703	16	35	293	72.0	2960	92.2	93.2	93.5	0.69	0.80	0.85	54.5	
37	50	200M/L	119	7.7	3.1	3.0	0.1881	13	29	304	72.0	2960	92.6	93.4	93.8	0.69	0.79	0.84	67.8	
45	60	225S/M	145	7.7	2.4	3.1	0.2861	13	29	501	74.0	2960	94.2	94.5	94.2	0.78	0.86	0.89	77.5	
55	75	250S/M	178	7.8	2.7	3.3	0.3736	19	42	576	74.0	2960	93.6	94.4	94.4	0.77	0.85	0.88	95.6	
Optional frames (high-output design)																				
0.75	1	90S/L	2.47	8.2	3.3	3.4	0.0015	24	53	41.0	62.0	2900	79.0	82.5	81.5	0.63	0.75	0.82	1.62	
1.1	1.5	90S/L	3.65	7.8	3.3	3.3	0.0018	19	42	42.5	62.0	2880	82.0	84.2	83.5	0.63	0.75	0.82	2.32	
2.2	3	100L	7.22	8.5	3.2	3.3	0.0059	22	48	51.0	67.0	2910	85.0	86.6	86.6	0.71	0.82	0.87	4.21	
4	5.5	132S/M	13.0	7.5	2.3	3.1	0.0180	24	53	89.0	67.0	2930	86.9	88.7	88.6	0.73	0.82	0.87	7.49	
11	15	132S/M	35.9	8.2	2.7	3.0	0.0306	11	24	107	67.0	2925	90.6	91.1	91.3	0.75	0.85	0.89	19.5	
18.5	25	180M/L	60.0	7.6	2.3	3.1	0.0973	11	24	228	67.0	2945	91.5	92.0	92.6	0.77	0.85	0.88	32.8	
75	100	250S/M	242	7.6	3.0	2.8	0.5132	11	24	643	74.0	2965	95.0	95.3	94.9	0.83	0.87	0.89	128	
IV Poles																				
0.37	0.5	71	2.55	4.8	2.8	2.9	0.0008	30	66	21.0	43.0	1385	73.0	75.0	77.3	0.50	0.62	0.70	0.987	
0.55	0.75	80	3.70	6.6	2.9	3.2	0.0027	20	44	23.5	44.0	1420	77.0	79.0	80.8	0.61	0.74	0.80	1.23	
0.75	1	80	5.05	6.7	3.0	3.3	0.0032	18	40	25.0	44.0	1420	80.0	82.0	82.5	0.59	0.72	0.81	1.62	
1.1	1.5	90S/L	7.22	7.6	2.5	3.3	0.0055	15	33	45.5	49.0	1455	83.0	84.5	84.5	0.59	0.72	0.80	2.35	
1.5	2	90S/L	9.88	7.4	2.6	3.4	0.0066	13	29	48.0	49.0	1450	84.0	86.0	85.5	0.58	0.72	0.80	3.17	
2.2	3	100L	14.7	7.4	3.2	3.5	0.0090	18	40	52.0	53.0	1435	86.5	87.0	87.0	0.60	0.73	0.80	4.56	
3	4	100L	19.9	7.8	3.5	3.7	0.0120	15	33	58.0	53.0	1440	87.0	88.0	88.0	0.60	0.73	0.80	6.15	
4	5.5	112M	26.4	7.0	2.3	3.1	0.0182	15	33	71.0	56.0	1450	88.7	89.1	88.8	0.62	0.74	0.81	8.03	
5.5	7.5	132S/M	36.0	8.3	2.1	3.3	0.0453	12	26	94.0	56.0	1460	89.0	89.6	89.7	0.69	0.80	0.85	10.4	
7.5	10	132S/M	49.1	8.3	2.4	3.5	0.0566	7	15	102	56.0	1460	90.5	90.8	90.6	0.69	0.80	0.86	13.9	
9.2	12.5	160M/L	59.6	7.2	2.5	3.0	0.1118	16	35	173	61.0	1475	90.0	91.4	91.3	0.66	0.77	0.83	17.5	
11	15	160M/L	71.5	7.5	2.8	3.2	0.1191	11	24	176	61.0	1470	91.1	91.8	91.6	0.65	0.77	0.83	20.9	
15	20	160M/L	97.8	7.2	2.8	3.1	0.1534	8	18	195	61.0	1465	92.2	92.5	92.3	0.67	0.78	0.84	27.9	
18.5	25	180M/L	120	7.4	3.0	3.2	0.1740	13	29	237	61.0	1470	92.2	92.8	92.8	0.64	0.76	0.82	35.1	
22	30	180M/L	143	7.3	3.4	3.4	0.2097	11	24	255	61.0	1470	92.3	93.0	93.2	0.66	0.77	0.83	41.0	
30	40	200M/L	194	7.5	2.8	3.1	0.3202	12	26	315	63.0	1480	92.9	93.6	93.7	0.63	0.75	0.81	57.1	
37	50	225S/M	239	7.7	2.8	3.3	0.5177	13	29	493	63.0	1480	93.4	94.0	94.1	0.70	0.80	0.85	66.8	
45	60	225S/M	292	7.5	2.8	3.1	0.6143	12	26	523	63.0	1475	93.9	94.3	94.4	0.71	0.81	0.85	80.9	
55	75	250S/M	355	7.5	2.8	3.0	0.9412	14	31	626	64.0	1480	94.3	94.7	94.7	0.69	0.80	0.85	98.6	
Optional frames (high-output design)																				
0.75	1	90S/L	4.93	7.8	2.4	3.3	0.0049	21	46	44.0	49.0	1455	82.5	84.0	84.5	0.60	0.73	0.80	1.60	
1.5	2	100L	9.95	7.7	3.1	3.4	0.0082	25	55	51.0	53.0	1440	85.5	86.0	86.0	0.61	0.73	0.80	3.15	
2.2	3	112M	14.5	6.8	2.0	3.0	0.0143	31	68	66.0	56.0	1450	87.5	88.2	88.2	0.62	0.74	0.81	4.44	
3	4	112M	19.7	7.1	2.3	3.0	0.0169	25	55	69.0	56.0	1455	87.0	88.0	88.0	0.62	0.74	0.81	6.07	
4	5.5	132S/M	26.0	8.5	2.4	3.7	0.0528	6	13	99.0	56.0	1470	86.0	87.8	88.8	0.61	0.74	0.82	7.93	
15	20	180M/L	97.5	7.0	2.5	3.0	0.1744	23	51	237	61.0	1470	91.9	92.5	92.3	0.66	0.77	0.83	28.3	
37	50	200M/L	239	7.0	2.6	3.0	0.3994	14	31	349	63.0	1480	93.3	94.0	94.5	0.64	0.76	0.82	68.9	
75	100	250S/M	484	7.8	2.8	3.3	1.22	8	18	693	64.0	1480	95.0	95.5	95.2	0.73	0.83	0.87	131	

Ex d / Ex de IIB T4 Gb*
Ex d / Ex de IIC T4 Gb*

Output		380 V									415 V								
		Rated speed (rpm)	% of full load						Full load current In (A)	Rated speed (rpm)	% of full load						Full load current In (A)		
			Efficiency			Power factor					Efficiency			Power factor					
kW	HP	50	75	100	50	75	100	50	75	100	50	75	100	50	75	100			
II poles																			
0.37	0.5	2795	73.6	74.3	73.8	0.71	0.82	0.87	0.876	2825	72.4	73.8	73.8	0.63	0.76	0.83	0.840		
0.55	0.75	2740	75.6	75.7	77.8	0.73	0.84	0.88	1.22	2790	74.4	76.0	77.8	0.65	0.78	0.84	1.17		
0.75	1	2805	80.0	80.5	80.7	0.68	0.80	0.85	1.66	2835	79.1	81.0	81.1	0.59	0.72	0.79	1.63		
1.1	1.5	2810	82.0	83.7	83.1	0.69	0.80	0.85	2.37	2840	80.0	83.0	83.4	0.58	0.72	0.79	2.32		
1.5	2	2860	83.7	85.0	84.4	0.69	0.80	0.85	3.18	2885	82.2	84.8	85.2	0.59	0.72	0.80	3.06		
2.2	3	2855	86.5	86.4	85.9	0.70	0.81	0.86	4.52	2880	85.3	86.4	86.5	0.61	0.74	0.81	4.37		
3	4	2900	86.0	87.4	87.1	0.75	0.84	0.88	5.95	2915	85.0	87.2	87.4	0.66	0.78	0.84	5.68		
4	5.5	2890	88.6	89.2	89.1	0.73	0.83	0.88	7.75	2905	87.5	89.0	89.6	0.65	0.77	0.84	7.39		
5.5	7.5	2925	87.6	88.9	89.2	0.71	0.82	0.87	10.8	2935	86.1	88.3	89.2	0.61	0.74	0.81	10.6		
7.5	10	2926	89.2	90.1	90.1	0.73	0.83	0.88	14.4	2940	87.9	89.7	90.3	0.63	0.76	0.83	13.9		
9.2	12.5	2920	90.7	91.0	90.8	0.79	0.87	0.90	17.1	2935	90.1	91.0	91.3	0.71	0.82	0.87	16.1		
11	15	2940	90.7	91.2	91.2	0.75	0.84	0.88	20.8	2950	89.9	91.3	91.4	0.68	0.79	0.85	19.7		
15	20	2940	91.0	91.6	91.9	0.72	0.82	0.87	28.5	2950	90.3	91.6	91.9	0.63	0.76	0.82	27.7		
18.5	25	2945	92.0	92.3	92.4	0.74	0.83	0.88	34.6	2950	91.0	92.2	92.4	0.64	0.77	0.83	33.6		
22	30	2945	92.4	92.7	92.7	0.74	0.83	0.87	41.4	2955	92.0	92.8	92.7	0.66	0.78	0.84	39.3		
30	40	2960	92.6	93.2	93.3	0.75	0.83	0.87	56.2	2965	91.8	93.0	93.3	0.64	0.76	0.82	54.6		
37	50	2960	93.0	93.6	93.7	0.75	0.84	0.87	69.0	2965	92.0	93.2	93.7	0.63	0.76	0.82	67.0		
45	60	2960	93.8	94.0	94.0	0.81	0.88	0.90	80.8	2965	94.0	94.0	94.3	0.75	0.84	0.88	75.4		
55	75	2960	93.8	94.3	94.3	0.80	0.87	0.90	98.5	2965	93.4	94.3	94.4	0.73	0.83	0.87	93.2		
Optional frames (high-output design)																			
0.75	1	2885	79.5	82.5	81.0	0.68	0.78	0.84	1.67	2910	78.4	82.3	81.5	0.60	0.72	0.79	1.62		
1.1	1.5	2865	82.6	84.2	84.0	0.68	0.79	0.84	2.37	2890	81.4	84.0	84.7	0.59	0.72	0.80	2.26		
2.2	3	2900	85.4	86.5	86.5	0.75	0.84	0.89	4.34	2915	84.7	86.5	86.8	0.68	0.80	0.86	4.10		
4	5.5	2920	87.1	88.6	88.7	0.76	0.85	0.89	7.70	2935	86.6	88.6	89.2	0.69	0.80	0.86	7.25		
11	15	2915	90.9	91.0	91.2	0.80	0.87	0.90	20.4	2930	90.2	91.1	91.4	0.72	0.82	0.87	19.2		
18.5	25	2940	92.7	92.6	92.4	0.80	0.87	0.90	33.8	2950	92.5	92.9	92.5	0.75	0.84	0.88	31.6		
75	100	2960	94.0	94.5	94.7	0.85	0.88	0.90	134	2965	94.0	94.5	94.9	0.81	0.86	0.88	125		
IV Poles																			
0.37	0.5	1370	73.0	75.0	77.3	0.53	0.64	0.72	1.01	1395	73.0	75.0	77.3	0.47	0.59	0.68	0.979		
0.55	0.75	1410	78.0	79.1	80.8	0.65	0.77	0.83	1.25	1430	76.0	78.9	80.8	0.57	0.71	0.77	1.23		
0.75	1	1410	80.8	82.0	82.5	0.64	0.75	0.83	1.66	1425	79.1	81.8	82.8	0.56	0.69	0.79	1.60		
1.1	1.5	1450	84.0	84.7	84.3	0.64	0.76	0.83	2.39	1460	82.0	84.1	84.8	0.55	0.69	0.77	2.34		
1.5	2	1445	85.0	86.2	85.6	0.63	0.76	0.83	3.21	1455	83.1	85.7	86.1	0.54	0.68	0.77	3.15		
2.2	3	1430	87.2	87.1	86.7	0.65	0.77	0.83	4.64	1440	85.7	86.8	87.2	0.57	0.70	0.78	4.50		
3	4	1430	87.7	88.0	87.7	0.65	0.77	0.83	6.26	1445	86.3	87.7	88.1	0.56	0.70	0.78	6.07		
4	5.5	1445	89.3	89.0	88.6	0.67	0.78	0.83	8.26	1455	88.2	88.9	89.3	0.59	0.72	0.79	7.89		
5.5	7.5	1460	89.0	89.6	89.6	0.73	0.83	0.87	10.7	1465	89.4	89.6	89.8	0.65	0.78	0.84	10.1		
7.5	10	1460	90.0	90.2	90.4	0.71	0.82	0.87	14.5	1465	89.2	90.3	90.4	0.62	0.75	0.83	13.9		
9.2	12.5	1470	92.2	92.3	91.4	0.70	0.81	0.85	18.0	1475	91.6	92.3	92.0	0.64	0.76	0.82	17.0		
11	15	1470	91.7	91.4	91.4	0.69	0.80	0.85	21.5	1475	90.6	91.4	91.5	0.61	0.74	0.81	20.6		
15	20	1465	92.4	92.4	92.1	0.70	0.80	0.85	29.1	1470	91.6	92.3	92.1	0.62	0.75	0.81	28.0		
18.5	25	1470	92.7	92.6	92.6	0.69	0.79	0.84	36.1	1475	91.8	92.6	92.6	0.61	0.73	0.80	34.7		
22	30	1470	92.5	92.8	93.0	0.70	0.81	0.85	42.3	1475	91.9	92.8	93.0	0.62	0.74	0.81	40.6		
30	40	1475	93.4	93.6	93.6	0.68	0.79	0.84	58.0	1480	92.3	93.3	93.6	0.59	0.72	0.79	56.4		
37	50	1480	93.7	93.9	93.9	0.74	0.83	0.86	69.6	1480	93.1	93.9	93.9	0.66	0.78	0.83	66.0		
45	60	1475	93.8	94.0	94.2	0.75	0.83	0.87	83.4	1480	93.5	94.1	94.4	0.68	0.79	0.84	79.0		
55	75	1480	94.5	94.6	94.7	0.73	0.82	0.86	103	1480	94.0	94.6	94.6	0.66	0.78	0.83	97.5		
Optional frames (high-output design)																			
0.75	1	1450	83.2	84.1	84.0	0.64	0.76	0.83	1.63	1460	81.8	83.8	84.6	0.56	0.70	0.78	1.58		
1.5	2	1430	85.5	86.0	86.0	0.65	0.77	0.83	3.19	1445	85.5	86.0	86.0	0.58	0.71	0.78	3.11		
2.2	3	1445	87.9	88.1	87.6	0.66	0.77	0.83	4.60	1455	87.2	88.2	88.5	0.59	0.72	0.79	4.38		
3	4	1450	87.5	87.7	87.7	0.66	0.77	0.83	6.26	1460	86.5	88.0	88.1	0.59	0.71	0.79	6.00		
4	5.5	1470	88.2	88.5	88.7	0.65	0.77	0.84	8.16	1475	87.0	88.8	89.0	0.57	0.71	0.79	7.91		
15	20	1470	92.6	92.9	92.3	0.70	0.80	0.85	29.0	1475	92.0	92.8	92.6	0.63	0.75	0.81	27.8		
37	50	1480	93.7	94.1	94.4	0.69	0.79	0.84	70.9	1480	92.9	93.8	94.5	0.60	0.73	0.80	68.1		
75	100	1475	95.0	95.2	95.2	0.77	0.86	0.88	136	1480	94.7	95.0	95.2	0.70	0.81	0.86	127		

* 71/80 frames are available only in Ex d executions.

Electrical Data

W22Xd - Premium Efficiency - IE3

Output kW	HP	Frame	Full load torque (Nm)	Locked rotor current I/n	Locked rotor torque Tl/Tn	Breakdown torque Tb/Tn	Inertia J (kgm ²)	Allowable locked rotor time (s)		Weight (kg)	Sound dB(A)	400 V						Full load current In (A)	
								Hot	Cold			% of full load			Power factor				
												Rated speed (rpm)	50	75	100	50	75		100
VI poles																			
0.18	0.25	71	1.91	3.2	2.0	2.1	0.0009	30	66	20.5	43.0	900	56.0	62.0	63.9	0.38	0.48	0.57	0.713
0.25	0.33	80	2.50	4.3	1.7	2.4	0.0000	25	55	22.0	43.0	955	63.6	68.5	68.8	0.47	0.60	0.71	0.739
0.37	0.5	80	3.82	4.5	1.9	2.1	0.0025	25	55	23.5	43.0	925	66.0	69.5	73.5	0.51	0.65	0.75	0.969
0.55	0.75	90S/L	5.47	5.5	2.3	2.8	0.0055	35	77	45.5	45.0	960	77.0	77.2	77.5	0.48	0.62	0.71	1.44
0.75	1	90S/L	7.62	5.2	2.5	2.8	0.0060	31	68	46.5	45.0	940	76.5	79.0	79.0	0.49	0.62	0.71	1.93
1.1	1.5	100L	11.1	4.9	2.0	2.4	0.0110	32	70	49.0	44.0	945	80.5	81.0	81.0	0.51	0.65	0.73	2.69
1.5	2	100L	15.1	5.5	2.3	2.8	0.0143	31	68	54.0	44.0	950	81.5	82.5	82.5	0.49	0.62	0.71	3.70
2.2	3	112M	22.1	6.0	2.5	2.6	0.0257	26	57	71.0	52.0	950	83.0	84.5	84.5	0.53	0.64	0.72	5.22
3	4	132S/M	29.7	5.8	1.8	2.6	0.0416	40	88	92.0	53.0	965	85.0	85.6	85.8	0.53	0.66	0.73	6.91
4	5.5	132S/M	39.6	6.1	1.9	2.7	0.0492	25	55	97.0	53.0	965	86.0	86.8	86.8	0.53	0.66	0.73	9.11
5.5	7.5	132S/M	54.5	7.0	2.5	2.8	0.0755	26	57	115	53.0	965	86.5	88.0	88.0	0.50	0.64	0.70	12.9
7.5	10	160M/L	73.5	6.3	2.2	2.7	0.1404	16	35	173	56.0	975	88.5	89.3	89.3	0.64	0.76	0.82	14.8
9.2	12.5	160M/L	90.2	6.5	2.3	2.9	0.1756	18	40	188	56.0	975	90.0	90.6	90.0	0.64	0.75	0.81	18.2
11	15	160M/L	108	7.1	2.8	3.2	0.1931	12	26	195	56.0	975	89.0	90.1	90.5	0.60	0.73	0.80	21.9
15	20	180M/L	147	7.7	2.6	3.2	0.2970	8	18	246	56.0	975	91.5	91.5	91.4	0.71	0.82	0.86	27.5
18.5	25	200M/L	180	6.3	2.4	2.8	0.3510	16	35	293	60.0	980	91.0	91.7	91.9	0.63	0.75	0.81	35.9
22	30	200M/L	215	6.4	2.4	2.8	0.4212	15	33	315	60.0	980	91.4	92.0	92.4	0.64	0.76	0.81	42.4
30	40	225S/M	291	7.5	2.4	2.8	0.8194	15	33	516	63.0	985	93.0	93.4	93.1	0.69	0.80	0.84	55.4
37	50	250S/M	359	7.2	2.4	2.7	1.24	30	66	618	64.0	985	93.7	93.9	93.5	0.72	0.81	0.85	67.2
Optional frames (high-output design)																			
1.1	1.5	112M	11.0	6.2	2.3	2.8	0.0220	28	62	68.0	52.0	960	80.0	81.0	82.0	0.52	0.64	0.70	2.77
1.5	2	112M	14.9	6.0	2.1	2.8	0.0202	28	62	66.0	52.0	960	84.5	85.5	85.5	0.51	0.63	0.71	3.57
2.2	3	132S/M	21.7	5.7	1.8	2.7	0.0491	30	66	97.0	53.0	970	86.0	87.5	87.5	0.52	0.64	0.72	5.04
4.5	6.0	250S/M	439	7.7	2.8	2.8	1.43	18	40	652	64.0	980	92.4	93.9	93.9	0.76	0.84	0.87	79.5
VIII poles																			
0.12	0.16	71	1.76	2.4	1.8	2.0	0.0009	30	66	20.5	41.0	650	44.0	50.0	52.5	0.35	0.43	0.50	0.660
0.18	0.25	80	2.53	3.3	2.0	2.2	0.0029	30	66	24.0	42.0	680	51.0	57.0	58.7	0.45	0.55	0.65	0.681
0.25	0.33	80	3.49	3.5	2.0	2.2	0.0034	30	66	25.5	42.0	685	53.0	60.0	64.1	0.42	0.52	0.63	0.894
0.37	0.5	90S/L	5.12	3.7	2.0	2.3	0.0055	30	66	40.0	43.0	690	61.0	66.0	69.3	0.41	0.53	0.62	1.24
0.55	0.75	90S/L	7.62	3.8	1.9	2.2	0.0066	29	64	40.0	43.0	690	65.0	70.0	73.0	0.44	0.57	0.67	1.62
0.75	1	100L	10.1	4.6	1.9	2.3	0.0127	30	66	52.0	50.0	710	72.5	75.5	75.5	0.41	0.53	0.62	2.31
1.1	1.5	100L	14.9	4.6	2.1	2.4	0.0143	30	66	54.0	50.0	705	73.0	76.0	77.7	0.41	0.53	0.62	3.30
1.5	2	112M	20.3	5.0	2.5	2.8	0.0238	28	62	69.0	46.0	705	79.0	79.5	79.9	0.45	0.59	0.68	3.98
2.2	3	132S/M	29.6	6.2	2.3	2.5	0.0690	27	59	99.0	48.0	710	81.5	82.0	82.1	0.51	0.65	0.72	5.37
3	4	132S/M	40.4	6.4	2.4	2.6	0.0838	21	46	107	48.0	710	82.5	83.5	83.5	0.51	0.64	0.72	7.20
4	5.5	160M/L	52.7	5.0	2.1	2.3	0.1229	34	75	165	51.0	725	85.0	86.0	86.0	0.52	0.65	0.72	9.32
5.5	7.5	160M/L	72.5	5.0	2.1	2.3	0.1492	28	62	176	51.0	725	86.0	87.3	87.3	0.52	0.65	0.73	12.5
7.5	10	160M/L	98.2	5.3	2.2	2.5	0.2199	22	48	207	51.0	730	87.0	88.3	88.5	0.52	0.65	0.73	16.8
9.2	12.5	180M/L	121	6.0	2.0	2.6	0.2575	15	33	233	51.0	725	89.0	89.3	89.6	0.63	0.75	0.82	18.1
11	15	180M/L	145	6.5	2.3	2.7	0.2846	12	26	242	51.0	725	89.5	90.0	90.0	0.55	0.68	0.76	23.2
15	20	200M/L	196	4.9	1.9	2.1	0.4571	34	75	326	56.0	730	90.0	91.0	90.8	0.56	0.68	0.74	32.2
18.5	25	225S/M	241	6.5	1.7	2.5	0.8219	28	62	516	56.0	735	91.5	92.0	91.6	0.63	0.75	0.81	36.0
22	30	225S/M	286	6.5	1.8	2.5	0.9574	22	48	546	56.0	735	91.5	92.3	92.1	0.63	0.75	0.81	42.6
30	40	250S/M	390	7.4	1.9	2.8	1.43	18	40	652	56.0	735	92.7	93.0	92.8	0.66	0.77	0.83	56.2

Ex d / Ex de IIB T4 Gb*
Ex d / Ex de IIC T4 Gb*

Output		Rated speed (rpm)	380 V							Full load current In (A)	Rated speed (rpm)	415 V							Full load current In (A)
			% of full load			Power factor			% of full load			Power factor							
			Efficiency			Power factor			Efficiency					Power factor					
kW	HP	50	75	100	50	75	100	50	75	100	50	75	100	50	75	100			
VI poles																			
0.18	0.25	885	57.7	62.8	63.9	0.43	0.55	0.64	0.669	910	54.5	61.2	63.9	0.38	0.48	0.57	0.688		
0.25	0.33	950	65.9	68.0	68.6	0.51	0.64	0.74	0.748	960	61.7	68.2	68.8	0.45	0.57	0.68	0.743		
0.37	0.5	915	67.6	69.9	73.5	0.55	0.69	0.79	0.968	930	64.3	68.8	73.5	0.48	0.62	0.72	0.973		
0.55	0.75	950	76.0	77.0	77.2	0.52	0.66	0.74	1.46	960	77.2	77.5	77.6	0.45	0.59	0.68	1.45		
0.75	1	930	77.5	79.2	78.9	0.53	0.66	0.74	1.95	945	75.3	78.6	79.1	0.46	0.59	0.68	1.91		
1.1	1.5	940	81.2	80.9	81.0	0.55	0.68	0.75	2.75	950	79.9	80.9	81.5	0.48	0.62	0.70	2.68		
1.5	2	945	82.3	82.6	82.5	0.53	0.66	0.74	3.73	955	80.6	82.3	82.8	0.46	0.59	0.68	3.71		
2.2	3	945	83.6	84.4	84.3	0.57	0.68	0.75	5.29	955	82.3	84.3	84.7	0.50	0.62	0.70	5.16		
3	4	960	85.0	85.8	85.8	0.57	0.69	0.76	6.99	970	85.2	85.8	86.0	0.49	0.63	0.71	6.84		
4	5.5	960	86.3	86.8	86.8	0.57	0.70	0.76	9.21	970	85.4	87.0	87.1	0.49	0.62	0.71	9.00		
5.5	7.5	960	87.4	88.3	88.0	0.55	0.68	0.75	12.7	965	85.8	87.7	88.0	0.47	0.61	0.69	12.6		
7.5	10	970	88.9	89.0	89.1	0.68	0.79	0.84	15.2	980	88.0	89.0	89.1	0.61	0.73	0.80	14.6		
9.2	12.5	970	89.5	90.0	90.0	0.68	0.78	0.83	18.7	975	89.6	90.0	90.0	0.61	0.73	0.79	18.0		
11	15	975	89.7	90.3	90.3	0.65	0.77	0.83	22.3	980	88.3	89.8	90.3	0.57	0.70	0.78	21.7		
15	20	975	90.7	91.0	91.2	0.75	0.84	0.88	28.4	980	91.3	91.6	91.2	0.68	0.80	0.86	26.6		
18.5	25	980	91.0	91.7	91.7	0.68	0.78	0.83	36.9	985	90.3	91.4	91.7	0.59	0.72	0.78	36.0		
22	30	980	92.0	92.2	92.2	0.69	0.79	0.84	43.2	980	90.8	91.8	92.2	0.60	0.72	0.79	42.0		
30	40	985	93.3	93.3	92.9	0.73	0.82	0.86	57.1	985	92.8	93.4	93.0	0.66	0.77	0.83	54.1		
37	50	980	93.3	93.3	93.3	0.75	0.83	0.87	69.3	985	93.3	93.5	93.5	0.69	0.80	0.84	65.5		
Optional frames (high-output design)																			
1.1	1.5	955	80.0	81.0	82.0	0.55	0.70	0.72	2.83	960	80.0	81.0	82.0	0.48	0.62	0.68	2.74		
1.5	2	955	85.1	85.4	84.9	0.54	0.66	0.74	3.63	960	84.0	85.4	85.8	0.48	0.60	0.69	3.52		
2.2	3	965	86.5	87.5	87.1	0.55	0.67	0.74	5.19	973	85.6	87.4	87.7	0.48	0.61	0.70	4.99		
4.5	6.0	985	92.9	93.9	93.8	0.80	0.86	0.88	82.8	985	91.9	93.9	93.9	0.73	0.82	0.86	77.5		
VIII poles																			
0.12	0.16	635	46.6	51.7	52.9	0.38	0.46	0.54	0.638	655	41.8	48.2	51.4	0.34	0.41	0.48	0.677		
0.18	0.25	670	52.8	58.0	58.7	0.48	0.59	0.69	0.675	685	49.3	56.0	58.7	0.43	0.53	0.62	0.688		
0.25	0.33	695	54.0	60.0	64.1	0.44	0.57	0.67	0.884	705	56.0	62.0	64.3	0.39	0.50	0.60	0.902		
0.37	0.5	700	61.0	66.0	69.3	0.44	0.56	0.66	1.23	710	62.0	67.0	69.5	0.38	0.50	0.59	1.26		
0.55	0.75	695	65.0	70.0	73.0	0.49	0.62	0.70	1.64	705	65.0	70.0	73.0	0.42	0.55	0.64	1.64		
0.75	1	705	73.9	76.1	75.1	0.44	0.57	0.66	2.30	715	71.1	74.8	75.5	0.38	0.50	0.59	2.34		
1.1	1.5	700	74.9	76.8	77.7	0.45	0.58	0.66	3.26	710	71.1	76.0	77.7	0.38	0.50	0.59	3.34		
1.5	2	700	79.9	79.5	79.7	0.49	0.63	0.71	4.03	710	77.9	79.7	79.9	0.42	0.56	0.65	4.02		
2.2	3	705	81.5	81.9	81.9	0.57	0.68	0.76	5.37	715	81.0	82.0	82.2	0.48	0.62	0.70	5.32		
3	4	705	83.4	83.7	82.9	0.56	0.68	0.75	7.33	715	81.5	83.2	83.7	0.48	0.61	0.70	7.12		
4	5.5	720	85.6	86.8	86.1	0.56	0.68	0.74	9.54	730	84.4	86.6	86.8	0.49	0.62	0.70	9.16		
5.5	7.5	720	86.7	87.3	87.2	0.56	0.68	0.76	12.6	730	85.2	87.0	87.8	0.49	0.62	0.71	12.3		
7.5	10	725	87.8	88.5	88.6	0.56	0.69	0.76	16.9	730	86.2	88.0	88.9	0.49	0.62	0.71	16.5		
9.2	12.5	720	89.2	89.1	88.9	0.67	0.78	0.84	18.7	730	88.6	89.3	90.0	0.60	0.73	0.80	17.8		
11	15	720	90.0	90.0	89.8	0.59	0.71	0.77	24.2	725	89.0	89.9	90.5	0.52	0.65	0.74	22.9		
15	20	730	90.5	91.0	91.0	0.60	0.71	0.76	33.0	730	89.4	90.8	91.5	0.53	0.65	0.72	31.7		
18.5	25	730	89.8	90.1	90.1	0.67	0.78	0.83	37.6	735	89.8	90.3	90.3	0.60	0.73	0.80	35.6		
22	30	730	90.3	90.6	90.6	0.67	0.78	0.83	44.5	735	90.3	90.8	90.8	0.60	0.73	0.79	42.7		
30	40	730	91.0	91.3	91.3	0.70	0.80	0.85	58.7	735	91.0	91.5	91.5	0.63	0.75	0.85	53.7		

* 71/80 frames are available only in Ex d executions.



Electrical Data

W22Xd - Super Premium Efficiency - IE4

Ex d / Ex de IIB T4 Gb
Ex d / Ex de IIC T4 Gb

Output		Frame	Full load torque (Nm)	Locked rotor current I _L /I _n	Locked rotor torque T _L /T _n	Breakdown torque T _b /T _n	Inertia J (kgm ²)	Allowable locked rotor time (s)		Weight (kg)	Sound dB(A)	Rated speed (rpm)	400 V						Full load current I _n (A)
								Hot	Cold				% of full load			Power factor			
													Efficiency	100		50	75	100	
II poles																			
5.5	7.5	132S/M	17.9	7.9	2.6	3.4	0.0252	27	59	99.0	67	2940	89.0	90.6	90.9	0.71	0.81	0.86	10.2
7.5	10	132S/M	24.4	8.3	2.7	3.4	0.0285	16	35	104	67	2940	90.3	91.5	91.7	0.69	0.80	0.86	13.7
9.2	12.5	160M/L	29.7	8.0	2.9	3.7	0.0000	20	44	150	67	2960	91.0	91.9	92.1	0.68	0.79	0.85	17.0
11	15	160M/L	35.6	7.9	2.9	3.5	0.0588	14	31	173	67	2955	91.1	92.3	92.8	0.69	0.80	0.86	19.9
15	20	160M/L	48.5	8.2	2.9	3.5	0.0698	11	24	184	67	2955	92.1	93.0	93.3	0.70	0.81	0.86	27.0
18.5	25	180M/L	59.7	8.3	2.7	3.5	0.0000	14	31	220	67	2960	92.8	93.4	93.7	0.70	0.80	0.86	33.1
22	30	180M/L	71.1	8.2	2.7	3.4	0.1183	8	18	246	67	2955	93.3	93.8	94.0	0.73	0.82	0.87	38.8
30	40	200M/L	96.5	8.2	3.4	3.1	0.2119	16	35	321	72	2970	93.0	94.1	94.5	0.70	0.80	0.85	53.9
37	50	200M/L	119	8.1	3.4	3	0.2373	14	31	338	69	2970	93.6	94.5	94.8	0.72	0.82	0.86	65.5
45	60	225S/M	145	7.4	2.3	2.9	0.3641	17	37	546	74	2965	94.8	95.2	95.2	0.82	0.88	0.91	75.0
55	75	250S/M	177	8.2	3	3.1	0.6068	28	62	693	74	2970	94.6	95.3	95.5	0.81	0.88	0.90	92.4

Output		Frame	Full load torque (Nm)	Locked rotor current I _L /I _n	Locked rotor torque T _L /T _n	Breakdown torque T _b /T _n	Inertia J (kgm ²)	Allowable locked rotor time (s)		Weight (kg)	Sound dB(A)	Rated speed (rpm)	400 V						Full load current I _n (A)
								Hot	Cold				% of full load			Power factor			
													Efficiency	100		50	75	100	
IV poles																			
5.5	7.5	132S/M	35.7	8.4	2.3	3.5	0.0638	16	35	107	56	1470	90.8	91.8	91.9	0.63	0.75	0.82	10.5
7.5	10	160M/L	48.4	8.7	3	3.4	0.0000	20	44	160	61	1480	91.4	92.3	92.6	0.60	0.73	0.80	14.6
9.2	12.5	160M/L	59.4	8.6	3	3.3	0.1397	16	35	188	61	1480	91.9	92.9	93.0	0.61	0.74	0.81	17.6
11	15	160M/L	71.3	8.2	3	3.5	0.1537	14	31	195	61	1475	92.0	93.0	93.3	0.61	0.73	0.81	21.0
15	20	160M/L	97.2	7.2	3	3.2	0.1813	28	62	211	61	1475	92.7	93.6	93.9	0.63	0.75	0.81	28.5
18.5	25	180M/L	119	7.9	2.5	3.4	0.2291	16	35	267	61	1480	93.6	94.2	94.2	0.64	0.76	0.83	34.2
22	30	200M/L	142	7.7	2.9	3.3	0.0000	25	55	310	63	1485	93.7	94.3	94.5	0.61	0.72	0.80	42.0
30	40	200M/L	193	7.4	2.8	3.2	0.3979	18	40	349	63	1485	93.9	94.7	94.9	0.60	0.73	0.81	56.3
37	50	225S/M	238	7.9	2.8	3.2	0.7346	21	46	561	63	1485	94.6	95.1	95.2	0.67	0.78	0.84	66.8
45	60	225S/M	290	8.3	2.9	3.3	0.7346	15	33	561	63	1485	94.2	95.0	95.4	0.62	0.74	0.82	83.0
55	75	250S/M	354	8.3	3	3.4	1.21	17	37	693	64	1485	94.9	95.4	95.7	0.66	0.78	0.83	100

Output		Frame	Full load torque (Nm)	Locked rotor current I _L /I _n	Locked rotor torque T _L /T _n	Breakdown torque T _b /T _n	Inertia J (kgm ²)	Allowable locked rotor time (s)		Weight (kg)	Sound dB(A)	Rated speed (rpm)	400 V						Full load current I _n (A)
								Hot	Cold				% of full load			Power factor			
													Efficiency	100		50	75	100	
VI poles																			
3	4	132S/M	29.6	6.3	1.8	2.5	0.0568	48	106	102	52	970	88.0	89.3	88.6	0.53	0.66	0.73	6.69
4	5.5	132S/M	39.4	6.6	2	2.6	0.0643	35	77	107	52	970	88.5	89.6	89.5	0.53	0.66	0.73	8.84
5.5	7.5	160M/L	53.6	6.9	2.5	3	0.1668	30	66	175	56	980	88.7	90.1	90.5	0.61	0.74	0.80	11.0
7.5	10	160M/L	73.1	6.8	2.6	2.9	0.1931	21	46	195	56	980	90.6	91.5	91.3	0.60	0.73	0.80	14.8
9.2	12.5	180M/L	89.2	8.4	2.8	3.5	0.2958	21	46	240	56	985	91.0	91.6	91.8	0.61	0.74	0.81	17.9
11	15	180M/L	107	8.4	2.8	3.5	0.3361	18	40	250	56	980	90.3	91.5	92.3	0.61	0.74	0.81	21.2
15	20	180M/L	146	8.2	2.8	3.4	0.3765	13	29	274	56	980	92.0	92.6	92.9	0.63	0.75	0.82	28.4
18.5	25	200M/L	180	6.6	2.4	2.7	0.4896	23	51	338	60	980	92.7	93.2	93.4	0.63	0.75	0.81	35.3
22	30	200M/L	213	7.0	2.6	2.9	0.5246	18	40	349	60	985	92.4	93.2	93.7	0.59	0.72	0.79	42.9
30	40	225S/M	291	7.4	2.4	2.8	1.02	23	51	561	63	985	93.7	94.1	94.2	0.69	0.80	0.84	54.7
37	50	250S/M	359	7.3	2.6	2.8	1.65	30	66	693	64	985	94.3	94.7	94.5	0.70	0.81	0.85	66.5



Mechanical Data

Mounting forms

The mounting configuration for the W22Xd motor lines comply with IEC 60034-7 standard. Standard mounting forms and their variations are shown in table 1. After the designation, a characteristic letter is used to define the terminal box position. So, the mounting code IM B3 can be seen in WEG documents as detailed below (without IM code).

B3L - terminal box on left hand side of the motor frame

B3T - terminal box on top of the motor frame

B3R - terminal box on right hand side of the motor frame

Note: The terminal box position is defined viewing the motor from the shaft end side. Forms and their variations are shown in table 1.

























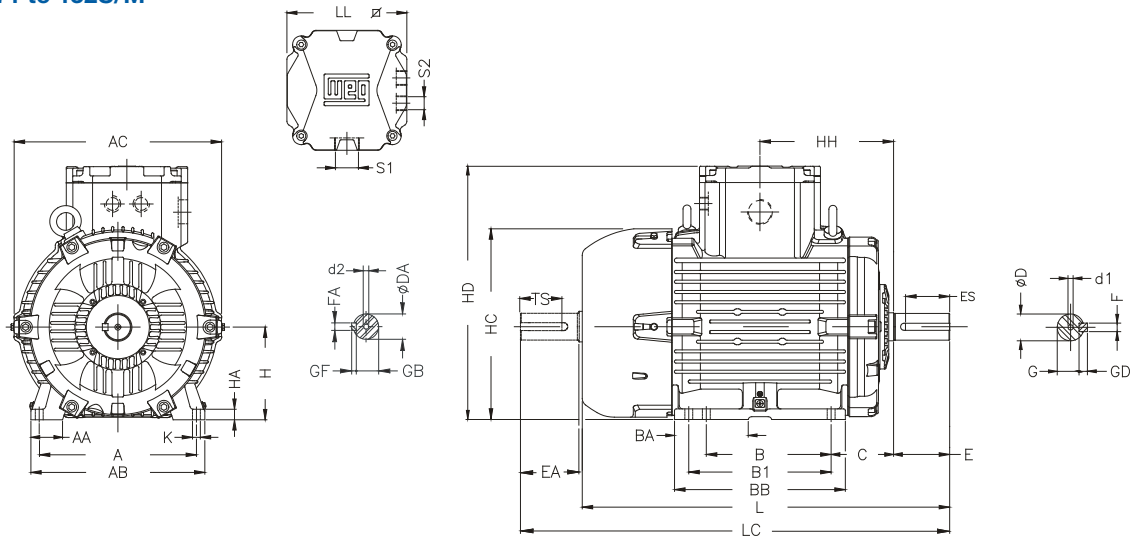
Basic mountings	Other type of mounting				
IM B3	IM V5	IM V6	IM B6	IM B7	IM B8
IM 1001	IM 1011	IM 1031	IM 1051	IM 1061	IM 1071
					
IM B35	IM V15	IM V36	- *)	- *)	- *)
IM 2001	IM 2011	IM 2031	IM 2051	IM 2061	IM 2071
					
IM B34	IM V17	IM V37	- *)	- *)	- *)
IM 2101	IM 2111	IM 2131	IM 2151	IM 2161	IM 2171
					
IM B5	IM V1	IM V3			
IM 3001	IM 3011	IM 3031			
					
IM B14	IM V18	IM V19			
IM 3601	IM 3611	IM 3631			
					

Table 1 - Mounting forms.
* Non-defined mountings by IEC 60034-7

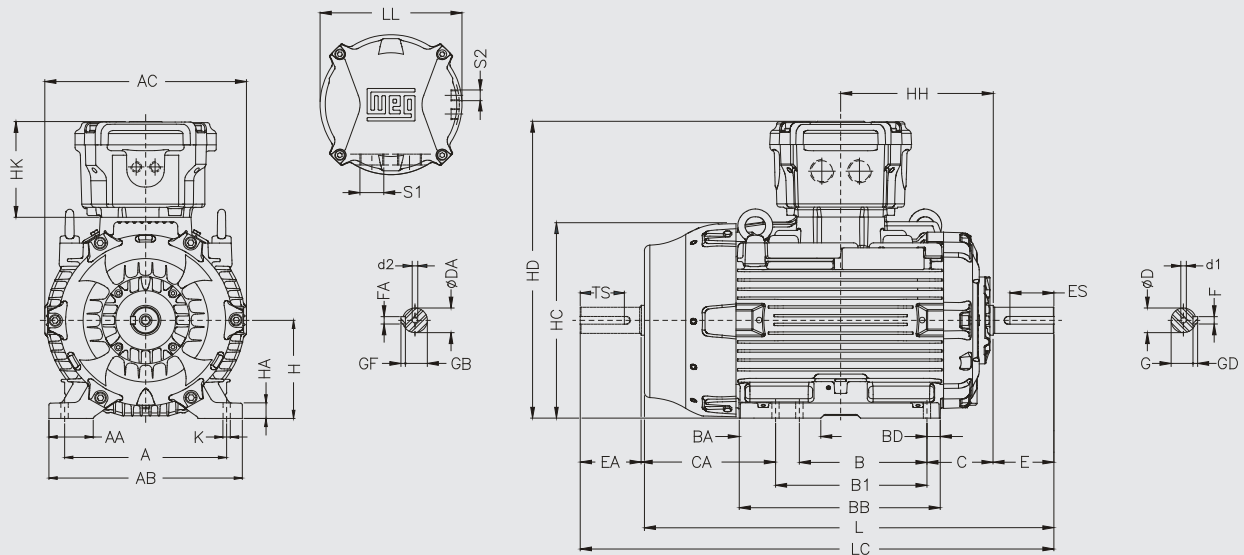
1. The mountings IM B34 and IM B14 with C-DIN flange, in accordance with DIN standard EN 50347, are limited to frame size 132; C flange in accordance with NEMA MG 1 Part 4 standard is available for frames 71 to 250S/M.
2. All motors classified as Group I (mining) must be equipped with a drip cover / impact canopy. For those motors classified as Group II and utilised in vertical shaft down applications, a drip cover / impact canopy must also be fitted unless it is specifically confirmed by the client that foreign objects will be prevented from falling into the ventilation openings.
3. For vertically shaft up mounted motors installed in environments containing liquids, the use of a rubber slinger is recommended to prevent the ingress of liquid into the motor through the shaft.

Mechanical Data (Standard)

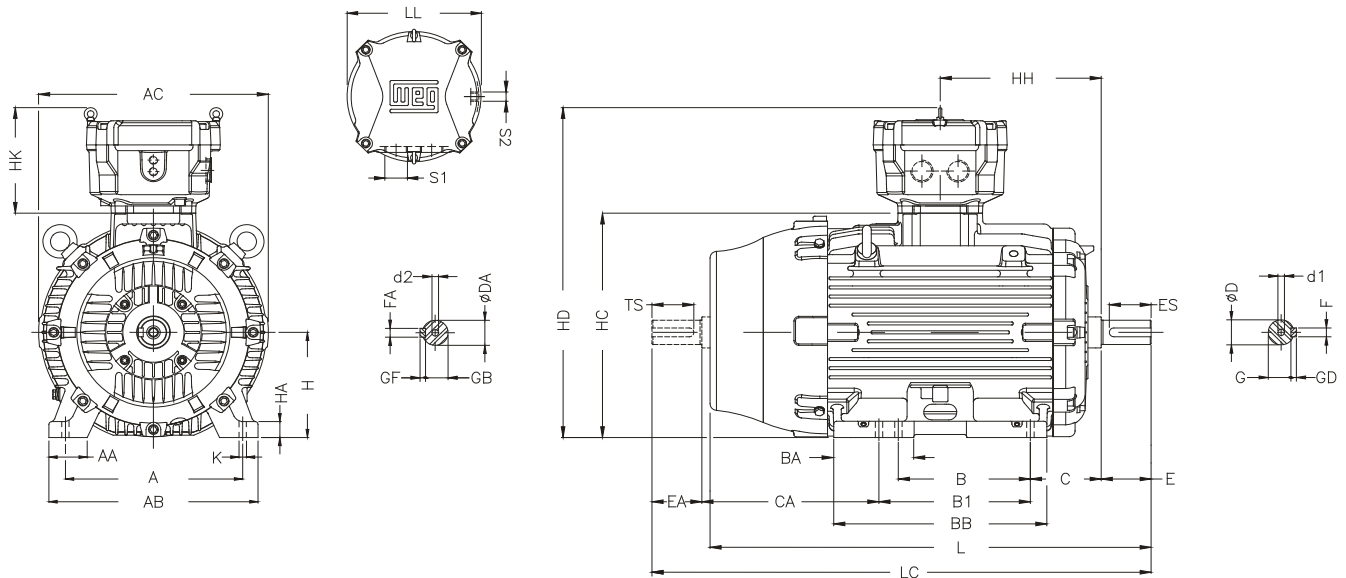
Frames 71 to 132S/M



Frames 160M/L to 200M/L



Frames 225S/M to 250S/M



Frame size	A	AA	AB	AC	B	B1	BA	BB	BD	C *	CA	D	DA	E	EA	ES	F	FA	G	GB	GD	GF	TS	
71	112	32	132	155.5	90	110	48	132	-	45	125/105	14j6	11j6	30	23	18	5	4	11	8.5	5	4	14	
80	125	37	149	180	100	121	53	143		50	127/106	19j6	14j6	40	30	28	6	5	15.5	11	6	5	18	
90S/L	140	38	164	200		125	89	183		56	157.5/124.5	24j6	16j6	50	40	36	8							20
100L	160	46	188	232	140	183	82	211		63	178.5/135.5	28j6	22j6	60	50	45		10	6	24	18.5	8	6	
112M	190	48	220	252		186	79	213.5		70	191/145		24j6											
132S/M	216	45	248	296		178	104	243		89	222/184	38k6	28j6	80	60	63	10	8	33	24	8	7	45	
160M/L	254	64	308	347	210	254	150	353		26	108	291/247	42k6	24j6	50	80	12							14
180M/L	279	80	350	371	241	279	148	367			121	287/249	48k6											
200M/L	318	82	385	411	267	305	149	410		31	133	311/276	55m6	48j6	110	110	100**	16**	16**	49**	49**	10**	10**	100**
225S/M	356	80	436	465	286	311	167	445		41	149	381/356	55m6**	55m6**										
250S/M	406	100	506	493	311	349	176	486	47	168	395/357	60m6**	60m6**	140	140	125	18	18	53**	53	11	11	125	
												65m6	60m6											58

Frame size	H	HA	HC	HD	HH	HK	K	L *	LC	LL	S1	S2	d1	d2	D.E. bearing	N.D.E. bearing		
71	71	9	147	222.5	100	-	7	285	313	131	M25x1.5	2xM20x1.5	M5	M4	6202-ZZ	6202-ZZ		
80	80		165	243.5	111		10	310	347				151	M32x1.5	M6	M5	6204-ZZ	6203-ZZ
90S/L	90		186.5	272.5	135		382.5	428.5										
100L	100	10	207	295.5	155		12	436.5	491.5	171	M32x1.5		M10	M8	6206-ZZ	6205-ZZ		
112M	112		234	320.5	163			456	511									
132S/M	132	15	274	361	191		14.5	524	591	256	2xM40x1.5		M12	M10	6308-ZZ	6207-ZZ		
160M/L	160	22	326	509.5	258.5			717	769									
180M/L	180	28	362	549.5	278.5		174.5	752	809	362	2xM50x1.5		M20	M16	M8	6309-C3	6308-C3	
200M/L	200	30	400	594.5	306.5			821	934									
225S/M	225	34	457	752	330.5		295	921**	1034**	362	2xM63x1.5		M20	DM20	M16	6312-C3	6212-C3	
250S/M	250	42	497	792	363	951		1094	6314-C3			6314-C3						

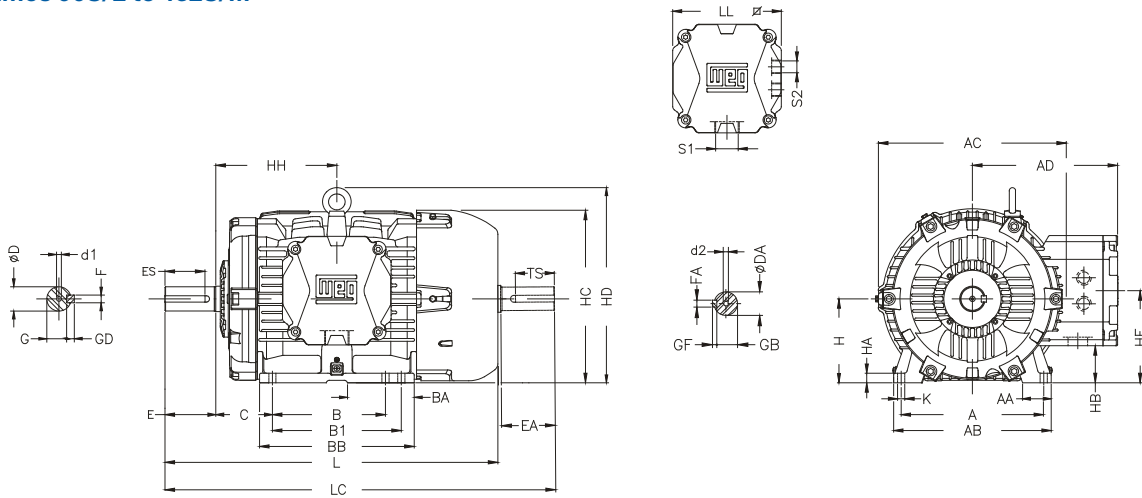
* For 71 frame foot mounted motors with FF flange, the dimensions " C " and " L " will be 70 mm and 310 mm respectively.

** Dimensions for 2-pole motors.

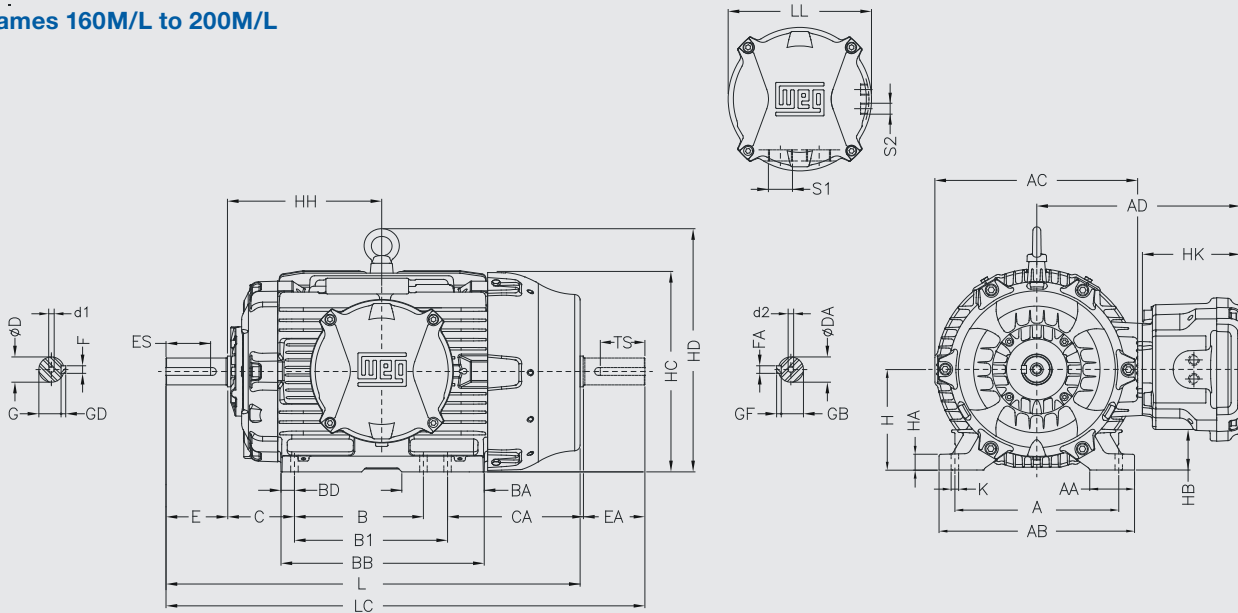


Mechanical Data (Optional)

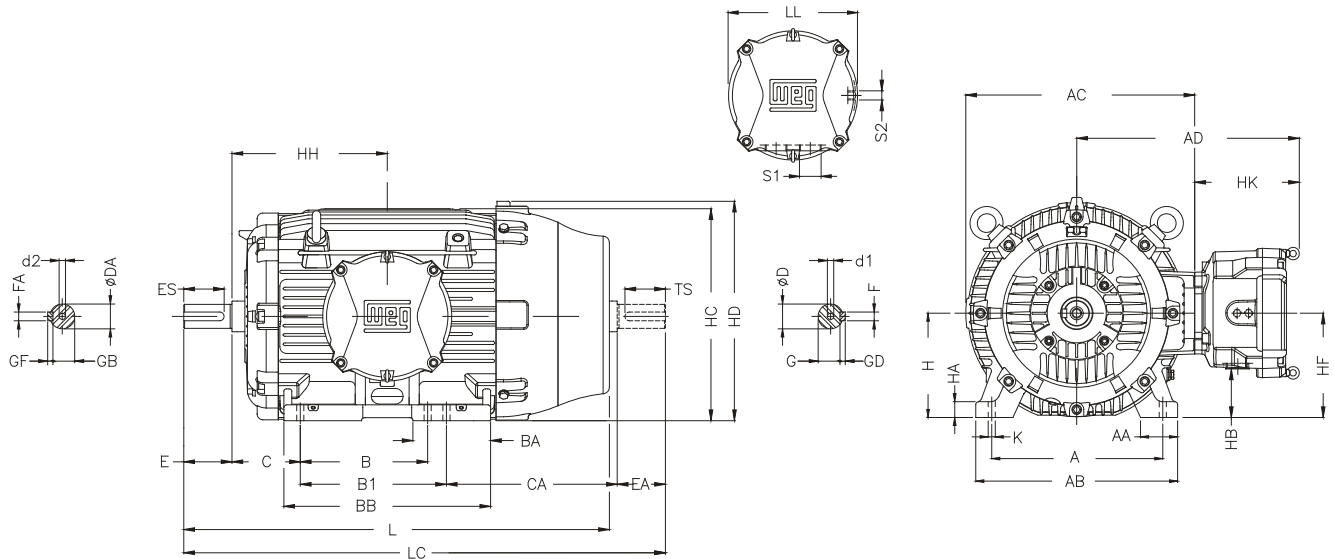
Frames 90S/L to 132S/M



Frames 160M/L to 200M/L



Frames 225S/M to 250S/M



Frame size	A	AA	AB	AC	AD	B	B1	BA	BB	BD	C	CA	D	DA	E	EA	ES	F	FA	G	GB	GD	GF	TS		
90S/L	140	38	164	200	182.5	100	125	89	183	-	56	157.5/124.5	24j6	16j6	50	40	36	8	5	20	13	7	5	28		
100L	160	46	188	232	195.5	140	183	82	211		63	178.5/135.5	28j6	22j6	60	50	45		6	6	24		18.5	8	6	36
112M	190	48	220	252	208.5		186	79	213.5	70	191/145	24j6	38k6	28j6				80		60	63	10	8		33	24
132S/M	216	45	248	296	229	178	104	243	89	222/184	24j6	42k6		24j6	110	50	80		12					14	37	20
160M/L	254	64	308	347	349.5	210	254	150	353	108	291/247		48k6					55m6**		55m6**	110	110	100**		16**	16**
180M/L	279	80	350	371	369.5	241	279	148	367	121	287/249	48k6	60m6	60m6	140	140	125		18					18		
200M/L	318	82	385	411	394.5	267	305	149	410	133	311/276	55m6	48j6	60m6**				60m6**		140	140	125	18		18	53**
225S/M	356	80	436	465	550	286	311	167	445	41	149	381/356	60m6**	60m6**	65m6	60m6	140	140	125					18		18
250S/M	406	100	506	493	570	311	349	176	486	47	168	395/357	60m6**	60m6**	65m6	60m6				140	140	125	18		18	

Frame size	H	HA	HB	HC	HD	HF	HH	HK	K	L	LC	LL	S1	S2	d1	d2	D.E. bearing	N.D.E. bearing
90S/L	90	9	38.5	186.5	216	114	135	-	10	382.5	428.5	151	M25x1.5	2xM20x1.5	M8	M5	6205-ZZ	6204-ZZ
100L	100	10	42.5	207	236	118	155		12	436.5	491.5		171		M32x1.5	M10	M8	6206-ZZ
112M	112		50.5	234	276	136	163	14.5		717	769	256		2xM40x1.5		M12	M10	6308-ZZ
132S/M	132	15	59.5	274	307	145	191		752	809	362		2xM50x1.5		M16	M8	6309-C3	6308-C3
160M/L	160	22	63	326	400	171	258.5	821	934	18.5		921**		1034**			M20	M16
180M/L	180	28	73	362	435	180	278.5	951	1094		24		1009		1152	M20		
200M/L	200	30	93	400	594.5	200	306.5	24	1009	1152		362		2xM63x1.5				
225S/M	225	34	70	457	490	225	330.5	295	18.5	921**	1034**	362	2xM50x1.5					
250S/M	250	42	95	497	532	250	363	295	24	1009	1152	362	2xM63x1.5					

Note: Side mounted terminal box not available for frames 71/80.

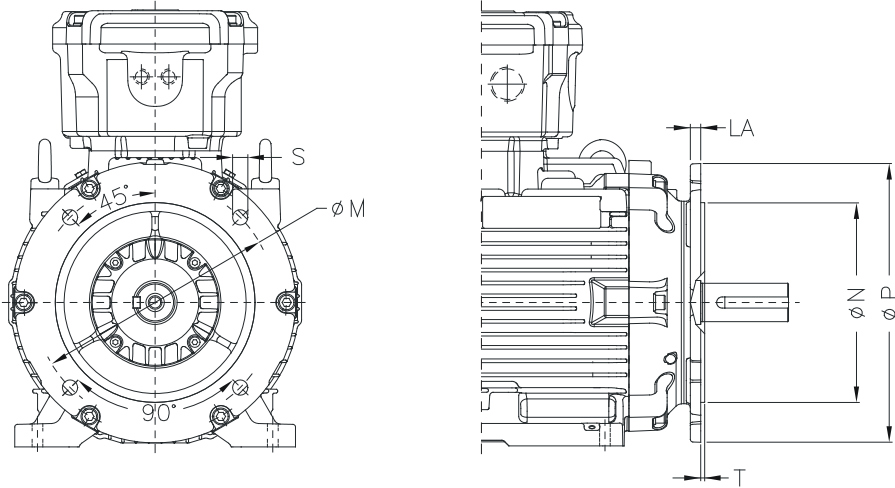
** Dimensions for 2-pole motors.



Mechanical Data (Optional)

Flange Mounted Motors

“FF” Flange

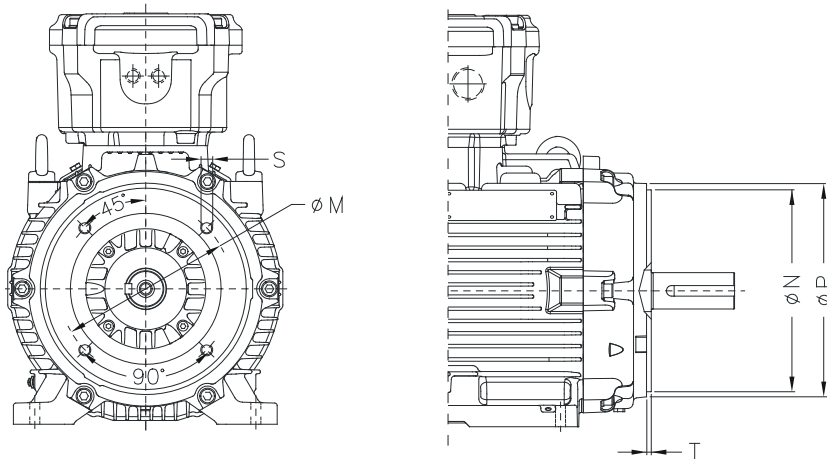


Frame size	Flange	LA	M	N	P	S	T	α	N° of holes
71	FF-130	7	130	110	160	10	3.5	45°	4
80	FF-165		165	130	200	12			
90		8							
100	FF-215	11	215	180	250	15	4		
112									
132	FF-265	12	265	230	300	19	5		
160	FF300	13	300	250	350				
180			350	300	400				
200	FF350	16	400	350	445	19	5	8	
225	FF400	16	400	350	445				
250	FF500	18	500	450	546.24				

* Note: For 71 frame foot mounted motors with FF flange, the dimensions “C” and “L” will be 70mm and 310mm respectively.



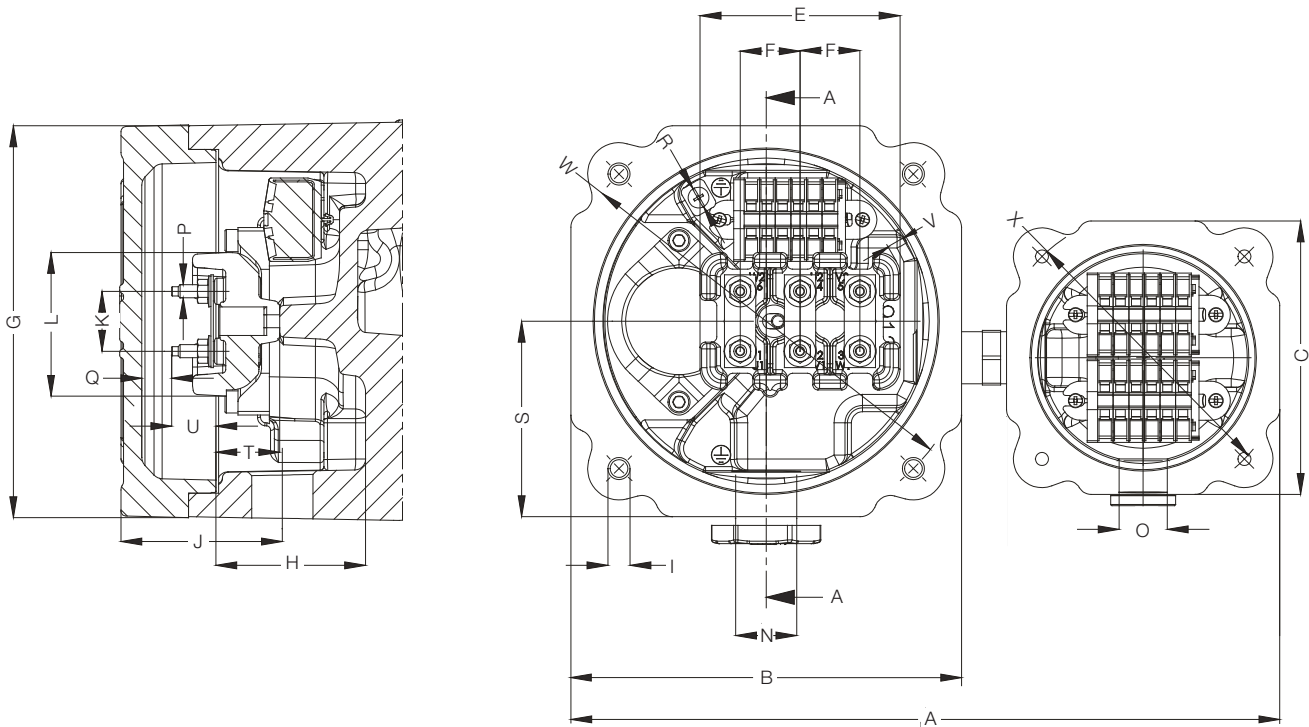
“C-DIN” Flange



Frame size	Flange	M	N	P	S	T	α	N° of holes
71	C-105	85	70	105	M6	2.5	45°	4
80	C-120	100	80	120		3		
90	C-140	115	95	140	M8	3.5		
100	C-160	130	110	160				
112					M10			
132	C-200	165	130	200				



Main and Accessory Terminal Boxes - Frames 71 to 132M/L



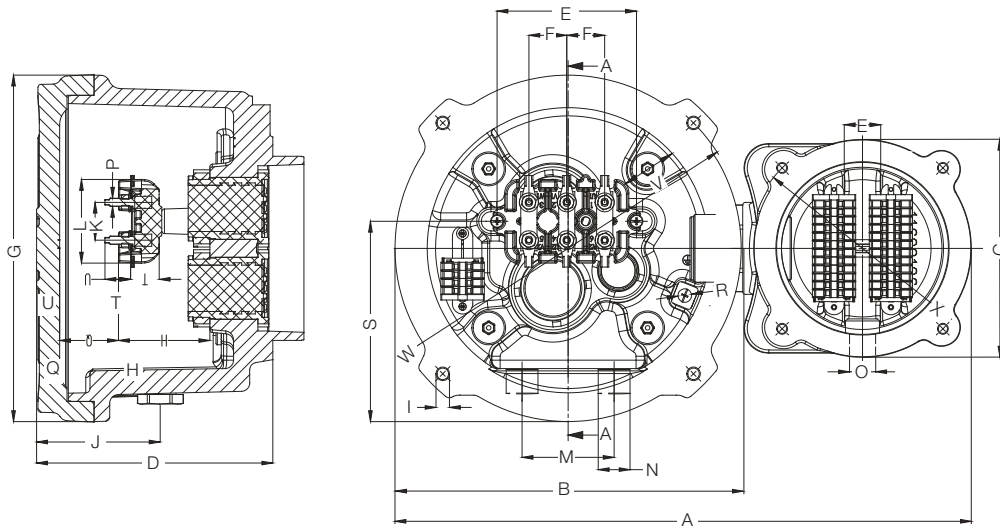
Frame size	A	B	C	E	F	G	H	I	J	K	L
71	-	-	-	53	16	131	44	M6x1.0	36	16	35
80	-	-	-	53	16	131	44	M6x1.0	36	16	35
90	274	152	106	76	23	151	56	M8x1.25	62	23	53
100	274	152				171	70		65		
112	288	166	106	76	23	171	70	M8x1.25	65	23	53
132	288	166	106	76	23	171	70	M8x1.25	65	23	53

Frame size	N	O	P	Q	R	S	T	U	V	W	X	
71	M25x1.5	-	M4x0,7	11.5	M4x0,7	62,5	23.5	10	6,5	140	-	
80		M20x1.5	M5x0,8			75		18	7	160		
90	M32x1.5	M20x1.5	M5x0,8	11.5	M4x0,7	75	23.5	18	7	160	110	
100						85		29,5	12	12		184
112						85		29,5	12	12		184
132	M32x1.5	M20x1.5	M5x0,8	11.5	M5x0,8	85	29,5	12	12	184	110	

Energy saving performance coupled with low operational costs, extended lifetime, reduced maintenance and assured safety.

These are the values of the WEG W22Xd electric motor.

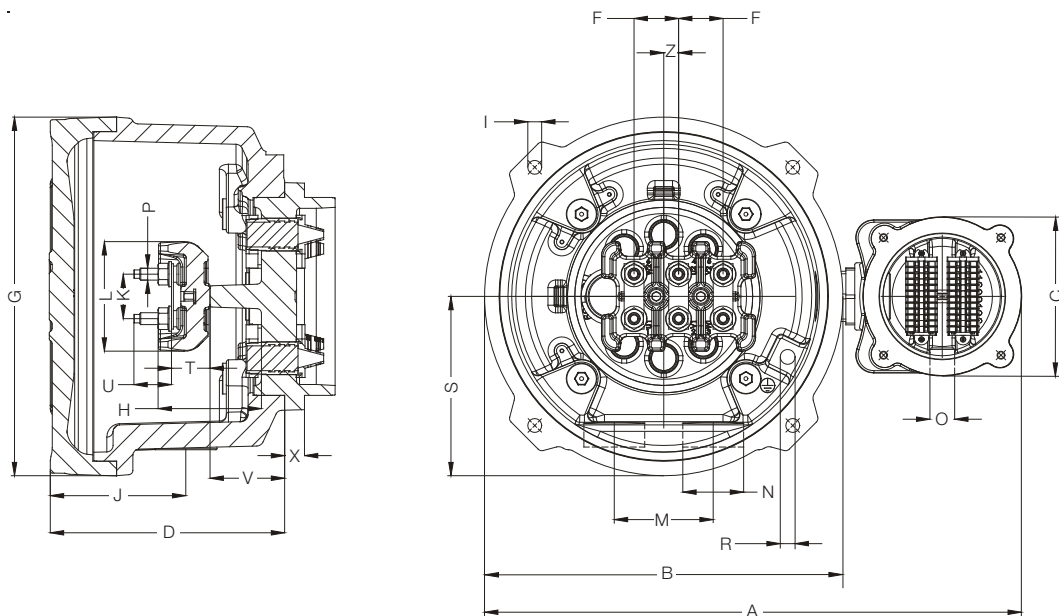
Main and Accessory Terminal Boxes - Frames 160M/L to 200M/L



Frame size	A	B	C	D	E	F	G	H	I	J	K	L
160	435	257	160	174	103	28	256	67.5	M10x1.5	90.5	28	62
180								70.5				
200					112	35						

Frame size	M	N	O	P	Q	R	S	T	U	V	W	X
160	68	2xM40x1,5	M20x1,5	M6x1,0	43.5	M6x1,0	140	19.5	20.5	40	262	168
180		2xM50x1,5		M8x1,25	40.5	M8x1,25		22	24	29		
200												

Main and Accessory Terminal Boxes - Frames 225S/M to 250S/M



Frame size	A	B	C	D	F	G	H	I	J	K	L
225	543	362.5	161	237	45	362	104.5	M16x2	137	45	111
250											

Frame size	M	N	O	P	R	S	T	U	V	Z
225	100	2xM50x1,5	2xM20x1,5	M12x1,75	M10x1,5	181	39	38	75.5	15
250		2xM63x1,5								

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