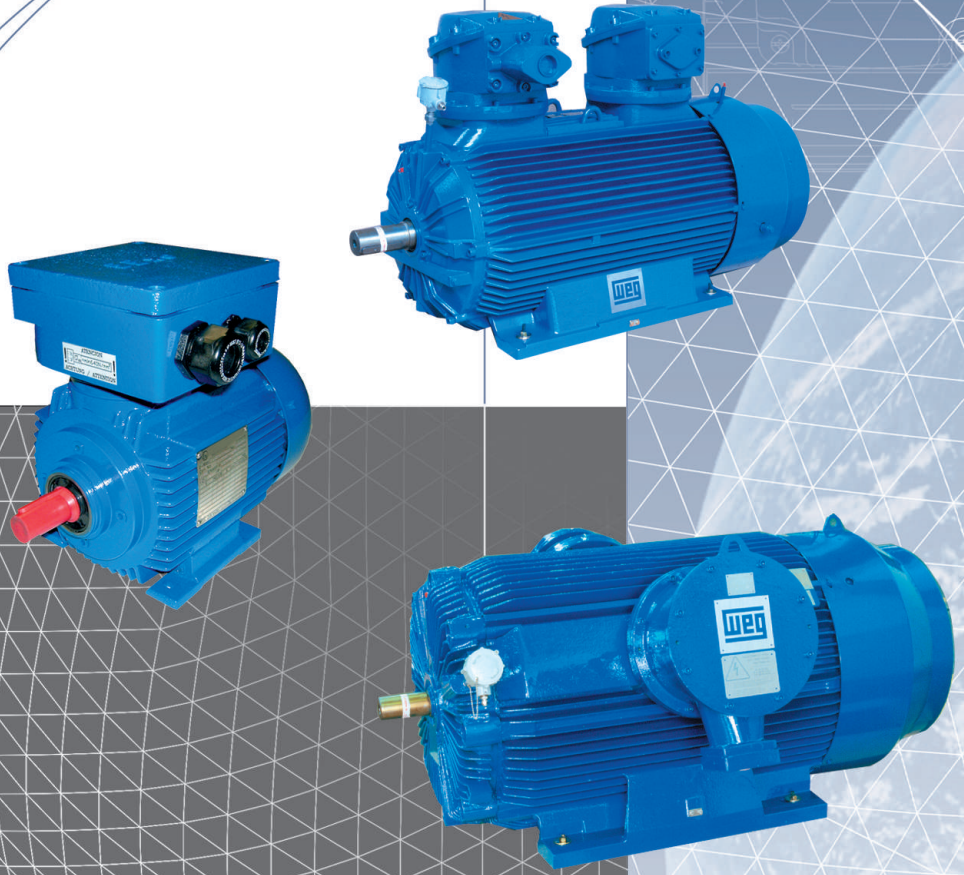


BFG range
BFGC range
BFN range



LOW AND
MEDIUM VOLTAGE MOTORS
FOR HAZARDOUS
AREAS

- EEx d - Flameproof Motors**
- EEx de - Flameproof Motors With Increased Safety Terminal Box**
- EEx nA - Non Sparking Motors**



1. MARKING OF EQUIPMENT

ATEX
(Directive 94/9/CE)

CENELEC
(EN 50014)

CE 1180  **II 2 G**

EEx d IIB T4

CE marking

Identification of the notified body responsible for the approval. 1180 is the identification number of ISSeP

The European Commission mark for Ex products

Surrounding atmosphere:
G for gas (D for dust)

Equipment category:
2 for Zone 1 or Zone 21
(1 for Zone 0 or 20,
3 for Zone 2 or 22)

Motor group: II for surface industry (I for mines)

Surface temperature

Gas group (IIB or IIC)


Flameproof European Standards

Examples:

Non Sparking (Gas):


CE 1180  II 3 G EEx na II T3

Flameproof (gas)

CE 1180  II 2 G EEx d IIC T4

Flameproof (Gas and Dust)

CE 1180  II 2 GD EEx de IIC T4 T=135°C IP55

○	CE 1180		II 2 GD	○
EEx de II C T4 T=135°C IP55				
EN 50014:1997 + A1:1999 + A2:1999				
EN 50018:2000 EN 50019:2000				
EN 50281-1-1:1998				
ISSeP 03 ATEX 059				
WEG euro INDUSTRIA ELECTRICA, S.A. Rua. Eng. Frederico Ulrich Sector V Apartado 6074 CP:4471-907 MAIA PORTUGAL				
○				○

2. CERTIFICATE OF EQUIPMENT

Example: ISSEP 00 ATEX 017x

3. CERTIFICATION BODIES

The Flameproof and Non Sparking motors manufactured by WEGeuro, meet ATEX directive 94/9/CE certified by Baseefa (2001), and product certified by ISSeP, according to EN 50014, EN 50018 and EN 50021.



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1. GENERAL TECHNICAL INFORMATION

1.1 EXPLOSIVE ATMOSPHERE

An atmosphere is regarded as explosive when the amount of gas, vapor, dust or fibers is such that a spark originated from an electric circuit or an overheating from an equipment may cause an explosion.
 In reference to surrounding equipment, preventive constructive measures are taken in order that the area around them is flamed.

1.2 EUROPEAN STANDARDS FOR EXPLOSIVE ATMOSPHERE

In Europe, all motors designed for explosive atmospheres must meet IEC and CENELEC Standards and ATEX Directive, which is mandatory since July 2003

1.2.1 IEC STANDARDS

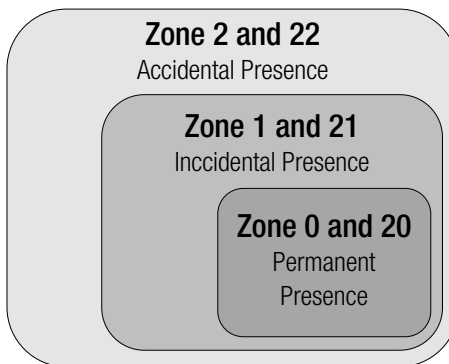
The IEC Standard classifies the risk areas into **zones** and **groups**:

- The **zones** are classified according to frequency and period of time that the explosive atmosphere is present.
- The division into **groups** is based on the aggressiveness of the environment.

Zone classification:

Gases and Vapours	Zone 0	Environment where the explosive atmosphere is present continuously or for long periods of time.
	Zone 1	Environment where the probability of existing an explosive atmosphere is associated with normal operation of the equipment.
	Zone 2	Environment where an explosive atmosphere will probably not be present under normal operating conditions and, if any, it will be for short period of time.

Dusts	Zone 20	Environment where flammable dust is present continuously or frequently under normal operating conditions in enough amount to generate an explosive concentration of mixed dust with air and/or areas where may occur excessive amount of dust with no further control.
	Zone 21	Area that is not classified as Zone 20. However, where flammable dusts may occur under normal operating conditions in enough amount to generate an explosive concentration of dust mixed with the air.
	Zone 22	Areas that are not classified as Zone 21. However, where flammable dust may occur frequently and is present for short periods of time, or where the amount of dust may occur just under abnormal operating conditions causing an explosive mixture.



G R O U P S	Underground Explosive Atmospheres	Equipment manufactured for under ground operation mines	I	Methane may be present (grisú)
	Other Explosive Atmosphere	Equipment manufactured for other types industry (surface industry), being subdivided based on the characteristics of the materials present	IIA	acetone, ammonia, benzene, butane, butanol, alcohol butylic, ethane, ethanol, acetate of ethyl, gasoline, heptanes, hexanes, natural gas, methanol, naphtha, propane, propanol, toluene, esthirene, solvents in general
			IIB	acetaldeide, cyclopropane, diethylic ether, ethene, monoxide of carbon
			IIC	acetylene, butadiene, oxide of ethene, hydrogen, oxide of propylene, gases containing over 30% of hydrogen

1.2.2 CENELEC STANDARDS

CENELEC Standard provides criteria which determine the classification of the equipment into groups and categories:

Group classification:

GROUP I (Mines)	
	Categories
M1	Equipment designed to operate on environments where the explosive atmosphere is present frequently.
M2	Equipment that must be powered off if there is any risk of explosion. Explosive atmosphere is present frequently.

Category classification:

GROUP II* (Surface Industry)			
	Categories		Zone
1	Equipment with high degree of protection. Explosive atmosphere is present continuously or for long periods of time.	1G (gas) 1D (dust)	0 (gas) 20 (dust)
2	Equipment with high degree of protection. Explosive atmosphere may occur occasionally.	2G (gas) 2D (dust)	1 (gas) 21 (dust)
3	Equipment with normal degree of protection. The explosive atmosphere will probably not occur.	3G (gas) 3D (dust)	2 (gas) 22 (dust)

* Gases are subdivided into IIA, IIB and IIC, as per IEC Standards.

1.2.3 ATEX DIRECTIVE

Valid since March of 1996, this European Directive is mandatory from July 2003.

It provides a classification for motors into areas containing explosive atmospheres. More than product specification, the present Directive gives special attention to the production process including design, production itself and sale.

The certification for the system is provided together with the product certification.

ATEX 100 Directive also classifies the equipment to operate on explosive atmospheres into GROUPS and CATEGORIES following the same classification bases used by CENELEC.

1.3 CLASSES OF TEMPERATURE

The minimum temperature that causes an explosion of a gas, vapour of explosive mixture is called ignition temperature. To avoid any risk of explosion, the motor surface temperature must always stay below the ignition temperature of the explosive mixture.

The internal and external temperature of the electrical equipment must be strictly followed to avoid ignition of an explosive mixture. So the equipment is classified into classes of temperature, as per table below:

Class of Temperature (°C)		Maximum motor surface temperature (°C)	Ignition temperature of the explosive mixture (°C)
IEC/CENELEC	NEC		
T1	T1	450	>450
T2	T2	300	>300
	T2A	280	>280
	T2B	260	>260
	T2C	230	>230
	T2D	215	>215
T3	T3	200	>200
	T3A	180	>180
	T3B	165	>165
	T3C	160	>160
T4	T4	135	>135
	T4A	120	>120
T5	T5	100	>100
T6	T6	85	>85

1.4 PROTECTION CATEGORIES FOR ELECTRIC MOTORS

1.4.1 TYPE EEx d – FLAMEPROOF

It is a type of protection where the parts that may flame an explosive atmosphere are closed into enclosures which are capable to withstand a pressure during an internal explosion of an explosive mixture and it avoids such explosion to go out from this enclosure to an external explosive atmosphere. An induction electric motor (of any protection) is not totally sealed, that is, air flows in and out. While the motor is in operation, it heats up and the internal air gets to a higher pressure compared to the external pressure (air is blown out); when motor is switched-off, the internal pressure decreases, allowing in this way entrance of air (which in this case is contaminated).

The motor surfaces do not need to be totally enclosed to avoid flame propagation. The minimum opening required to avoid passage of flames depends on the gas or vapour that is present.

Therefore, there will always be flame passages through the motor enclosure. The safety level on an explosion proof motor is on the fact that it must ensure that all flame passages never exceed the standardized dimensions that the motor is physically suitable to withstand an internal explosion without transmitting it to the external environment.

EEx d protection will not allow that an internal explosion propagates to the external environment. To ensure safety to the system, WEG provides a control of the openings and the finishing of joints once these are responsible for the volume of gases exchanged between inside and outside of the motor.

The main characteristics of EEx d motors are as follows:

- Reinforced frame, terminal box and endshields
- Greater contact surface (interference) between motor components
- Reduced clearance between motor shaft and bearing cap to avoid transmission of sparks and the external environment
- All components (frames, endshields, terminal box and terminal box lids) are submitted to pressure test on factory.

Application:

- Environments containing flammable gas or vapour continuously, intermittently or periodically in enough amounts to generate explosive or flammable mixtures arising out of repairs or maintenance services.
- The most common locations of Zone 1 and 2, group IIA and IIB are those where the following gases are found present: oil, naphtha, benzene, ammonia, propane, diethyl ether, acetone, alcohol, industrial methane, natural gas.
- The main applications include fans, blowers, crushers, conveyor systems, mills, cranes and other applications located in areas that require explosion proof motors.

1.4.2 TYPE EEx de – FLAMEPROOF MOTORS WITH INCREASED SAFETY TERMINAL BOX

EEx de motors differ from EEx d motors only on the configuration of terminals and terminal box. The terminal box with increased safety terminals prevents from any ignition source that may occur such as sparks, excessive heating, etc.

The main characteristics of EEx de motors are:

- Terminal box components as well as connection cables must be firmly fastened (without allowing any movement)
- Special terminal block to avoid arcs and sparks and standardized distance between terminals (KS plate)
- Double grounding must be provided (one on the frame and the other inside the terminal box)

Application:

Same as described for EEx d motors.

1.4.3 TYPE EEx nA – NON SPARKING MOTORS

This type of protection is applied to electric equipment which do not cause ignition of an explosive atmosphere under normal operating conditions.

The EEx nA motor is built identically to a normal TEFC motor, with the following characteristics:

- Terminal box components as well as connection cables must be firmly fastened (without allowing any movement)
- T3 classification as per maximum internal and external surface temperature
- Increased safety terminal blocks to avoid arcs and sparks, along with standardized distance between terminals
- Construction particularities to avoid arcs or sparks between static and rotating parts during normal operation

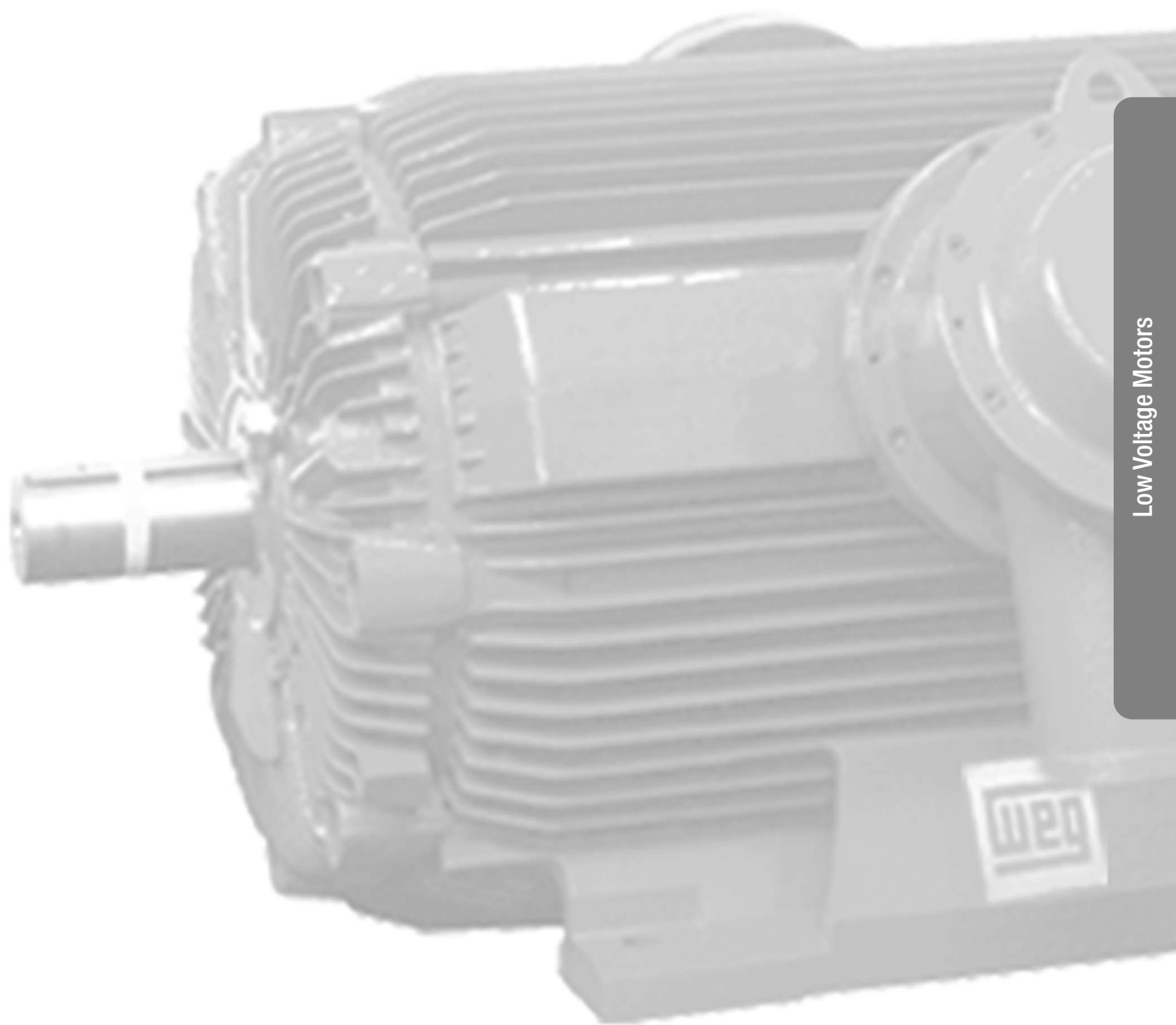
Application:

Environment where an explosive atmosphere will probably not be present under normal operating conditions and, if any, this will be for short period of time, that is, an explosive atmosphere may be present accidentally.

The environments are classified as Zone 2, groups IIA, IIB and IIC. The most common gases included in this classification are: acetone, ammonia, benzene, butane, butanol, butylic alcohol, ethane, ethanol, acetate of ethyl, gasoline, heptanes, hexanes, natural gas, methanol, oil naphtha, propane, propanol, toluene, esthyrene, solvents in general, acetaldehyde, cyclopropane, diethyl ether, ethane, monoxide of carbon, acetylene, butadiene, oxide of ethane, hydrogen, oxide of propylene and gases containing over 30% of hydrogen.

2. LOW VOLTAGE MOTORS FOR HAZARDOUS AREAS

- Flameproof - BFG Series
- Flameproof - BFGC Series
- Non Sparking - BFN Series



Low Voltage Motors

Totally enclosed IP55
Squirrel cage rotor



2.1 LOW VOLTAGE FLAMEPROOF MOTORS

2.1.1 PRODUCT INFORMATION

• Range

The present catalogue refers to TEFC Flameproof, Low Voltage, three phase, squirrel cage induction motors, ribbed frames, **BFGC** series with shaft height from 71 to 400 mm, and **BFG** series with shaft height 355, 400 and 450 mm, with the following powers:

Motor series BFGC (IIC)

KW	RPM
0,37 up to 450 kW	3000 RPM
0,25 up to 500 kW	1500 RPM
0,18 up to 450 kW	1000 RPM
0,12 up to 400 kW	750 RPM

Motor series BFG (IIB)

KW	RPM
250 up to 710 kW	3000 RPM
250 up to 900 kW	1500 RPM
200 up to 710 kW	1000 RPM
160 up to 630 kW	750 RPM

This range of motors up to 90kW comply with efficiency classification EFF2 as established between CEMEP and European Community.

• Particular specifications and standards related to hazardous areas

The motor series **BFGC** and **BFG** comply with European Standards **EN 50014** and **50018**, and are suitable for the following Groups of Gases and Temperature Classes:

- motor series **BFGC**: Gases of group **IIC**, and temperature class **T4**
- motor series **BFG**: Gases of group **IIB**, and temperature class **T4**

Under request, are available other temperature classes on these motor series.

These motor series have the **CE** marking in compliance with European Directive **94/4/EC (ATEX)**, and are classified as equipment group **II** (Surface Industries), suitable to use on the following zones:

- category **2**, for Zones **1** and **2** – Gases and Vapours (**G**), frame sizes up to **225** included.
- category **2**, for Zones **1** and **21** – Gases, Vapours and Dust (**GD**), frame sizes **250** and above.
- category **3**, for Zones **2** and **22** – Gases, Vapours and Dust (**GD**), frame sizes **250** and above.

Special design to suit Zone **21** will be available on request.

As standard execution, the motors are fitted with flameproof terminal boxes for gases of group **IIB** or **IIC**, with specification code **EEx d, IIB** or **EEx d, IIC**. Under request and as an alternative execution, these motors can be fitted with an Increased Safety terminal box complying with standard **EN 50019**. In this case the description code is **EEx de, IIB** or **EEx de, IIC**.

The flameproof motors in this catalogue are certified according to the above standards, by the Notified Bodies ISSEP in Belgium, (formerly INIEX) and PTB in Germany, both accredited organizations by EU.

• General Standards

The motor series **BFGC** and **BFG** are manufactured according to IEC and equivalent national standards:

- Rating and performance - **IEC 60034-1**
- Outputs and Dimensions - **IEC 60072** and **EN 50347**
- Mechanical protection - **IEC 60034-5**
- Cooling method - **IEC 60034-6**
- Mounting arrangements - **IEC 60034-7**
- Insulation class - **IEC 60085**
- Terminals identification and rotation - **IEC 60034-8**
- Noise limits - **IEC 60034-9**
- Balancing and vibration limits - **IEC 60034-14**

• Construction

- **Mechanical protection:** IP 55.
- **Insulation:** Class F.
- **Temperature rise:** 80 K.
- **Frames:** are in **cast iron**.
(except frames 180 - 225 which are in steel)
- **Terminal boxes:** are in **cast iron**.
- **Endshields:** are in **cast iron**.
- **Fans:**
 - Up to frame size 315 are in **polypropylene**.
(except frames 180 - 225 which are in steel)
 - On frames 355 and above, are in **polypropylene, aluminium alloy** or **fabricated steel**.
- **Fan cover:** in **cast iron** or **pressed steel**, capable to withstand impact of 7 Joule.
- **Finish:** industrial paint system, standard **color RAL 5010**.

• Voltage and frequency

• Frame sizes up to 315 included:

As standard, these motors are wound to operate on the following voltage range:

Δ 230 V - 50HZ | Up to and including 2,2 kW (*)
Y 400 V - 50HZ |

Δ 400 V - 50HZ | For powers 3 kW and above

(*) – under request available higher outputs

The electrical data described in the present catalogue, is based on the standard supply voltages shown above.

Depending on actual supply voltages/frequencies, this data may vary slightly but the variations will generally remain within the tolerances given by **IEC 60034-1**.

• Frame sizes 355 and above:

These motors are spot wound for fixed voltage and frequency. The electrical data presented in this catalogue refers to 400V, 50HZ. For both cases, and under request, are available voltages up to 690V, and frequencies 50 or 60HZ

• Basic design

• Cooling method:

IC 411 in accordance with standard **IEC 60034-6** - motors cooled by an external fan.

• Detachable feet and flanges:

Motors frame sizes 71 up to 160 have detachable feet and flanges from the motor frame, allowing stock modifications from foot to flange, or to foot and flange, without to disassemble the motor.

On frame sizes between 71 and 90, all flanges either B5 or B14 are interchangeable.

• Direction of rotation:

On frame sizes up to 315 (all speeds) and frames 355/400 (4 pole and above), as standard the motors are fitted with a bi-directional fan. On remaining frames the fans are unidirectional, leaving the factory as standard on CW direction viewed from shaft end with the phase sequence of U, V, and W. In these cases the direction of rotation must be specified with order.

• Electrical connection:

The terminal boxes are provided with 6 terminals, to connect the motors to the mains supply, allowing the star/delta starting for powers 3kW and above, except the motor size BFGC4 315.

- **Terminal boxes:**

On **BFGC** motors frame sizes 80 up to 225, the mains terminal box is located on top of motor frame, allowing rotation of every 90° to suit cable entry from 4 directions.

Other **BFGC** motors from 250 up to frame size **BFGC4** 315 and all **BFG** motors, the mains terminal box is located at top of motor frame and can be rotated by 180° to suit cable entry from left or right hand side.

On remaining **BFGC** motors, as standard, the mains terminal box is located on right hand side, with option of left hand side.

As standard, the supply cable entries are on the right hand side when viewed from shaft end.

The motors frame 71 have the terminal box on fixed position on top, with cable entry orientated to N.D.E. direction.

- **Protections/Auxiliaries:**

As standard the **BFG** and **BFGC** motors are fitted with 3 PTC thermistors, (triple, 2 wire), connected in to the mains terminal box.

Under request the motors can be fitted with anti-condensation heaters, or other type of protections on windings and connected in to auxiliary terminal box.

On **BFGC3** Series (frames 315-400), the auxiliary terminal box is located on opposite side of mains terminal box.

When thermal protections on bearings are required, the connections are made in to individual auxiliary terminal boxes located on D.E and N.D.E side as standard configuration.

It is also possible as option, to have these protections connected in to a single auxiliary terminal box used for other the protections/auxiliaries.

- **Earth connection:**

All motors are equipped with an earth screw inside of terminal box. A second external earth connection is also provided on motor frame, on foot or on flange, depending on mounting form.

- **Terminal box entries and cable glands:**

As standard, the motors are not supplied with cable glands and the number of entry holes and respective dimensions are described on outline dimensions tables. However, considering that the cable entry makes part of the protection enclosure it is recommended that the motors are supplied from factory fitted with cable glands. For this it is necessary to specify with the order the complete cabling details (number of cables, specification, section and diameters), so that the motors can be supplied from factory fitted with suitable glands.

- **Bearings:**

Up to frame size 225, the motors are equipped on both sides with deep groove ball bearings, sealed for life and pre-loaded by an axial spring washer.

The **BFGC** motors with frame sizes 250 and above are equipped with a roller bearing on one side and a deep groove ball bearing on the other.

On **BFG** series, the motors are equipped on both sides with deep groove ball bearings, pre-loaded by an axial spring washer or springs. As optional execution they can be fitted with sleeve bearings.

In the case of pulley/belt drive transmission, the drive end bearing can be replaced by a roller bearing.

On vertical mounting motors, the bearings can be thrust bearing types and are defined according to the axial loads involved on the application.

- **Lubrication:**

As standard, motors up to frame size 225 have the bearings sealed for life. However under request is available accessible lubrication on frames 160 and above.

For frames 250 and above, the motors are equipped with grease relief valves and relubrication nipples.

- **Balancing:**

The motors are dynamically balanced with half-key to meet the vibration limits of standard **IEC 60034-14**, grade **N**.

Grades R or S can be provided under request.

On frames 315 and above, the D.E. and N.D.E. endshields are designed to fit, under request, optional captors for vibration monitoring detectors or other devices.

2.1.2 ELECTRICAL DATA

II B T4

Flameproof Motors, BFG range - EEx d

Flameproof Motors with Increased Safety Terminal Box, BFG range - EEx de

Low Voltage

Output		Frame IEC	T_n (Nm)	I_s/I_n	T_s/T_n	T_{max}/T_n	Inertia J Kg m^2	Weight Kg	Sound dB (A)	400 V, 50Hz						I_n (A)	
										% of full load							
										Efficiency η			Power Factor Cos Φ				
										KW	HP		50	75	100		50
II Pole - 3000 min⁻¹																	
250	340	BFG6 355L	801	6,2	1,5	2,9	2,9	1450	80	2980	94,3	95,7	96,2	0,82	0,87	0,89	422
280	380	BFG6 355L	898	6,0	1,5	2,7	3,2	1600	80	2978	94,8	96,0	96,4	0,84	0,88	0,89	472
315	425	BFG6 355L	1009	6,6	1,8	3,0	3,4	1700	80	2980	95,1	96,2	96,6	0,83	0,88	0,90	523
355	480	BFG6 355L	1138	6,6	1,7	3,0	3,9	1750	80	2980	95,4	96,3	96,7	0,83	0,88	0,90	589
400	540	BFG6 355J	1281	7,3	2,2	3,1	4,5	2000	80	2982	96,0	96,8	97,1	0,84	0,89	0,90	661
450	610	BFG6 355J (1)	1441	7,5	2,2	3,2	5,0	2450	80	2983	96,0	96,8	97,1	0,84	0,88	0,90	744
450	610	BFG6 400L	1440	7,5	2,0	3,4	8,0	2450	80	2985	95,5	96,6	97,1	0,84	0,89	0,91	736
500	675	BFG6 400L	1600	7,5	1,9	3,2	8,4	2600	80	2985	95,9	96,9	97,3	0,85	0,89	0,91	816
560	755	BFG6 400J	1790	7,6	2,3	3,4	9,4	2950	80	2987	96,0	96,9	97,3	0,85	0,89	0,91	913
630	850	BFG6 400J (1)	2014	6,8	0,9	2,9	10,6	3300	80	2988	96,4	97,1	97,3	0,88	0,91	0,91	1027
630	850	BFGS6 450H (2)(3)	2014	6,9	0,9	2,6	19,9	4000	80	2988	96,0	97,0	97,4	0,88	0,91	0,91	1026
710	960	BFGS6 450H (2)(3)(4)	2268	7,0	0,9	2,6	21,2	4400	80	2989	96,3	97,2	97,6	0,88	0,90	0,91	669
IV Pole - 1500 min⁻¹																	
250	340	BFG6 355L	1605	6,7	2,0	2,3	5,3	1450	80	1488	94,3	95,5	96,0	0,74	0,82	0,85	442
280	380	BFG6 355L	1797	6,9	2,1	2,4	5,9	1450	80	1488	94,6	95,8	96,2	0,72	0,82	0,85	494
315	425	BFG6 355L	2022	6,9	2,1	2,4	6,6	1650	80	1488	95,0	96,0	96,4	0,75	0,82	0,85	555
355	480	BFG6 355L	2277	7,4	2,6	2,6	7,4	1850	80	1489	96,1	97,1	96,5	0,73	0,81	0,85	625
400	540	BFG6 355J	2567	7,0	2,5	2,5	8,7	2100	80	1488	95,5	96,3	96,6	0,78	0,84	0,87	687
450	610	BFG6 355J	2888	7,1	2,4	2,4	9,8	2250	80	1488	95,7	96,5	96,8	0,76	0,84	0,87	771
450	610	BFG6 400L	2884	6,7	1,6	2,6	12,7	2500	80	1490	96,1	96,6	97,0	0,80	0,85	0,87	770
500	675	BFG6 400L	3205	6,7	1,6	2,6	13,1	2700	80	1490	96,4	96,9	97,0	0,79	0,85	0,87	855
560	755	BFG6 400J	3589	6,8	1,7	2,5	13,8	2750	80	1490	96,5	97,0	97,1	0,78	0,85	0,87	957
630	850	BFG6 400J	4038	7,5	2,1	2,8	15,8	2950	80	1490	96,4	96,9	97,1	0,75	0,83	0,87	1076
710	960	BFG6 400J (1)(4)	4551	6,5	1,8	2,0	16,3	3050	80	1490	95,8	96,5	96,6	0,79	0,85	0,86	715
710	960	BFG6 450H (4)	4545	6,9	2,0	2,7	20,1	4100	86	1492	95,9	96,8	97,2	0,78	0,85	0,87	703
800	1080	BFG6 450H (4)	5121	7,0	2,0	2,9	22,6	4600	86	1492	96,2	97,0	97,3	0,78	0,85	0,87	791
900	1220	BFG6 450H (3)(4)	5761	7,0	1,2	2,0	25,1	5400	86	1492	96,5	97,1	97,3	0,83	0,86	0,87	890
VI Pole - 1000 min⁻¹																	
200	270	BFG6 355L	1927	7,0	1,9	2,2	8,7	1550	76	991	94,0	95,2	95,4	0,73	0,80	0,83	365
250	340	BFG6 355L	2409	7,0	1,9	2,1	10,4	1700	76	991	94,6	95,6	95,8	0,72	0,80	0,83	454
280	380	BFG6 355L	2696	7,2	2,3	2,4	11,8	1950	76	991	94,8	95,8	96,0	0,72	0,80	0,84	502
315	425	BFG6 355L	3039	7,0	2,3	2,5	13,1	2150	76	990	95,1	95,9	96,0	0,74	0,82	0,85	558
355	480	BFG6 355J	3424	7,0	2,4	2,5	14,8	2450	76	990	95,3	96,0	96,1	0,74	0,82	0,85	628
400	540	BFG6 355J (1)	3855	7,6	2,7	2,7	16,7	2750	76	991	95,4	96,1	96,3	0,73	0,81	0,85	706
400	540	BFG6 400 L	3843	7,2	2,0	2,6	21,4	2400	76	994	95,4	96,2	96,5	0,73	0,81	0,84	713
450	610	BFG6 400L	4319	7,3	2,4	2,7	25,0	2800	76	995	95,2	96,2	96,5	0,71	0,80	0,84	802
500	675	BFG6 400J	4804	7,4	2,4	2,6	28,1	3000	76	994	95,7	96,4	96,6	0,77	0,83	0,85	879
560	755	BFG6 400J (1)(3)	5375	7,4	2,2	2,4	27,8	3350	76	995	95,5	96,4	96,6	0,75	0,82	0,85	985
560	755	BFG6 450H (3)	5380	5,8	1,1	2,6	42,9	4200	78	994	95,9	96,7	97,0	0,79	0,85	0,86	969
630	850	BFG6 450H (3)	6053	5,5	1,0	2,2	47,4	4650	78	994	96,1	96,8	97,0	0,80	0,85	0,86	1090
710	960	BFG6 450H (3)(4)	6821	6,0	1,2	2,2	52,9	5050	78	994	96,2	96,9	97,2	0,78	0,84	0,86	711
VIII Pole - 750 min⁻¹																	
160	215	BFG6 355L	2059	6,5	1,7	2,0	12,4	1300	70	742	94,0	94,9	95,1	0,70	0,78	0,81	300
200	270	BFG6 355L	2571	6,5	1,9	2,1	14,6	1500	70	743	94,3	95,2	95,4	0,68	0,77	0,81	374
250	340	BFG6 355L	3213	6,5	2,0	2,2	18,1	1850	70	743	95,7	96,5	96,6	0,68	0,77	0,81	462
280	380	BFG6 355J	3599	6,5	1,9	2,1	21,8	2200	70	743	95,1	95,8	95,8	0,70	0,78	0,81	521
315	425	BFG6 400L	3589	7,0	2,8	2,8	25,7	2250	70	745	95,6	96,5	96,7	0,68	0,77	0,82	574
355	480	BFG6 400L	4038	7,0	2,9	2,9	28,8	2500	70	745	94,9	95,8	96,1	0,66	0,76	0,81	659
400	540	BFG6 400L	4551	7,0	3,1	3,1	31,1	2750	70	745	95,2	95,9	96,1	0,67	0,76	0,81	742
450	610	BFG6 400J (3)	5121	7,5	3,4	3,4	37,7	3350	70	746	95,6	96,3	96,5	0,68	0,78	0,82	821
500	675	BFG6 450H (3)	5761	7,2	2,1	2,5	65,4	4600	76	746	95,0	96,0	96,3	0,73	0,80	0,82	911
560	755	BFG6 450H (3)	6401	7,2	2,1	2,4	73,5	5100	76	746	95,0	96,0	96,3	0,74	0,80	0,82	1020
630	850	BFG6 450H (1)(3)	7169	7,4	2,2	2,5	80,8	5400	76	746	95,0	96,0	96,3	0,74	0,80	0,82	1146

(1) - Temperature rise class F at full load (2) - Standard motor with sleeve bearings (3) - Copper Rotor (4) - Rated current at 690V

T_n = Full load torque T_{max}/T_n = Breakdown torque Standard voltage, connection and frequency: 400 V Δ 50Hz
 I_s/I_n = Locked rotor current I_n = Full load current 690V Y 50Hz
 T_s/T_n = Locked rotor torque 480V Δ 60Hz

- Notes:**
- The motors can also operate on a 60Hz supply, except frame 450, 2 pole.
 - To obtain this change in the electrical data for 60 Hz, please refer to any local WEG office or its representative.
 - The indicated values for sound pressure levels are @ 1m no load, with 3 dB(A) tolerance.
 - All values according to IEC 60034-1 tolerances.
 - This data can be changed without prior notice.

2.1.3 ELECTRICAL DATA

Flameproof Motors, BFGC range - EEx d

Flameproof Motors with Increased Safety Terminal Box, BFGC range - EEx de



Output		Frame IEC	T _n (Nm)	I _s /I _n	T _s /T _n	T _{max} /T _n	Inertia J Kgm ²	Weight Kg	rpm min ⁻¹	400 V, 50Hz						
										% of full load						I _n (A)
										Efficiency η			Power Factor Cos φ			
KW	HP	50	75	100	50	75	100									

II Pole - 3000 min-1

0.37	0.50	BFGC8 71M	1.26	4.2	3.0	2.8	0.00034	15	2800	56	59.5	59.5	0.55	0.83	0.86	1
0.55	0.75	BFGC8 71M	1.87	5.5	2.9	3.1	0.00042	16	2805	67.0	70	70.0	0.55	0.83	0.86	1
0.75	1.0	BFGC8 80M	2.6	5.4	2.3	2.6	0.00063	24	2790	69.0	72.0	72.0	0.60	0.88	0.89	2
1.1	1.5	BFGC8 80M	3.8	6.1	2.6	2.9	0.00079	26	2790	75.0	77.0	77.0	0.57	0.84	0.87	2
1.5	2.0	BFGC8 90S	5.1	6.3	2.5	2.8	0.00124	32	2830	75.0	77.0	77.0	0.57	0.84	0.87	3
2.2	3.0	BFGC8 90L	7.4	6.9	2.8	2.7	0.00155	34	2845	80.5	82.0	82.0	0.58	0.85	0.88	4
3	4	BFGC8 100L	10.0	7.1	2.5	2.9	0.00251	42.5	2865	81.0	83.0	83.5	0.57	0.84	0.87	6
4	5.5	BFGC8 112M	13.2	7.6	2.5	3.0	0.00451	58	2890	83.0	84.0	84.5	0.58	0.85	0.88	8
5.5	7.5	BFGC8 132S	18.1	6.6	2.7	2.8	0.00967	77	2910	83.0	84.0	84.5	0.58	0.85	0.88	11
7.5	10	BFGC8 132S	24.5	7.9	2.7	3.1	0.01225	84	2925	84.0	85.0	85.5	0.60	0.88	0.89	15
11	15	BFGC8 160M	36	6.9	2.8	3.0	0.02943	148	2940	80.0	81.0	80.6	0.58	0.85	0.88	22
15	20	BFGC8 160M	49	7.7	3.0	3.2	0.03912	166	2940	81.0	83.0	83.0	0.65	0.89	0.92	29
18.5	25	BFGC8 160L	60	8.0	3.3	3.0	0.0459	178	2945	84.5	86.0	86.1	0.64	0.88	0.91	32
22	30	BFGC7 180M	72	7.2	2.4	2.9	0.06151	205	2930	90.0	92.0	92.0	0.60	0.88	0.89	39
30	40	BFGC7 200L	98	7.3	2.1	2.8	0.10442	240	2930	91.0	93.0	93.0	0.58	0.85	0.88	53
37	50	BFGC7 200L	121	7.3	2.2	2.9	0.12739	250	2930	91.0	93.0	93.5	0.60	0.88	0.89	64
45	60	BFGC7 225M	146	7.2	2.0	2.6	0.22155	375	2945	91.0	93.0	93.5	0.58	0.85	0.88	79
55	75	BFGC4 250M	178	6.8	2.1	2.7	0.3200	450	2958	90.9	92.4	93.0	0.87	0.91	0.91	94
75	100	BFGC4 280SA	242	8.2	2.9	3.2	0.3950	580	2963	91.3	93.3	94.0	0.82	0.88	0.90	128
90	120	BFGC4 280MA	290	8.4	2.9	3.0	0.5000	620	2959	93.1	94.3	94.5	0.88	0.90	0.90	153
110	150	BFGC4 315SA (1)	353	6.1	1.7	2.3	1.1000	810	2973	92.8	94.2	94.6	0.85	0.88	0.89	189
132	180	BFGC4 315MA (1)	423	6.8	2.0	2.2	1.2440	890	2977	93.4	94.7	95.1	0.83	0.88	0.89	225
160	215	BFGC3 315MA (2)	513	6.8	1.9	3.1	1.6080	1050	2978	93.7	95.1	95.7	0.81	0.88	0.90	268
200	270	BFGC3 315MA (2)	641	7.0	1.7	3.2	2.0400	1150	2978	94.6	95.4	96.0	0.84	0.89	0.91	330
250	340	BFGC3 315LA (2)	801	7.5	1.8	2.9	2.3400	1250	2981	94.7	95.7	96.0	0.82	0.89	0.91	413
250	340	BFGC3 355MA	801	6.2	1.5	2.9	2.9100	1450	2980	94.2	95.5	96.0	0.82	0.87	0.89	422
280	380	BFGC3 355MA	898	6.0	1.5	2.7	3.2400	1600	2978	94.6	95.8	96.2	0.84	0.88	0.89	472
315	425	BFGC3 355MA	1009	6.6	1.8	3.0	3.4200	1700	2980	94.9	96.0	96.4	0.83	0.88	0.90	524
355	480	BFGC3 355LA	1138	6.6	1.7	3.0	3.8500	1750	2980	95.2	96.2	96.5	0.83	0.88	0.90	590
355	480	BFGC3 400LA	1136	7.5	1.8	3.4	6.3900	2500	2985	95.8	96.7	97.1	0.84	0.89	0.90	586
400	540	BFGC3 400LA	1280	7.1	1.7	3.1	7.1300	2800	2984	96.1	96.9	97.2	0.86	0.89	0.90	660
450	610	BFGC3 400LA	1440	7.5	2.0	3.4	8.0000	2450	2985	95.3	96.4	96.9	0.84	0.89	0.91	737

IV Pole - 1500 min-1

0.25	0.33	BFGC8 71M	1.8	3.8	2.2	2.5	0.00051	15	1355	56.0	59.5	59.5	0.43	0.75	0.8	1
0.37	0.50	BFGC8 71M	2.6	3.8	2.3	2.9	0.00063	16	1350	60.0	63.0	63.0	0.45	0.76	0.81	1
0.55	0.75	BFGC8 80M	3.7	4.6	2.3	2.7	0.00098	24	1410	69.0	72.0	72.0	0.45	0.76	0.81	1
0.75	1.00	BFGC8 80M	5.1	5.0	2.4	2.6	0.00125	26	1400	74.0	76.0	76.0	0.43	0.75	0.8	2
1.1	1.50	BFGC8 90S	7.5	5.4	2.3	2.4	0.00204	32	1410	78.0	79.0	79.0	0.51	0.81	0.84	2
1.5	2.00	BFGC8 90L	10.2	5.8	2.5	2.6	0.0026	35	1405	78.0	79.0	79.0	0.51	0.81	0.84	3
2.2	3.00	BFGC8 100L	15.0	5.1	2.1	2.2	0.00388	42.5	1405	78.0	79.0	79.0	0.51	0.81	0.84	5
3	4.00	BFGC8 100L	20.5	5.3	2.1	2.3	0.00499	46	1400	80.0	81.0	81.0	0.51	0.81	0.84	6
4	5.50	BFGC8 112M	26.8	6.6	2.2	2.8	0.01014	60	1430	84.0	85.0	85.0	0.51	0.81	0.84	8
5.5	7.50	BFGC8 132S	37	5.5	2.3	2.7	0.02113	84	1435	83.0	84.0	84.5	0.55	0.83	0.86	11
7.5	10.00	BFGC8 132M	50	6.5	2.8	2.9	0.02793	93.5	1445	85.0	87.0	87.0	0.53	0.82	0.85	15
11	15.0	BFGC8 160M	72	6.7	2.7	2.8	0.05417	159	1470	85.0	87.0	87.0	0.49	0.80	0.83	22
15	20	BFGC8 160L	98	6.3	2.6	2.7	0.07116	178	1460	85.0	87.0	87.5	0.53	0.82	0.85	29
18.5	25	BFGC7 180M	121	6.5	2.5	2.3	0.1129	215	1460	90.0	92.0	92.0	0.51	0.81	0.84	35
22	30	BFGC7 180L	144	6.4	2.5	2.3	0.1339	236	1460	90.0	92.0	92.5	0.55	0.83	0.86	40
30	40	BFGC7 200L	196	6.2	2.2	3.0	0.21298	250	1460	91.0	93.0	93.0	0.49	0.80	0.83	56
37	50	BFGC7 225S	242	6.3	2.2	2.8	0.36225	310	1465	91.0	93.0	93.5	0.51	0.81	0.84	68
45	60	BFGC7 225M	293	6.2	2.3	2.8	0.42845	390	1465	92.0	94.0	94.0	0.49	0.80	0.83	83
55	75	BFGC4 250M	354	6.6	1.8	2.4	0.6700	465	1482	91.7	92.7	93.0	0.71	0.79	0.83	103
75	100	BFGC4 280SA	482	6.9	1.8	2.2	0.9608	600	1487	93.9	94.3	94.0	0.83	0.85	0.85	135
90	120	BFGC4 280MA	581	6.9	1.9	2.3	1.1300	650	1480	93.4	93.6	94.0	0.77	0.84	0.86	161
110	150	BFGC4 315SA (1)	711	7.5	3.0	3.2	1.3500	850	1477	94.0	94.6	94.5	0.73	0.81	0.84	200
132	180	BFGC4 315MA (1)	854	7.6	3.0	3.3	1.6100	900	1476	94.4	94.8	94.6	0.76	0.83	0.85	237
160	215	BFGC3 315MA (2)	1029	6.8	2.0	2.5	2.6200	1250	1485	93.7	94.8	95.1	0.74	0.82	0.86	282
200	270	BFGC3 315MA (2)	1287	6.9	2.1	2.5	2.6180	1350	1484	93.7	94.8	95.1	0.73	0.81	0.85	357
250	340	BFGC3 315LA (2)	1608	7.5	2.5	2.5	3.7400	1450	1485	94.7	95.6	95.8	0.75	0.83	0.86	438
250	340	BFGC3 355MA	1605	6.7	2.0	2.3	5.2500	1750	1488	94.1	95.3	95.8	0.74	0.82	0.85	443
280	380	BFGC3 355MA	1797	6.9	2.1	2.4	5.8600	1800	1488	94.4	95.6	96.0	0.72	0.82	0.85	495
315	425	BFGC3 355MA	2022	6.9	2.1	2.4	6.5700	1950	1488	94.8	95.8	96.2	0.75	0.82	0.85	556
355	480	BFGC3 355MA	2277	7.4	2.6	2.6	7.4100	2150	1489	95.9	96.9	96.3	0.73	0.81	0.85	626
400	540	BFGC3 355LA	2567	7.0	2.5	2.5	8.7100	2400	1488	95.3	96.1	96.4	0.78	0.84	0.87	688
400	540	BFGC3 400LA	2564	6.3	1.5	2.5	11.4000	2600	1490	94.9	95.8	96.1	0.81	0.86	0.87	691
450	610	BFGC3 400LA	2884	6.7	1.6	2.6	12.7000	2900	1490	95.9	96.4	96.8	0.80	0.85	0.87	771
500	675	BFGC3 400LA	3205	6.7	1.6	2.6	13.1000	3100	1490	96.2	96.7	96.8	0.79	0.85	0.87	857

(1) - BFGC4 Series

(2) - BFGC3 Series

T_n = Full load torque

T_{max} / T_n = Breakdown torque

Standard voltage, connection and frequency: 400 V Δ 50Hz

I_s / I_n = Locked rotor current

I_n = Full load current

690V Y 50Hz

T_s / T_n = Locked rotor torque

480V Δ 60Hz

Notes: - The motors can also operate on a 60Hz supply.

- To obtain this change in the electrical data for 60 Hz, please refer to any local WEG office or its representative.

- The indicated values for sound pressure levels are @ 1m no load, with 3 dB(A) tolerance.

- All values according to IEC 60034-1 tolerances.

- This data can be changed without prior notice.



Output		Frame IEC	T _n (Nm)	I _s /I _n	T _s /T _n	T _{max} /T _n	Inertia J Kgm ²	Weight Kg	rpm min ⁻¹	400 V, 50Hz						
										% of full load						I _n (A)
										Efficiency η			Power Factor Cos φ			
KW	HP							50	75	100	50	75	100			

VI Pole - 1000 min-1

0.18	0.25	BFGC8 71M	1.9	3.1	2.1	2.3	0.00081	15	930	56.0	59.5	60.0	0.3	0.55	0.65	0.7
0.25	0.33	BFGC8 71M	2.6	3.7	2.2	2.5	0.00101	16	940	59.5	63.5	64.0	0.3	0.59	0.67	0.9
0.37	0.50	BFGC8 80M	3.8	3.6	2.3	2.5	0.00191	25	925	62.0	66.5	67.0	0.34	0.65	0.72	1.1
0.55	0.75	BFGC8 80M	5.7	4.1	2.35	2.5	0.00239	26.5	915	69.0	72.0	72.0	0.36	0.67	0.74	1.5
0.75	1.00	BFGC8 90S	7.8	3.7	1.8	2.1	0.00323	32	915	67.0	70.0	70.0	0.36	0.67	0.74	2.1
1.1	1.50	BFGC8 90L	11.5	4.1	2.1	2.3	0.00419	35	915	71.0	73.0	73.0	0.35	0.66	0.73	3.0
1.5	2.00	BFGC8 100L	15.4	4.7	2.2	2.3	0.00657	46	930	74.0	76.0	76.0	0.4	0.72	0.77	3.7
2.2	3.00	BFGC8 112M	21.9	6.1	2.6	2.7	0.0158	60	960	80.5	82.0	82.0	0.41	0.73	0.78	5.0
3	4.00	BFGC8 132S	29	6.3	2.3	2.5	0.02722	84	975	81.0	83.0	83.5	0.42	0.73	0.79	6.6
4	5.50	BFGC8 132M	40	6.3	2.4	2.9	0.03229	88	960	81.0	83.0	83.0	0.43	0.75	0.8	8.8
5.5	7.50	BFGC8 132M	55	6.1	2.3	2.9	0.03838	95	955	81.0	83.0	83.5	0.45	0.76	0.81	11.8
7.5	10.00	BFGC8 160M	74	6.7	2.7	2.4	0.08121	161	970	84.5	86.0	86.0	0.43	0.75	0.8	15.8
11	15.00	BFGC8 160L	109	6.0	2.2	2.3	0.10916	182	965	85.5	88.0	88.5	0.4	0.72	0.77	23.5
15	20	BFGC7 180L	148	5.2	1.9	2.3	0.227	236	965	86.0	89.0	89.5	0.41	0.73	0.78	31
18.5	25	BFGC7 200L	183	6.0	1.9	2.4	0.24369	240	965	89.0	91.0	91.0	0.45	0.76	0.81	36
22	30	BFGC7 200L	219	6.0	1.9	2.4	0.27888	250	965	89.0	91.0	91.5	0.45	0.76	0.81	43
30	40	BFGC7 225M	293	5.8	1.8	2.5	0.66117	390	975	90.0	92.0	92.5	0.49	0.8	0.83	56
37	50	BFGC4 250M	359	6.2	2.4	2.6	0.6800	450	984	89.0	90.3	90.2	0.64	0.75	0.80	74
45	60	BFGC4 280SA	437	6.7	2.6	2.7	0.8200	610	983	90.0	91.0	90.8	0.68	0.77	0.81	88
55	75	BFGC4 280MA	533	7.0	2.3	2.3	1.0700	650	985	92.8	92.8	92.3	0.72	0.80	0.82	105
75	100	BFGC4 315SA (1)	727	7.3	2.8	3	1.9500	700	985	90.0	91.5	91.7	0.59	0.70	0.76	155
90	120	BFGC4 315MA (1)	874	7.0	2.4	2.4	2.2900	850	983	92.5	93.4	93.4	0.94	0.96	0.86	162
110	150	BFGC3 315MA (2)	1063	7.4	2.6	2.9	4.3400	1150	988	92.6	93.9	94.2	0.71	0.80	0.83	203
132	180	BFGC3 315MA (2)	1276	7.4	2.5	2.6	4.9200	1250	988	93.0	94.2	94.4	0.71	0.80	0.83	243
160	215	BFGC3 315MA (2)	1547	7.4	2.4	2.5	6.1700	1350	988	93.7	94.6	94.6	0.73	0.81	0.84	291
200	270	BFGC3 315LA (2)	1935	7.3	2.4	2.5	7.6200	1500	987	94.2	95.0	94.9	0.74	0.81	0.84	362
200	270	BFGC3 355MA	1927	7.0	1.9	2.2	8.6900	1850	991	93.8	95.0	95.2	0.73	0.80	0.83	365
250	340	BFGC3 355MA	2409	7.0	1.9	2.1	10.3700	2000	991	94.4	95.4	95.6	0.72	0.80	0.83	455
280	380	BFGC3 355MA	2698	7.2	2.3	2.4	11.8200	2250	991	94.6	95.6	95.8	0.72	0.80	0.84	502
315	425	BFGC3 355LA	3039	7.0	2.3	2.5	13.0800	2450	990	94.9	95.7	95.8	0.74	0.82	0.85	558
315	425	BFGC3 400LA	3026	7.0	1.9	2.6	17.5100	2700	994	95.4	96.1	96.2	0.76	0.83	0.85	556
355	480	BFGC3 400LA	3411	7.0	1.8	2.4	19.5200	2900	994	95.7	96.3	96.4	0.78	0.83	0.85	625
400	540	BFGC3 400LA	3843	7.2	2	2.6	21.3900	3100	994	95.2	96.0	96.3	0.73	0.81	0.84	714
450	610	BFGC3 400LA	4319	7.3	2.4	2.7	25.0200	3250	995	95.0	96.0	96.3	0.71	0.80	0.84	803

VIII Pole - 750 min-1

0.12	0.16	BFGC8 71M	1.75	2.4	1.8	2.1	0.00101	16	655	42	44.5	45.0	0.34	0.64	0.71	0.5
0.18	0.25	BFGC8 80M	2.53	2.9	2.1	2.2	0.00191	25	680	57	60	61.0	0.3	0.55	0.65	0.7
0.25	0.33	BFGC8 80M	3.52	3.1	2.1	2.3	0.00239	26.5	680	54	57	58.0	0.32	0.61	0.68	0.9
0.37	0.50	BFGC8 90S	5.2	3.0	1.7	2	0.00323	32	685	61.0	65.0	66.0	0.3	0.55	0.65	1.3
0.55	0.75	BFGC8 90L	7.7	3.1	1.75	2.1	0.00419	35	685	66.0	69.0	69.0	0.3	0.57	0.66	1.8
0.75	1.00	BFGC8 100L	10.4	3.5	1.8	2.1	0.00657	42.5	690	66.0	69.0	69.0	0.33	0.62	0.69	2.3
1.1	1.50	BFGC8 100L	15.0	3.8	1.9	2.2	0.00857	46	695	67.0	70.0	70.0	0.34	0.63	0.70	3.3
1.5	2.00	BFGC8 112M	20.2	4.3	2	2.5	0.0158	60	710	76.0	78.0	78.0	0.3	0.59	0.67	4.2
2.2	3.00	BFGC8 132S	30	4.3	1.9	2.2	0.02606	79	710	78.0	79.0	79.0	0.36	0.67	0.74	5.5
3	4.00	BFGC8 132M	40	4.8	2.1	2.3	0.03446	85	710	79.0	80.0	80.0	0.38	0.7	0.76	7.2
4	5.50	BFGC8 160M	53	4.8	1.8	2.3	0.0688	146	720	81.0	83.0	82.6	0.34	0.64	0.71	10.0
5.5	7.50	BFGC8 160M	74	4.8	1.8	2.1	0.08939	160	715	83.0	84.0	84.0	0.34	0.64	0.71	13.4
7.5	10.00	BFGC8 160L	99	5.8	2.3	2.1	0.12027	182	725	84.5	86.0	86.5	0.36	0.69	0.75	16.7
11	15.00	BFGC7 180L	147	4.2	1.8	2.5	0.227	236	715	85.0	87.0	86.7	0.36	0.67	0.74	25.0
15	20	BFGC7 200L	196	4.5	2.1	2.5	0.37827	250	720	89.0	91.0	91.0	0.47	0.78	0.82	29
18.5	25	BFGC7 225S	249	4.6	2.1	2.6	0.57008	310	710	89.0	91.0	91.0	0.42	0.73	0.79	37
22	30	BFGC7 225M	294	4.6	2.1	2.6	0.67806	390	715	89.0	91.0	91.5	0.4	0.72	0.77	45
30	40	BFGC4 250M	389	6.0	2.2	2.2	0.8160	450	737	90.5	91.2	90.8	0.59	0.69	0.74	64
37	50	BFGC4 280SA	479	5.7	2.4	2.4	0.9900	610	737	89.4	90.3	90.0	0.59	0.69	0.74	80
45	60	BFGC4 280MA	582	6.5	2.6	2.6	1.2600	630	739	91.1	92.1	92.0	0.57	0.68	0.73	97
55	75	BFGC4 315SA (1)	713	5.3	2.3	2.5	1.9500	800	737	88.8	90.7	91.1	0.54	0.65	0.71	123
75	100	BFGC4 315MA (1)	973	5.2	2.6	2.6	2.4320	900	736	90.8	92.0	92.1	0.56	0.66	0.71	166
90	120	BFGC3 315MA (2)	1161	7.1	2.8	2.9	5.4900	1150	740	92.6	93.7	93.8	0.64	0.74	0.79	175
110	150	BFGC3 315MA (2)	1420	7.1	2.8	2.9	6.6500	1250	740	93.1	93.8	93.8	0.66	0.75	0.79	214
132	180	BFGC3 315MA (2)	1704	7.0	2.5	2.5	7.9100	1300	740	92.7	93.8	93.9	0.67	0.76	0.79	257
160	215	BFGC3 315MA (2)	2065	7.2	2.6	2.6	9.3200	1450	740	92.6	93.8	94.0	0.65	0.75	0.79	311
160	215	BFGC3 355MA	2059	6.5	1.7	2	12.4300	1900	742	93.8	94.7	94.9	0.70	0.78	0.81	300
200	270	BFGC3 355MA	2571	6.5	1.9	2.1	14.5600	2000	743	94.1	95.0	95.2	0.68	0.77	0.81	374
250	340	BFGC3 355LA	3213	6.5	2	2.2	18.0500	2350	743	95.5	96.3	96.4	0.68	0.77	0.81	462
280	380	BFGC3 400LA	3589	7.0	2.2	2.5	26.7300	2600	745	95.4	96.0	96.0	0.73	0.80	0.82	513
315	425	BFGC3 400LA	4038	7.0	2.8	2.8	25.6760	3000	745	95.4	96.3	96.5	0.68	0.77	0.82	575
355	480	BFGC3 400LA	4551	7.0	2.9	2.9	28.7530	3200	745	94.7	95.6	95.9	0.66	0.76	0.81	660
400	540	BFGC3 400LA	5128	7.0	3.1	3.1	31.0930	3450	745	95.0	95.7	95.9	0.67	0.76	0.81	743

(1) - BFGC4 Series (2) - BFGC3 Series

T_n = Full load torque
 I_s/I_n = Locked rotor current
 T_s/T_n = Locked rotor torque

T_{max}/T_n = Breakdown torque
 I_n = Full load current

Standard voltage, connection and frequency: 400 V Δ 50Hz
 690V Y 50Hz
 480V Δ 60Hz

- Notes:** - The motors can also operate on a 60Hz supply.
 - To obtain this change in the electrical data for 60 Hz, please refer to any local WEG office or its representative.
 - The indicated values for sound pressure levels are @ 1m no load, with 3 dB(A) tolerance.
 - All values according to IEC 60034-1 tolerances.
 - This data can be changed without prior notice.

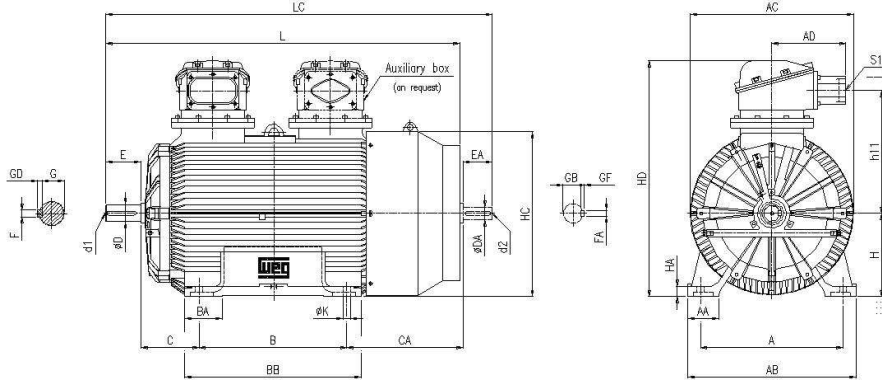
2.1.4 OUTLINE DIMENSIONS

Flameproof Motors, BFG range - EEx d

Flameproof Motors with Increased Safety Terminal Box, BFG range - EEx de

II B T4

Low Voltage



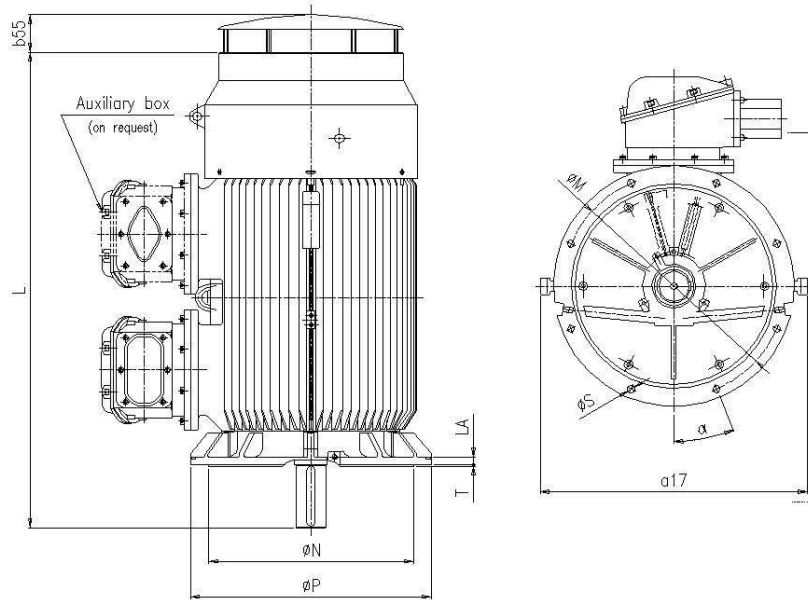
Frame	A	AA	AB	AC	AD	B	BA	BB	C	CA	Shaft dimensions												H	HA	HC	HD	H1	K	L	LC	S1	d1	d2	Bearings	
											D	E	F	G	GD	DA	EA	FA	GB	GF	D.E.	N.D.E.													
355L (1)	610	130	730	705	356	630	170	750	254	515	100m6	210	28	90	16	80m6	170	22	71	14	355	45	707,5	1051	555	28	1594	1779	DS M24	DS M20	6222 C3	(3)			
355L (2)											75m6	140	20	67,5	12	60m6	140	18	53	11							1524	1679			6219 C3		6219 C3		
355J (1)											100m6	210	28	90	16	80m6	170	22	71	14							1764	1949			6222 C3				
355J (2)											75m6	140	20	67,5	12	60m6	140	18	53	11							1694	1849			6219 C3				
400L (1)	686	150	810	785,5	356	710	180	850	280	560	110m6	210	28	100	16	80m6	170	22	71	14	400	50	793	1132	590	35	1745	1930	DS M24	DS M20	6224 C3	(4)			
400L (2)											80m6	170	22	71	14	60m6	140	18	53	11							1705	1860			6219 C3				
400J (1)											110m6	210	28	100	16	80m6	170	22	71	14							1935	2120			6224 C3				
400J (2)											80m6	170	22	71	14	60m6	140	18	53	11							1895	2050			6219 C3				
450K (1)	750	180	940	896	1120	230	1090	250	515	120m6	210	32	109	18	100m6	210	28	90	16	450	60	898	1187	596	42	1909	2134	DS M24	DS M20	6326 C3	(4)				
450K (2)											85m6	170	22	76	14	75m6	140	20	67,5							12	-			-		Sleeve Bearing			
450H (1)											120m6	210	32	109	18	100m6	210	28	90							16	2129			2354		6326 C3			
450H (2)											85m6	170	22	76	14	75m6	140	20	67,5							12	-			-		Sleeve Bearing			

NOTES: (1) 1500, 1000 and 750 rpm

(2) 3000 rpm

(3) or 6222 C3 for 4 poles and plus machines, N.D.E.

(4) For 60 Hz please refer to us



Frame	"FF" flange dimensions										Nr. holes	a17	b55
	Flange	L	LA	M	N	P	T	S	α				
355 L (1)	FF-740	1579	25	740	680	800	6	24	22,5°	8	910	125	
355 L (2)		1509											
355 J (1)		1749											
355 J (2)		1679											
400 L (1)	FF-940	1730	28	940	880	1000	6	28	22,5°	8	980	131	
400 L (2)		1690											
400 J (1)		1920											
400 J (2)		1880											
450 K (1)	FF-1080	1898	30	1080	1000	1150	6	28	22,5°	8	1140	151	
450 K (2)		-											
450 H (1)		2118											
450 H (2)		-											

NOTES: (1) 1500, 1000 and 750 rpm

(2) 3000 rpm

Notes:

- All the dimensions are in millimeters.
- For all vertical applications or unusual coupling conditions, the customer shall inform the load figure with the inquiry/order.
- Construction drawings with guaranteed values are available under request.
- Shaft dimensions for 2 poles motors, only for direct coupling.
- Drawings for frames 450, 2 poles motors are available on request.
- Execution with auxiliary terminal box and second shaft end available on request.
- "EExde" execution dimensions under request.
- For vertical mounting, the D.E. bearing is replaced by an angular contact type.
- The average values shown are subject to change without prior notice.



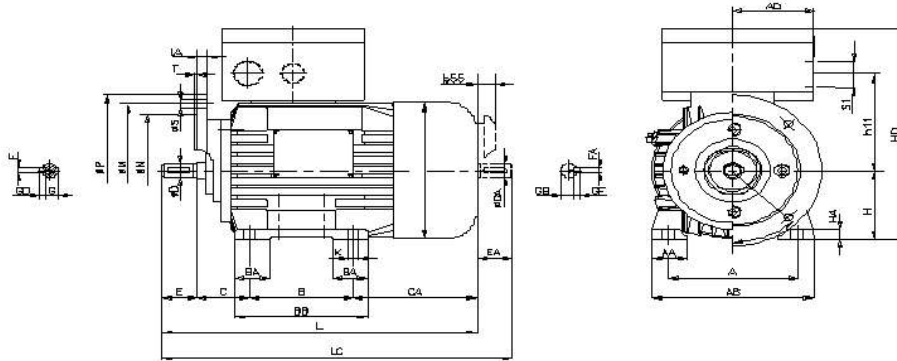
2.1.5 OUTLINE DIMENSIONS - FRAME SIZES 71 TO 225

Flameproof Motors, BFGC range - EEx d

Flameproof Motors with Increased Safety Terminal Box, BFGC range - EEx de

II CT4

Low Voltage



THIS DRAWING IS APPLICABLE TO IM1001, IM3001 OR IM2001 MOUNTING FORMS

Frame	A	AA	AB	AC	AD	B	BA	BB	C	CA	Shaft Dimensions										H	HA	HD	h11	K	L	LC	S1	d1	d2	Bearings		
											D	E	F	G	GD	DA	EA	FA	GB	GF											D.E.	N.D.E.	
71	112	30	140	139	-	90	30	114	45	106	14	30	5	11	5	14	30	5	11	5	71	218	99	9	271	307	M5	M5	6203	6203			
80	125	32	160	157		100	35	130	50	127	19	40	6	16	6	19	40	6	15.5	6	80	249	132	10	317	362	M6	M6	6204	6204			
90S	140	35	180	177	79	125	60	155	56	129	24	50	8	20	7	24	50	8	20	7	90	17	288	153	10	140	360	415	1xM25x1,5	M8	M8	6205	6205
90L																																	
100L	160	45	205	195		140	45	175	63	153	28	60	8	24	7	28	60	8	24	7	100	112	15	311	149	416	481	1xM32x1,5	M10	M10	6206	6206	
112M	190	50	235	219		140	180	70	168	28	60	8	24	7	28	60	8	24	7	100	112	15	311	149	416	481	1xM32x1,5	M10	M10	6206	6206		
132S	216	55	266	258	79	178	75	218	89	225	38	80	10	33	8	38	80	10	33	8	132	18	350	181	12	619	534	619	2xM32x1,5	M12	M12	6208	6208
132M																																	
160M	254	60	312	310	144	210	90	300	108	239	42	12	37	8	42	110	12	37	8	160	436	181	14	785	667	785	2xM40x1,5	M16	M16	6309	6309		
160L																																	
180M	279	70	348	352	99	241	80	295	121	249	48	110	14	42	9	48	110	14	42	9	180	492	260	14	841	721	841	2xM40x1,5	M16	M16	6310	6310	
180L																																	
200L	318		398	392		305		395	133	269	55	16	49	10	55		16	49	10	200	543	260	18	937	817	937					6312	6312	
225S	356	80	436	438	128	286	90	346	248	60	140	18	53	11	60	140	18	53	11	225	593	285	18	973	823	973	2xM50x1,5	M20	M20	6313	6313		
225M (1)																																	
225M (2)																																	

NOTES: (1) 1500, 1000 and 750 rpm (2) 3000 rpm

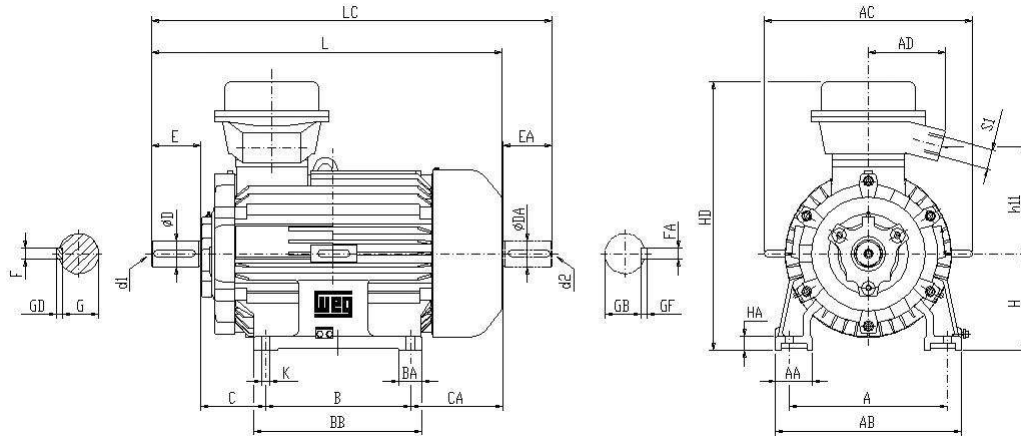
Frame	"FF" Flange Dimensions										Nr. holes
	Flange	LA	M	N	P	T	S	a	b55		
71	FF-130	10	130	110	160	3.5	9	18	45°	21	4
80	FF-165		165	130	200					23	
90S/L			35								
100L	FF-215	11	215	180	250	4	14	45°	35		
112M									35		
132S/M	FF-265	16	265	230	300	5	18	22.5°	35	8	
160M/L	FF-300	19	300	250	350				58		
180M/L		15	300	250	350				58		
200L	FF-350		350	300	400				64		
225S	FF-400	18	400	350	450	5	18	22.5°	58		
225M (1)									58		
225M (2)									58		

- Notes:
- All the dimensions are in millimeters
 - For all vertical applications or unusual coupling conditions, the customer shall inform the load figure with the inquiry/order.
 - Construction drawings with guaranteed values are available under request.
 - Shaft dimensions for 2 pole motors, only for direct coupling
 - Execution with second shaft end available on request
 - 'EEx de' execution dimensions under request
 - The average values shown are subject to change without prior notice

2.1.5 OUTLINE DIMENSIONS

Flameproof Motors, BFGC range - EEx d

Flameproof Motors with Increased Safety Terminal Box, BFGC range - EEx de

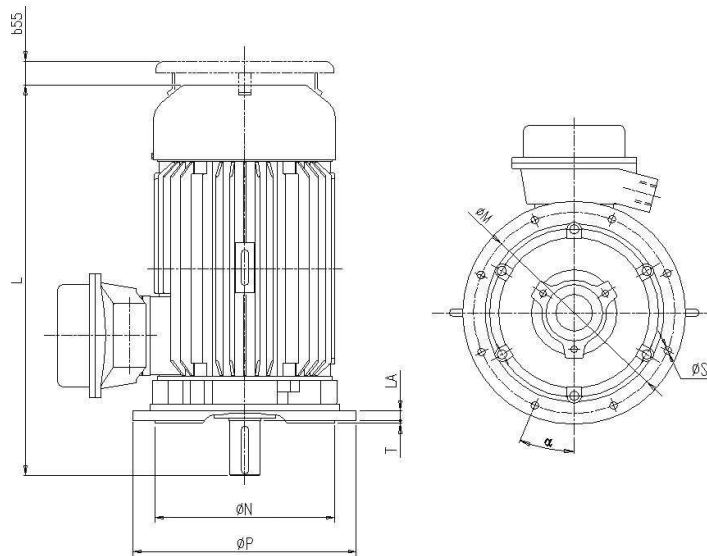


Frame	A	AA	AB	AC	AD	B	BA	BB	C	CA	Shaft Dimensions										H	HA	HD	h11	K	L	LC	S1	d1	d2	Bearings	
											D	E	F	G	GD	DA	EA	FA	GB	GF											D.E.	N.D.E.
250M (1)	406	100	506		244	349		406	168	207	65m6	18	58	11								856	1004				NU 314	6314 C3				
250M (2)											60m6																		20	67.5	12	
280SA (1)	457	105	537		244	368		438	190	236	75m6	140	18	58	11						307	24	926	1074				6314 C3	NU314			
280SA (2)											65m6																			20	67.5	12
280MA (1)	457	105	537		244	419		525	190	272	75m6	140	18	58	11							307	24	1013	1161				6314 C3	6314 C3		
280MA (2)											65m6																				20	67.5
* 315SA (1)	508	120	628		244	406		526	216	326	80m6	170	22	71	14							307	24	1110	1258				6314 C3	6314 C3		
* 315SA (2)											65m6																				140	18
* 315MA (1)	508	120	628		244	406		526	216	326	80m6	170	22	71	14								307	24	1080	1228				6314 C3	NU314	
* 315MA (2)											65m6																					140

NOTES: (1) 1500, 1000 and 750 rpm

(2) 3000 rpm

(*) BFGC4 Series

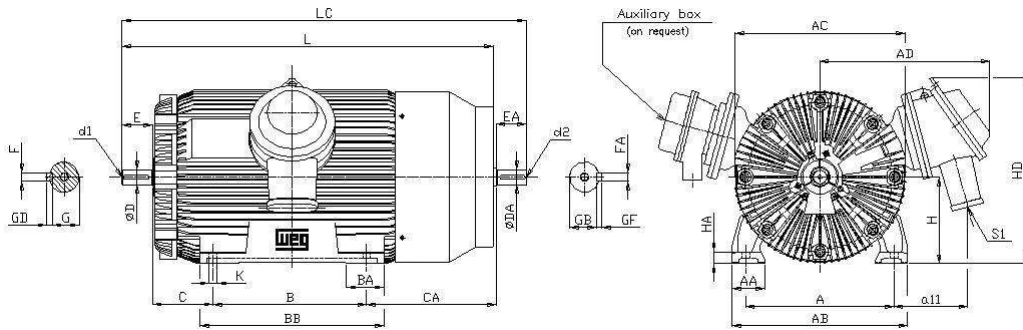


Frame	"FF" Flange Dimensions									Nr. holes
	Flange	LA	M	N	P	T	S	α	b55	
250M	FF-500	21	500	450	550	5	18,5	22,5°	60	8
280SA/MA	FF-600	25	600	550	660	6	24		70	
* 315SA/MA										

NOTES: (*) BFGC4 Series

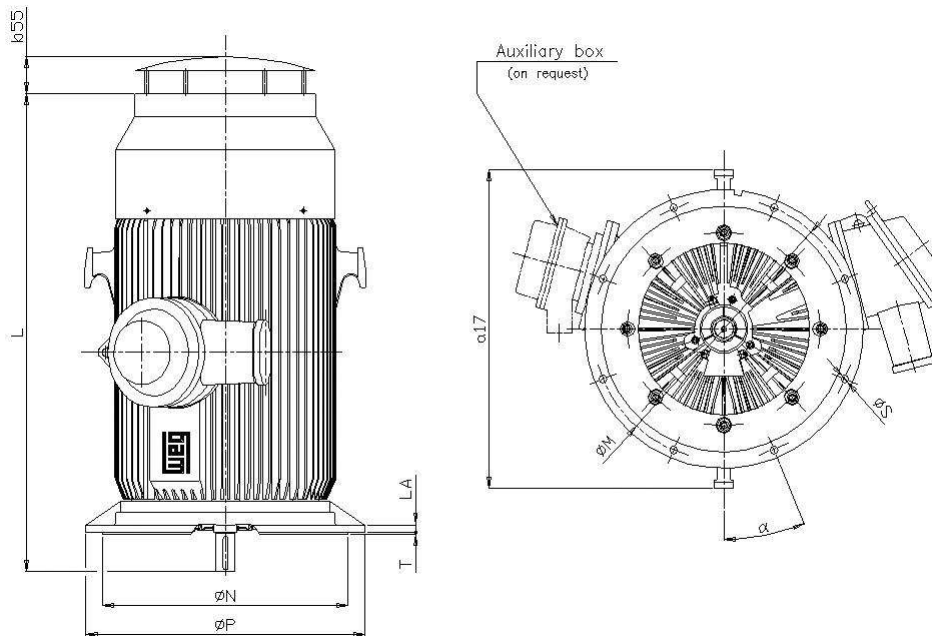
Notes:

- All the dimensions are in millimeters
- For all vertical applications or unusual coupling conditions, the customer shall inform the load figure with the inquiry/order.
- Construction drawings with guaranteed values are available under request.
- Shaft dimensions for 2 pole motors, only for direct coupling
- Execution with auxiliary terminal box available, for some ranges, on request
- If required terminal box entry on left hand side, please refer to us.
- Execution with second shaft end available on request
- 'EEx de' execution dimensions under request
- The average values shown are subject to change without prior notice



Frame	A	AA	AB	AC	AD	a11	B	BA	BB	C	CA	Shaft Dimensions													S1	d1	d2	Bearings				
												D	E	F	G	GD	DA	EA	FA	GB	GF	H	HA	HD				K	L	LC	D.E.	N.D.E.
* 315MA (1)	508	130	632	622	716	360	457	613	216	426	90m6	170	25	81	14	60m6	140	18	53	11	315	43	735	28	1254	1409	DSM24	DSM20	NU2220	6317 C3		
* 315MA (2)												70m6	140	20	62,5										12	1224			1379	6317 C3	NU317	
* 315LA (1)												90m6	170	25	81										14	1305			1460	6317 C3	NU2220	6317 C3
* 315LA (2)												70m6	140	20	62,5										12	1275			1430	6317 C3	NU317	
355MA (1)	610	145	730	713	741	334	560	800	254	589	95m6	170	25	86	14	80m6	170	22	71	14	355	49	785	28	1558	1743	DSM24	DSM20	NU320	6320 C3		
355MA (2)											70m6	140	20	62,5	12	60m6	140	18	53	11					1528	1683			6317 C3	NU317		
355LA (1)											95m6	170	25	86	14	80m6	170	22	71	14					1618	1803			6317 C3	NU317		
355LA (2)											70m6	140	20	62,5	12	60m6	140	18	53	11					1588	1743			6317 C3	NU317		
400LA (1)	686	150	810	785,5	786	341	710	850	280	599	110m6	210	28	100	16	80m6	170	22	71	14	400	55	860	35	1784	1969	DSM24	DSM20	NU324	6324 C3		
400LA (2)											70m6	140	20	62,5	12	60m6	140	18	53	11					1714	1869			6317 C3	NU317		

NOTES: (1) 1500, 1000 and 750 rpm (2) 3000 rpm (3) For 60 Hz please refer to us (*) BFGC3 Series



Frame	"FF" Flange Dimensions								Nr. holes	a17	Bearings		
	Flange	b55	LA	M	N	P	T	S			alpha	D.E.	N.D.E.
* 315MA/LA (1)	FF-600	116,5	22	600	550	660	6	24	22,5°	8	906	NU2220	6317 C3
* 315MA/LA (2)											6317 C3	NU317	
355MA/LA (1)	FF-740	125	25	740	680	800	6	24	22,5°	8	952	NU320	6320 C3
355MA/LA (2)											6317 C3	NU317	
400LA (1)	FF-940	132	28	940	880	1000	6	24	22,5°	8	1010	NU324	2x7322 BG
400LA (2)											NU317	2x7316 BG	

NOTES: (1) 1500, 1000 and 750 rpm (2) 3000 rpm (3) For 60 Hz please refer to us (*) BFGC3 Series

- Notes:
- All the dimensions are in millimeters.
 - For all vertical applications or unusual coupling conditions, the customer shall inform the load figure with the inquiry/order.
 - Construction drawings with guaranteed values are available under request.
 - Shaft dimensions for 2 pole motors, only for direct coupling.
 - Execution with auxiliary terminal box available, for some ranges, on request.
 - If required terminal box entry on left hand side, please refer to us.
 - Execution with second shaft end available on request.
 - "EEx de" execution dimensions under request.
 - The average values shown are subject to change without prior notice.



2.2 LOW VOLTAGE NON SPARKING MOTORS

2.2.1 PRODUCT INFORMATION

• Range

The present catalogue refers to TEFC, Low Voltage, three phase, squirrel cage induction motors, ribbed frames, **BFN** series, with shaft height from 315 to 500 mm, with following powers:

	KW	RPM
160 up to	710 kW	3000 RPM
160 up to	1120 kW	1500 RPM
110 up to	900 kW	1000 RPM
90 up to	800 kW	750 RPM

Even for outputs above 90kW, this range of motors has high efficiency design and is in line with the same levels of efficiency classification EFF2 as established between CEMEP and European Community.

• Particular specifications related to Hazardous Areas

The motor series **BFN** have the specification code **EEx nA**, and comply with European Standards **EN 50014** and **50021**, for the gases group **II** and Temperature Class **T3**.

This motor series has the **CE** marking in compliance with European Directive **94/4/EC (ATEX)**, and are classified as equipment group **II** (Surface Industries), category **3**, suitable to use on Zones **2**. – Gases and Vapours (**G**).

The Non Sparking motors in this catalogue are self certified, according to the above standards, or under request to be certified by the Notified Body Baseefa in UK, accredited organization by EU.

• Standards

Motor series **BFN** are manufactured according to IEC and equivalent national standards:

- Rating and performance - **IEC 60034-1**
- Outputs and dimensions - **IEC 72 and EN 50347**
- Mechanical protection - **IEC 60034-5**
- Cooling method - **IEC 60034-6**
- Mounting arrangements - **IEC 60034-7**
- Insulation - **IEC 85**
- Terminals identification and direction of rotation - **IEC 60034-8**
- Noise limits - **IEC 60034-9**
- Vibration limits - **IEC 60034-14**

• Construction

- **Mechanical protection:** IP55.
- **Insulation:** Class **F**.
- **Temperature rise:** 80 K.
- **Frames:** are in cast iron.
- **Terminal boxes:**

For frame sizes 315L and above, the terminal boxes are separated from the motor frame and are in **cast iron** with a pressed **steel cover**.

As standard, the terminal boxes are supplied with cable entry in the right hand side viewed from the drive end, however, this may rotated by 180° to permit cable entry on the left hand side.

As option, special terminal box arrangement and sizes are available in fabricated steel

- Endshields/flanges: are in **cast iron**.
- Fans:
For frames 315L and above, the fans are made from **polypropylene, aluminium alloy or fabricated steel**, depending on the frame sizes and the speeds.
- **Fan covers:** are in **pressed** or **fabricated steel**.
- **Finish:** Industrial paint system, standard color **RAL 5007**.

• Voltage and frequency

• Frame size 315L:

As standard, these motors are wound to operate on either 50 Hz or 60 Hz, over the following voltage ranges:

Δ 380-415 V - 50HZ / 440-480 V - 60 Hz

A tolerance of -5% up to +6% is permitted for any value of rated voltage within these intervals.

The electrical data described in the present catalogue, is based on the standard supply voltage 400V.

Depending on actual supply voltages/frequencies, this data may vary slightly but the variations will generally remain within the tolerances given in **IEC 60034-1**.

• Frame sizes 355 and above:

These motors are spot wound for any voltage within the following range:

380 V ≤ U ≤ 690 V 50 Hz for powers up to and including 630 kW

500 V ≤ U ≤ 690 V 60 Hz for powers above 630 kW

• Basic design

• Cooling method:

The cooling method is IC 411 in accordance with standard **IEC 60034-6** - motors cooled by an external fan.

• Direction of rotation:

On frame sizes 315 (all speeds) and frames 355/400 (4 pole and above), as standard the motors are fitted with a bi-directional fan.

On remaining frames the fans are unidirectional, leaving the factory as standard on CW direction viewed from shaft end with the phase sequence of U, V, and W. In these cases the direction of rotation must be specified with order.

• Terminal boxes:

On **BFN** motors, the mains and auxiliary terminal box, are located at top of motor frame and can be rotated by 180° to suit cable entry from left or right hand side.

As standard the cable entries are on the right hand side when viewed from shaft end.

• Protections/Auxiliaries:

As standard the **BFN** motors frame sizes 315 and above are fitted with 3 PTC thermistors (triple, 2 wire), connected in to the mains terminal box. Under request the motors can be fitted with anti-condensation heaters, or other type of protections either on windings and bearings connected in to auxiliary terminal box.

• Earth connection:

All motors are equipped with an earth screw inside of terminal box. A second external earth connection is also provided on motor frame, on foot or on flange depending on mounting form.

• Bearings:

The bearing types indicated on this catalogue, refer to standard horizontal mounting form and for direct coupling.

On frame sizes 315L and above, the motors are equipped on both sides with deep groove ball bearings, pre-loaded by an axial spring washer or springs, except the 2 pole motors frames 450 and 500, which are fitted with sleeve bearings as standard.

As optional execution under request, sleeve bearings can also be fitted on other frame sizes and polarities.

In the case of pulley/belt drive transmission, the drive end bearing can be replaced by a roller bearing.

On vertical mounting motors, the bearings can be thrust bearing types and are defined according to the axial loads involved on the application.

• Lubrication:

As standard, when the motors are equipped with ball, roller, or other type of bearings, they are lubricated with lithium complex based grease. Grease nipples and relief valves are provided to allow re-lubrication while the motor is running.

When the motors are fitted with sleeve bearings, as standard they are self lubricate type

• Balancing:

The motors are dynamically balanced with a half key, to meet the vibration limits of standard **IEC 60034-14**, grade **N**. Under request grades R and S can be provided.

The D.E. and N.D.E. endshields are designed to fit, under request, optional captors for vibration monitoring detectors or other devices.

2.2.2 ELECTRICAL DATA

Non Sparking Motors, BFN range - EEx nA

Output		Frame IEC	T _n (Nm)	I _s /I _n	T _s /T _n	T _{max} /T _n	Inertia J Kgm ²	Weight Kg	Sound dB (A)	rpm min ⁻¹	400 V, 50 Hz						
											% of full load						I _n (A)
											Efficiency η			Power Factor Cos φ			
KW	HP									50	75	100	50	75	100		

II Pole - 3000 min⁻¹

160	215	BFN6 315L	513	6,8	1,9	3,1	1,6	1050	82	2978	93,9	95,3	95,9	0,81	0,88	0,90	268
200	270	BFN6 315L	641	7,0	1,7	3,2	2,0	1150	82	2978	94,7	95,6	96,2	0,84	0,89	0,91	330
250	340	BFN6 315L	801	7,5	1,8	2,9	2,3	1250	82	2981	95,3	96,3	96,6	0,82	0,89	0,91	411
250	340	BFN6 355L	801	6,2	1,5	2,9	2,9	1450	80	2980	94,3	95,7	96,2	0,82	0,87	0,89	422
280	380	BFN6 355L	898	6,0	1,5	2,7	3,2	1600	80	2978	94,8	96,0	96,4	0,84	0,88	0,89	472
315	425	BFN6 355L	1009	6,6	1,8	3,0	3,4	1700	80	2980	95,1	96,2	96,6	0,83	0,88	0,90	523
355	480	BFN6 355L	1138	6,6	1,7	3,0	3,9	1750	80	2980	95,4	96,3	96,7	0,83	0,88	0,90	589
400	540	BFN6 355J	1281	7,3	2,2	3,1	4,5	2000	80	2982	96,0	96,8	97,1	0,84	0,89	0,90	661
450	610	BFN6 355J (1)	1441	7,5	2,2	3,2	5,0	2450	80	2983	96,0	96,8	97,1	0,84	0,88	0,90	744
450	610	BFN6 400L	1440	7,5	2,0	3,4	8,0	2450	80	2985	95,5	96,6	97,1	0,84	0,89	0,91	736
500	675	BFN6 400L	1600	7,5	1,9	3,2	8,4	2600	80	2985	95,9	96,9	97,3	0,85	0,89	0,91	816
560	755	BFN6 400J	1790	7,6	2,3	3,4	9,4	2950	80	2987	96,0	96,9	97,3	0,85	0,89	0,91	913
630	850	BFN6 400J (1)	2014	6,8	0,9	2,9	10,6	3300	80	2988	96,4	97,1	97,3	0,88	0,91	0,91	1027
630	850	BFN6S 450H (2)(3)	2014	6,9	0,9	2,6	19,9	4000	80	2988	96,0	97,0	97,4	0,88	0,91	0,91	1026
710	960	BFN6S 450H (2)(3)(4)2268	2014	7,0	0,9	2,6	21,2	4400	80	2989	96,3	97,2	97,6	0,88	0,90	0,91	669

IV Pole - 1500 min⁻¹

160	215	BFN6 315L	1029	6,8	2,0	2,5	2,6	1050	82	1485	93,9	95,0	95,3	0,74	0,82	0,86	282
200	270	BFN6 315L	1287	6,9	2,1	2,5	2,6	1150	82	1484	93,9	95,0	95,3	0,73	0,81	0,85	356
250	340	BFN6 315L	1608	7,5	2,5	2,5	3,7	1250	82	1485	94,9	95,8	96,0	0,75	0,83	0,86	437
250	340	BFN6 355L	1605	6,7	2,0	2,3	5,3	1450	80	1488	94,3	95,5	96,0	0,74	0,82	0,85	442
280	380	BFN6 355L	1797	6,9	2,1	2,4	5,9	1450	80	1488	94,6	95,8	96,2	0,72	0,82	0,85	494
315	425	BFN6 355L	2022	6,9	2,1	2,4	6,6	1650	80	1488	95,0	96,0	96,4	0,75	0,82	0,85	555
355	480	BFN6 355L	2277	7,4	2,6	2,6	7,4	1850	80	1489	96,1	97,1	96,5	0,73	0,81	0,85	625
400	540	BFN6 355J	2567	7,0	2,5	2,5	8,7	2100	80	1488	95,5	96,3	96,6	0,78	0,84	0,87	687
450	610	BFN6 355J	2888	7,1	2,4	2,4	9,8	2250	80	1488	95,7	96,5	96,8	0,76	0,84	0,87	771
450	610	BFN6 400L	2884	6,7	1,6	2,6	12,7	2500	80	1490	96,1	96,6	97,0	0,80	0,85	0,87	770
500	675	BFN6 400L	3205	6,7	1,6	2,6	13,1	2700	80	1490	96,4	96,9	97,0	0,79	0,85	0,87	855
560	755	BFN6 400J	3589	6,8	1,7	2,5	13,8	2750	80	1490	96,5	97,0	97,1	0,78	0,85	0,87	957
630	850	BFN6 400J	4038	7,5	2,1	2,8	15,8	2950	80	1490	96,4	96,9	97,1	0,75	0,83	0,87	1076
710	960	BFN6 400J (1)(4)	4551	6,5	1,8	2,0	16,3	3050	80	1490	95,8	96,5	96,6	0,79	0,85	0,86	715
710	960	BFN6 450H (4)	4545	6,9	2,0	2,7	20,1	4100	86	1492	95,9	96,8	97,2	0,78	0,85	0,87	703
800	1080	BFN6 450H (4)	5121	7,0	2,0	2,9	22,6	4600	86	1492	96,2	97,0	97,3	0,78	0,85	0,87	791
900	1220	BFN6 450H (3)(4)	5761	7,0	1,2	2,0	25,1	5400	86	1492	96,5	97,1	97,3	0,83	0,86	0,87	890
1000	1350	BFN6 500K (3)(4)	6401	7,5	1,7	2,3	50,6	5700	86	1492	96,3	97,0	97,2	0,83	0,86	0,87	989
1120	1510	BFN6 500K (3)(4)	7169	7,5	1,7	2,3	59,8	5900	86	1492	96,5	97,1	97,3	0,84	0,87	0,87	1107

(1) - Temperature rise class F at full load (2) - Standard motor with sleeve bearings (3) - Copper Rotor (4) - Rated current at 690V

T_n = Full load torque
I_s/I_n = Locked rotor current
T_s/T_n = Locked rotor torque

T_{max}/T_n = Breakdown torque
I_n = Full load current

Standard voltage, connection and frequency: 400 V Δ 50Hz
690V Y 50Hz
480V Δ 60Hz

- Notes:**
- The motors can also operate on a 60Hz supply, except frame 450, 2 pole.
 - To obtain this change in the electrical data for 60 Hz, please refer to any local WEG office or its representative.
 - Motor frame size 500, 2 pole available under request
 - The indicated values for sound pressure levels are @ 1m no load, with 3 dB(A) tolerance.
 - All values according to IEC 60034-1 tolerances.
 - This data can be changed without prior notice.

Output		Frame IEC	T _n (Nm)	I _s /I _n	T _s /T _n	T _{max} /T _n	Inertia J Kgm ²	Weight Kg	Sound dB (A)	400 V, 50 Hz						
										rpm min ⁻¹	% of full load			I _n (A)		
											Efficiency η			Power Factor Cos Φ		
KW	HP									50	75	100	50	75	100	

VI Pole - 1000 min-1

110	150	BFN6 315L	1063	7,4	2,6	2,9	4,3	1050	76	988	92,8	94,1	94,4	0,71	0,80	0,83	203
132	180	BFN6 315L	1276	7,4	2,5	2,6	4,9	1150	76	988	93,2	94,4	94,6	0,71	0,80	0,83	243
160	215	BFN6 315L	1547	7,4	2,4	2,5	6,2	1200	76	988	93,9	94,8	94,8	0,73	0,81	0,84	291
200	270	BFN6 315L	1935	7,3	2,4	2,5	7,6	1350	76	987	94,4	95,2	95,1	0,74	0,81	0,84	362
200	270	BFN6 355L	1927	7,0	1,9	2,2	8,7	1550	76	991	94,0	95,2	95,4	0,73	0,80	0,83	365
250	340	BFN6 355L	2409	7,0	1,9	2,1	10,4	1700	76	991	94,6	95,6	95,8	0,72	0,80	0,83	454
280	380	BFN6 355L	2696	7,2	2,3	2,4	11,8	1950	76	991	94,8	95,8	96,0	0,72	0,80	0,84	502
315	425	BFN6 355L	3039	7,0	2,3	2,5	13,1	2150	76	990	95,1	95,9	96,0	0,74	0,82	0,85	558
355	480	BFN6 355J	3424	7,0	2,4	2,5	14,8	2450	76	990	95,3	96,0	96,1	0,74	0,82	0,85	628
400	540	BFN6 355J (1)	3855	7,6	2,7	2,7	16,7	2750	76	991	95,4	96,1	96,3	0,73	0,81	0,85	706
400	540	BFN6 400L	3843	7,2	2,0	2,6	21,4	2400	76	994	95,4	96,2	96,5	0,73	0,81	0,84	713
450	610	BFN6 400L	4319	7,3	2,4	2,7	25,0	2800	76	995	95,2	96,2	96,5	0,71	0,80	0,84	802
500	675	BFN6 400J	4804	7,4	2,4	2,6	28,1	3000	76	994	95,7	96,4	96,6	0,77	0,83	0,85	879
560	755	BFN6 400J (1)(3)	5375	7,4	2,2	2,4	27,8	3350	76	995	95,5	96,4	96,6	0,75	0,82	0,85	985
560	755	BFN6 450H (3)	5380	5,8	1,1	2,6	42,9	4200	78	994	95,9	96,7	97,0	0,79	0,85	0,86	969
630	850	BFN6 450H (3)	6053	5,5	1,0	2,2	47,4	4650	78	994	96,1	96,8	97,0	0,80	0,85	0,86	1090
710	960	BFN6 450H (3)(4)	6821	6,0	1,2	2,2	52,9	5050	78	994	96,2	96,9	97,2	0,78	0,84	0,86	711
800	1080	BFN6 500K (3)(4)	7671	5,3	0,7	2,5	70,5	8100	80	996	95,8	96,8	97,2	0,81	0,86	0,87	792
900	1220	BFN6 500K (3)(4)	8630	5,5	0,7	2,7	70,5	8100	80	996	95,6	96,7	97,1	0,80	0,85	0,87	892

VIII Pole - 750 min-1

90	120	BFN6 315L	1161	7,1	2,8	2,9	5,5	950	73	740	92,8	93,9	94,0	0,64	0,74	0,79	175
110	150	BFN6 315L	1420	7,1	2,8	2,9	6,7	1100	73	740	93,3	94,0	94,0	0,66	0,75	0,79	214
132	180	BFN6 315L	1704	7,0	2,5	2,5	7,9	1250	73	740	92,9	94,0	94,1	0,67	0,76	0,79	257
160	215	BFN6 315L	2065	7,2	2,6	2,6	9,3	1300	73	740	92,8	94,0	94,2	0,65	0,75	0,79	311
160	215	BFN6 355L	2060	6,5	1,7	2,0	12,4	1300	70	742	94,0	94,9	95,1	0,70	0,78	0,81	300
200	270	BFN6 355L	2571	6,5	1,9	2,1	14,6	1500	70	743	94,3	95,2	95,4	0,68	0,77	0,81	374
250	340	BFN6 355L	3213	6,5	2,0	2,2	18,1	1850	70	743	95,7	96,5	96,6	0,68	0,77	0,81	462
280	380	BFN6 355J	3599	6,5	1,9	2,1	21,8	2200	70	743	95,1	95,8	95,8	0,70	0,78	0,81	521
315	425	BFN6 400L	3589	7,0	2,8	2,8	25,7	2250	70	745	95,6	96,5	96,7	0,68	0,77	0,82	574
355	480	BFN6 400L	4038	7,0	2,9	2,9	28,8	2500	70	745	94,9	95,8	96,1	0,66	0,76	0,81	659
400	540	BFN6 400L	4551	7,0	3,1	3,1	31,1	2750	70	745	95,2	95,9	96,1	0,67	0,76	0,81	742
450	610	BFN6 400J (3)	5121	7,5	3,4	3,4	37,7	3350	70	746	95,6	96,3	96,5	0,68	0,78	0,82	821
500	675	BFN6 450H (3)	5761	7,2	2,1	2,5	65,4	4600	76	746	95,0	96,0	96,3	0,73	0,80	0,82	911
560	755	BFN6 450H (3)	6401	7,2	2,1	2,4	73,5	5100	76	746	95,0	96,0	96,3	0,74	0,80	0,82	1020
630	850	BFN6 450H (1)(3)	7169	7,4	2,2	2,5	80,8	5400	76	746	95,0	96,0	96,3	0,74	0,80	0,82	1146
630	850	BFN6 500K (3)	7159	6,0	0,8	2,5	86,0	5800	80	747	95,6	96,4	96,6	0,73	0,80	0,83	1133
710	960	BFN6 500K (3)(4)	8054	6,0	0,8	2,5	96,6	6500	80	747	95,6	96,4	96,6	0,73	0,80	0,83	740
800	1080	BFN6 500K (3)(4)	9077	6,0	0,8	2,5	111,1	6600	80	747	95,6	96,4	96,6	0,73	0,80	0,83	833

(1) - Temperature rise class F at full load

(2) - Standard motor with sleeve bearings

(3) - Copper rotor

(4) - Rated current at 690V

T_n = Full load torque

T_{max}/T_n = Breakdown torque

Standard voltage, connection and frequency: 400 V Δ 50Hz

I_s/I_n = Locked rotor current

I_n = Full load current

690V Y 50Hz

T_s/T_n = Locked rotor torque

480V Δ 60Hz

Notes: - The motors can also operate on a 60Hz supply, except frames 450, 2 pole.

- To obtain this change in the electrical data for 60 Hz, please refer to any local WEG office or its representative.

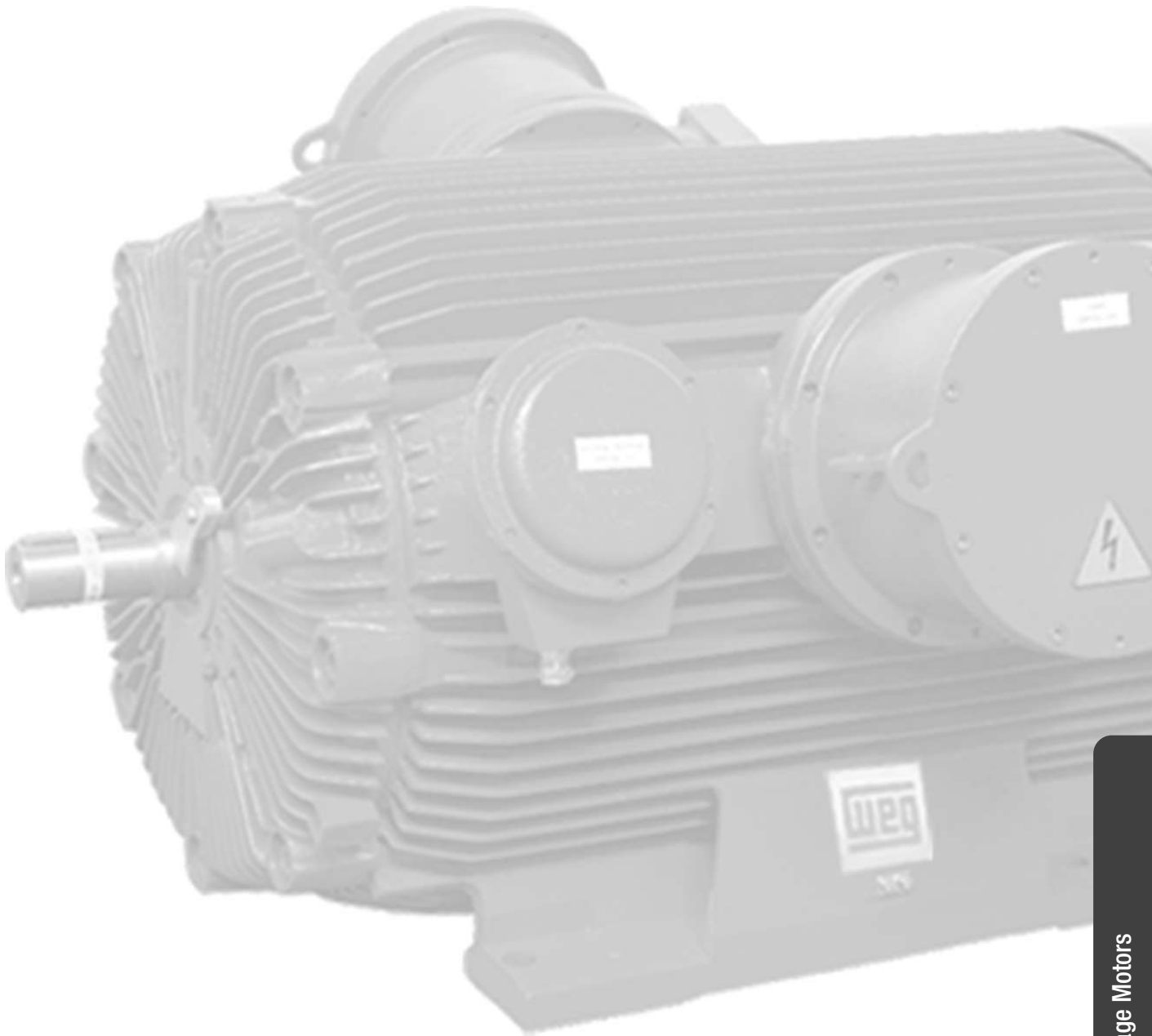
- The indicated values for sound pressure levels are @ 1m no load, with 3 dB(A) tolerance.

- All values according to IEC 60034-1 tolerances.

- This data can be changed without prior notice.

3. MEDIUM VOLTAGE MOTORS FOR HAZARDOUS AREAS

- Flameproof - BFG Series
- Flameproof - BFGC Series
- Non Sparking - BFN Series



Totally enclosed IP55
Squirrel cage rotor

3.1 MEDIUM VOLTAGE FLAMEPROOF MOTORS

3.1.1 PRODUCT INFORMATION

• Range

The present catalogue refers to TEFC Flameproof, Medium Voltage, three phase, squirrel cage induction motors up to 6600 V, ribbed frames, **BFGC** series with shaft height from 315 to 400 mm, and **BFG** series with shaft height 355, 400 and 450 mm, with the following powers:

Motor series BFGC (IIC):

KW	RPM
90 up to 500 kW	3000 RPM
90 up to 450 kW	1500 RPM
90 up to 400 kW	1000 RPM
90 up to 280 kW	750 RPM

Motor series BFG (IIB):

KW	RPM
160 up to 800 kW	3000 RPM
160 up to 900 kW	1500 RPM
132 up to 710 kW	1000 RPM
90 up to 560 kW	750 RPM

• Particular specifications and standards related to Hazardous Areas

The motor series **BFGC** and **BFG** comply with European Standards **EN 50014** and **50018** and are suitable for the following Groups of Gases and Temperature Classes:

- motor series **BFGC**: Gases of group **IIC** and temperature class **T4**
- motor series **BFG**: Gases of group **IIB** and temperature class **T4**

Under request, are available other temperature classes on these motor series.

These motor series have the **CE** marking in compliance with European Directive **94/4/EC (ATEX)**, and are classified as equipment group **II** (Surface Industries), suitable to use on the following zones:

- category **2**, for Zones **1** and **2** – Gases and Vapours (**G**).
- category **3**, for Zone **22** – Dust (**D**).

Special design to suit Zone **21** will be available on request.

As standard execution, the motors are fitted with flameproof terminal boxes for gases of group **IIB** or **IIC**, with specification code **EEx d, IIB** or **EEx d, IIC**. Under request and as an alternative execution these motors can be fitted with an Increased Safety terminal box complying with standard EN 50019. In this case the description code is **EEx de, IIB** or **EEx de, IIC**

The flameproof motors in this catalogue are certified according to the above standards, by the Notified Body ISSEP in Belgium (formerly INIEX), accredited organization by EU.

• General Standards

The motor series BFGC and BFG are manufactured according to IEC and equivalent national standards:

- Rating and performance - **IEC 60034-1**
- Outputs and Dimensions - **IEC 60072-1** and **60072-2**
- Mechanical protection - **IEC 60034-5**
- Cooling method - **IEC 60034-6**
- Mounting arrangements - **IEC 60034-7**
- Insulation class - **IEC 60085**
- Terminals identification and rotation - **IEC 60034-8**
- Noise limits - **IEC 60034-9**
- Balancing and vibration limits - **IEC 60034-14**

• Construction

- **Mechanical protection**: IP 55.
- **Insulation**: Class F.
- **Temperature rise**: 80 K.
- **Frames**: are in **cast iron**.
- **Terminal boxes**: are in **cast iron**.
- **Endshields**: are in **cast iron**.
- **Fans**:
 - on frame size 315 are in **polypropylene**.
 - on frames 355 and above, are in **polypropylene, aluminium alloy** or **fabricated steel**.
- **Fan cover**: in **cast iron** or **pressed steel**, capable to withstand impact of 7 Joule.
- **Finish**: industrial paint system, standard **color RAL 5010**.

• Voltage and frequency

The performance data referred in the present catalogue is for motors operating with a voltage of **6000V** \pm 5% and a frequency of **50Hz** \pm 2%, on continuous service.

For voltages of **6600V** all figures are equivalent, except the rated current (**In**), which shall be multiplied by a factor of 0,9.

Under request are available other voltages up to **6600V**, and frequencies **50** or **60Hz**.

• Basic design

• Cooling method:

IC 411 in accordance with standard **IEC 60034-6** - motors cooled by an external fan.

• Direction of rotation:

On frame sizes 315 (all speeds) and frames 355/400 (4 pole and above), as standard the motors are fitted with a bi-directional fan.

On remaining frames the fans are unidirectional, leaving the factory as standard on CW direction viewed from shaft end with the phase sequence of U, V, and W. In these cases the direction of rotation must be specified with the order.

• Electrical connection:

3 terminals are provided for star connection with neutral point connected inside the windings.

• Terminal boxes:

On **BFG** motors, the mains terminal box is located at top of motor frame and can be rotated by 180° to permit the cable entry from left or right hand side. On **BFGC** motors, as standard, the mains terminal box is located on right hand side with option of left hand side.

As standard, in all motors, the supply cable entries are on right hand side when viewed from shaft end.

• Protections/Auxiliaries:

As standard the **BFG** and **BFGC** medium voltage motors are fitted with the following protections:

- 3 RTD's - Pt 100 – on windings, 1 per phase, 3 wires
- 2 RTD's - Pt 100 – on bearings, 1 per bearing, 3 wires
- Anti-condensation heaters – 220V

As option under request, the motors can be fitted with other number or type of protections either on windings and bearings.

Protection/Auxiliaries are connected in to auxiliary terminal boxes.

On **BFGC3** Series, the auxiliary terminal box is located on opposite side of mains terminal box.

The thermal protections on bearings are made in to individual auxiliary terminal boxes located on D.E and N.D.E side as standard configuration.

It is also possible as option to have these protections connected in to a single auxiliary terminal box used for other Protections/Auxiliaries.

• Earth connection:

All motors are equipped with an earth screw inside of terminal box. A second external earth connection is also provided on motor frame, on foot or on flange depending on mounting form.

• Terminal box entries and cable glands:

As standard, the motors are not supplied with cable glands and the number of entry holes and respective dimensions are described on outline dimensions tables. However, considering that the cable entry makes part of the protection enclosure is recommended that the motors are supplied from factory fitted with cable glands. For this is necessary to specify with the order the complete cabling details (number of cables, specification, section and diameters), so that the motors can be supplied from factory fitted with suitable glands.

• Bearings:

The **BFGC** motors are equipped with a roller bearing on one side and a deep groove ball bearing on the other.

The **BFG** motors are equipped on both sides with deep groove ball bearings, pre-loaded by an axial spring washer or springs, except 2 pole motors with frame sizes 450 which are manufactured as standard with sleeve bearings on both sides.

As optional execution under request, other frame sizes or speeds can also be fitted with sleeve bearings.

In the case of pulley/belt drive transmission, the drive end bearing can be replaced by a roller bearing.

On vertical mounting motors, the bearings can be thrust bearing types and are defined according to the axial loads involved on the application.

• Lubrication:

Ball or roller bearings are grease lubricated with lithium complex based grease. Grease nipples and relief valves are provided to allow re-lubrication while the motor is running.

• Balancing:

The motors are dynamically balanced with half-key to meet the vibration limits of standard **IEC 60034-14**, grade **N**.

Grades R or S can be provided under request.

The D.E. and N.D.E. endshields are designed to fit, under request, optional captors for vibration monitoring detectors or other devices.

3.1.2 ELECTRICAL DATA

II B T4

Flameproof Motors, BFG range - EEx d

Flameproof Motors with Increased Safety Terminal Box, BFG range - EEx de

Medium Voltage

Output		Frame IEC	T _n (Nm)	I _s /I _n	T _s /T _n	T _{max} /T _n	Inertia J Kgm ²	Weight Kg	Sound dB (A)	6000 V, 50 Hz						I _n (A)	
										rpm min ⁻¹	% of full load			Power Factor Cos Φ			
											Efficiency η			Power Factor Cos Φ			
KW	HP				50	75	100	50	75	100							

II Pole - 3000 min-1

160	215	BFG6 355L	512	5,8	1,3	2,5	2,4	1700	80	2983	94,3	95,2	95,5	0,83	0,86	0,88	18,3
200	270	BFG6 355L	640	6,0	1,3	2,5	2,6	1800	80	2983	94,4	95,3	95,7	0,83	0,86	0,88	22,9
250	340	BFG6 355J	800	6,3	1,5	2,7	3,2	1900	80	2985	95,0	95,8	96,0	0,83	0,86	0,88	28,5
280	380	BFG6 355J	896	6,9	1,8	3,0	3,4	1950	80	2985	95,4	96,0	96,2	0,78	0,84	0,86	32,6
315	425	BFG6 355J	1008	6,2	1,6	2,7	3,7	2000	80	2985	95,6	96,2	96,4	0,84	0,87	0,89	35,3
355	480	BFG6 355J (1)	1136	6,8	1,8	2,9	4,0	2250	80	2985	95,7	96,3	96,5	0,85	0,88	0,89	39,8
400	540	BFG6 400L	1279	6,8	1,6	2,8	6,1	2800	80	2987	95,3	96,1	96,4	0,78	0,83	0,85	47,0
450	610	BFG6 400J	1440	6,5	1,5	2,6	6,6	3000	80	2984	95,4	96,2	96,5	0,79	0,85	0,86	52,1
500	675	BFG6 400J	1600	6,6	1,6	2,7	7,5	3200	80	2984	96,0	96,7	96,9	0,79	0,85	0,87	57,1
560	755	BFG6S 450H (2)(3)	1791	6,4	0,9	3,1	10,5	4500	80	2986	96,1	96,8	97,0	0,87	0,90	0,91	61,0
630	850	BFG6S 450H (2)(3)	2014	6,5	0,9	3,1	10,6	4600	80	2987	96,3	97,0	97,2	0,87	0,90	0,91	68,6
710	960	BFG6S 450H (2)(3)	2271	6,3	0,9	3,0	11,6	4700	80	2986	96,4	97,1	97,3	0,87	0,90	0,91	77,1
800	1080	BFG6S 450H (2)(3)	2556	7,0	0,7	3,1	13,6	4850	80	2989	96,5	97,2	97,4	0,84	0,88	0,89	88,8

IV Pole - 1500 min-1

160	215	BFG6 355L	1026	5,7	1,6	2,5	4,5	1675	80	1489	92,5	94,0	94,5	0,77	0,83	0,84	19,4
200	270	BFG6 355L	1283	6,0	1,7	2,6	5,1	1725	80	1489	92,9	94,4	94,9	0,74	0,81	0,83	24,5
250	340	BFG6 355J	1603	6,0	1,7	2,6	5,7	1925	80	1489	93,7	95,2	95,7	0,74	0,81	0,83	30,4
280	380	BFG6 355J	1796	6,1	1,8	2,6	5,9	2025	80	1489	93,8	95,3	95,8	0,71	0,79	0,82	34,5
315	425	BFG6 355J	2020	5,9	1,8	2,6	6,6	2125	80	1489	95,0	95,7	96,0	0,74	0,81	0,83	38,2
355	480	BFG6 355J	2278	5,9	1,8	2,5	7,3	2225	80	1488	95,2	95,9	96,2	0,73	0,81	0,83	42,8
400	540	BFG6 400L	2562	6,5	1,4	2,5	8,7	2700	80	1491	95,2	96,2	96,5	0,75	0,82	0,84	47,5
450	610	BFG6 400J	2882	7,0	1,5	2,7	9,5	2750	80	1491	95,3	96,3	96,6	0,74	0,81	0,83	54,0
500	675	BFG6 400J	3203	6,8	1,5	2,6	11,1	3175	80	1491	95,4	96,4	96,7	0,74	0,81	0,83	59,9
560	755	BFG6 400J (3)	3589	6,3	1,2	2,7	10,5	3350	80	1490	95,5	96,5	96,8	0,78	0,85	0,87	63,9
630	850	BFG6 450K	4035	5,5	1,1	2,4	20,2	4400	86	1491	95,4	96,4	96,7	0,77	0,82	0,84	74,6
710	960	BFG6 450H	4545	6,1	1,3	2,4	25,6	4750	86	1492	95,7	96,7	97,0	0,77	0,82	0,84	83,8
800	1080	BFG6 450H (3)	5124	5,5	1,1	2,4	28,5	5150	86	1491	95,7	96,7	97,0	0,80	0,85	0,87	91,1
900	1220	BFG6 450H (3)	5765	5,5	1,2	2,5	30,0	5300	86	1491	95,7	96,7	97,0	0,80	0,85	0,87	102,6

VI Pole - 1000 min-1

132	180	BFG6 355L	1271	5,6	1,8	2,3	6,6	1600	76	992	93,0	94,0	94,5	0,66	0,75	0,79	17,0
160	215	BFG6 355L	1540	5,5	1,8	2,3	7,3	1700	76	992	93,3	94,3	94,8	0,66	0,75	0,79	20,6
200	270	BFG6 355L	1927	5,5	1,8	2,3	7,9	1800	76	991	93,7	94,7	95,2	0,65	0,74	0,78	25,9
250	340	BFG6 355J	2409	5,5	1,9	2,4	9,0	2050	76	991	94,0	95,0	95,5	0,65	0,74	0,78	32,3
280	380	BFG6 355J	2698	5,4	1,8	2,2	10,3	2175	76	991	94,2	95,2	95,7	0,66	0,75	0,79	35,6
315	425	BFG6 400L	3036	6,5	1,1	2,5	12,6	2600	76	991	94,1	95,1	95,6	0,67	0,77	0,81	39,1
355	480	BFG6 400L	3421	6,5	1,1	2,5	14,4	2750	76	991	94,3	95,3	95,8	0,67	0,77	0,81	44,0
400	540	BFG6 400J	3851	6,7	1,2	2,5	15,9	2950	76	992	94,5	95,5	96,0	0,67	0,77	0,81	49,5
450	610	BFG6 400J (3)	4328	6,6	1,5	2,9	18,6	3450	76	993	94,6	95,6	96,1	0,69	0,79	0,83	54,3
500	675	BFG6 450K	4809	6,0	0,7	2,0	31,1	4300	78	993	95,3	96,3	96,8	0,74	0,80	0,83	59,9
560	755	BFG6 450K	5386	6,0	0,8	2,2	35,2	4650	78	993	95,4	96,4	96,9	0,75	0,81	0,84	66,2
630	850	BFG6 450H (3)	6053	5,7	1,1	2,7	37,3	5000	78	994	95,5	96,5	97,0	0,74	0,80	0,83	75,0
710	960	BFG6 450H (3)	6815	5,7	1,1	2,7	39,3	5150	78	995	95,6	96,6	97,1	0,74	0,80	0,83	84,8

VIII Pole - 750 min-1

90	120	BFG6 355L	1158	5,9	1,1	2,5	4,5	1450	74	742	90,5	92,5	93,0	0,54	0,66	0,72	12,9
110	150	BFG6 355L	1418	5,8	1	2,4	5,1	1575	74	741	90,8	92,8	93,3	0,54	0,66	0,72	15,8
132	180	BFG6 355L	1701	5,8	1	2,4	6,0	1750	74	741	91,0	93,0	93,5	0,54	0,66	0,72	18,9
160	215	BFG6 355L	2059	6,0	1,1	2,5	7,2	1950	74	742	91,5	93,5	94,0	0,54	0,66	0,72	22,7
200	270	BFG6 355J	2578	5,8	1	2,4	8,5	2250	74	741	92,5	94,0	94,5	0,55	0,67	0,73	27,9
250	340	BFG6 400L	3209	5,8	0,8	2,3	13,6	2675	74	744	93,5	94,5	95,0	0,58	0,69	0,74	34,2
280	380	BFG6 400L	3599	5,6	0,7	2,1	15,3	2850	74	743	94,0	95,0	95,5	0,59	0,70	0,75	37,6
315	425	BFG6 400J	4049	5,4	0,6	2,0	17,6	3125	74	743	94,2	95,2	95,7	0,60	0,71	0,76	41,7
355	480	BFG6 400J (3)	4563	5,0	0,6	2,0	22,6	3475	74	743	94,1	95,2	95,5	0,68	0,77	0,80	44,7
400	540	BFG6 450K (3)	5128	6,0	0,7	2,6	37,4	4825	76	745	93,8	94,8	95,3	0,64	0,74	0,79	51,1
450	610	BFG6 450H (3)	5784	6,0	0,6	2,1	45,3	5500	76	743	93,8	94,8	95,3	0,66	0,76	0,81	56,1
500	675	BFG6 450H (1)(3)	6418	6,0	0,7	2,3	45,5	5850	76	744	94,0	95,0	95,5	0,66	0,76	0,81	62,2
560	755	BFG6 450H (1)(3)	7169	6,0	0,7	2,4	60,5	5750	76	746	95,7	96,2	96,5	0,71	0,78	0,80	69,8

(1) - Temperature rise class F at full load (2) - Standard motor with sleeve bearings (3) - Copper Rotor

T_n = Full load torque
 I_s/I_n = Locked rotor current
 T_s/T_n = Locked rotor torque
 T_{max}/T_n = Breakdown torque
 I_n = Full load current

Notes: - The motors can also operate on a 60Hz supply, except frame 450, 2 pole.
 - To obtain this change in the electrical data for 60 Hz, please refer to any local WEG office or its representative.
 - The indicated values for sound pressure levels are @ 1m no load, with 3 dB(A) tolerance.
 - All values according to IEC 60034-1 tolerances.
 - This data can be changed without prior notice.

3.1.3 ELECTRICAL DATA

II CT4

Flameproof Motors, BFGC range - EEx d

Flameproof Motors with Increased Safety Terminal Box, BFGC range - EEx de

Medium Voltage

Output		Frame IEC	T _n (Nm)	I _s /I _n	T _s /T _n	T _{max} /T _n	Inertia J Kgm ²	Weight Kg	Sound dB (A)	6000 V, 50 Hz						
										rpm min ⁻¹	% of full load			I _n (A)		
											Efficiency η			Power Factor Cos Φ		
KW	HP									50	75	100	50	75	100	

II Pole - 3000 min-1

90	125	BFGC3 315MA (2)	288	6,7	1,7	2,7	1,0	1180	82	2982	91,3	93,1	93,8	0,67	0,76	0,81	11,4
110	150	BFGC3 315MA (2)	353	6,1	1,6	2,4	1,1	1220	82	2980	91,7	93,5	94,2	0,69	0,78	0,83	13,5
132	175	BFGC3 315LA (2)	423	6,5	1,7	2,5	1,2	1300	82	2980	92,2	94,0	94,8	0,71	0,80	0,84	16,0
160	220	BFGC3 355MA	512	5,8	1,3	2,5	2,4	1750	80	2983	93,0	94,2	94,8	0,83	0,86	0,88	18,5
200	270	BFGC3 355MA	640	6,0	1,3	2,5	2,6	1800	80	2983	93,2	94,5	95,0	0,83	0,86	0,88	23,0
250	340	BFGC3 355LA	800	6,3	1,5	2,7	3,2	1900	80	2985	93,5	94,7	95,2	0,83	0,86	0,88	28,7
280	370	BFGC3 355LA	896	6,9	1,8	3,0	3,4	1980	80	2985	93,6	94,8	95,3	0,78	0,84	0,86	32,9
315	400	BFGC3 400LA	1008	6,1	1,4	2,5	5,5	2775	80	2984	94,8	95,6	95,9	0,79	0,84	0,86	36,8
355	450	BFGC3 400LA	1137	6,0	1,4	2,4	5,8	2850	80	2983	95,0	95,7	96,0	0,79	0,84	0,86	41,4
400	500	BFGC3 400LA	1279	6,8	1,6	2,8	6,1	2900	80	2987	95,1	95,8	96,1	0,78	0,83	0,85	47,1
450	600	BFGC3 400LA	1439	6,7	1,6	2,7	6,3	3000	80	2986	95,2	96,0	96,3	0,79	0,84	0,86	52,3
500	700	BFGC3 400LA (1)	1600	7,2	1,7	3,2	6,4	3050	80	2985	95,2	96,0	96,3	0,75	0,81	0,84	59,5

IV Pole - 1500 min-1

90	125	BFGC3 315MA (2)	580	5,7	1,9	2,0	1,7	1150	82	1483	91,6	93,0	93,3	0,66	0,74	0,77	12,0
110	150	BFGC3 315MA (2)	708	6,1	2,1	2,1	1,9	1200	82	1484	91,7	93,1	93,5	0,65	0,73	0,76	14,8
132	175	BFGC3 315LA (2)	849	6,5	2,3	2,3	2,2	1350	82	1485	92,2	93,6	94,0	0,63	0,72	0,75	18,0
160	220	BFGC3 355MA	1026	5,7	1,6	2,5	4,5	1850	80	1489	92,5	94,0	94,5	0,77	0,83	0,84	19,4
200	270	BFGC3 355MA	1283	6,0	1,7	2,6	5,1	1950	80	1489	92,9	94,4	94,9	0,74	0,81	0,83	24,5
250	340	BFGC3 355LA	1603	6,0	1,7	2,6	5,7	2100	80	1489	93,7	95,2	95,7	0,74	0,81	0,83	30,4
280	370	BFGC3 355LA	1796	6,1	1,8	2,6	5,9	2150	80	1489	93,8	95,3	95,8	0,71	0,79	0,82	34,5
315	400	BFGC3 400LA	2018	6,1	1,2	2,4	7,5	2800	80	1491	94,9	95,9	96,2	0,75	0,82	0,84	37,5
355	450	BFGC3 400LA	2272	6,9	1,6	2,7	8,8	2900	80	1492	95,1	96,1	96,4	0,74	0,81	0,83	42,6
400	500	BFGC3 400LA	2562	6,5	1,4	2,5	8,7	3000	80	1491	95,2	96,2	96,5	0,75	0,82	0,84	47,5
450	600	BFGC3 400LA	2882	7,0	1,5	2,7	9,5	3150	80	1491	95,3	96,3	96,6	0,74	0,81	0,83	54,0

VI Pole - 1000 min-1

90	125	BFGC3 315MA (2)	870	6,5	1,6	2,9	2,9	1200	76	988	88,9	90,8	91,3	0,63	0,73	0,78	12,2
110	150	BFGC3 315LA (2)	1063	6,5	1,7	2,8	3,2	1350	76	988	89,2	91,1	91,6	0,62	0,72	0,77	15,0
110	150	BFGC3 355MA	1059	5,6	1,7	2,2	6,0	1900	76	992	92,6	93,6	94,1	0,65	0,74	0,78	14,4
132	175	BFGC3 355MA	1271	5,6	1,8	2,3	6,6	2000	76	992	93,0	94,0	94,5	0,66	0,75	0,79	17,0
160	220	BFGC3 355MA	1540	5,5	1,8	2,3	7,3	2100	76	992	93,3	94,3	94,8	0,66	0,75	0,79	20,6
200	270	BFGC3 355MA	1927	5,5	1,8	2,3	7,9	2200	76	991	93,7	94,7	95,2	0,65	0,74	0,78	25,9
250	340	BFGC3 355LA	2409	5,5	1,9	2,4	9,0	2350	76	991	94,0	95,0	95,5	0,65	0,74	0,78	32,3
280	370	BFGC3 400LA	2698	6,4	1,0	2,4	11,9	2850	76	991	94,0	95,0	95,5	0,67	0,77	0,81	34,8
315	400	BFGC3 400LA	3036	6,5	1,1	2,5	12,6	2950	76	991	94,1	95,1	95,6	0,67	0,77	0,81	39,1
355	450	BFGC3 400LA	3421	6,5	1,1	2,5	14,4	3200	76	991	94,3	95,3	95,8	0,67	0,77	0,81	44,0
400	500	BFGC3 400LA (1)	3851	6,7	1,2	2,5	15,9	3400	76	992	94,5	95,5	96,0	0,67	0,77	0,81	49,5

VIII Pole - 750 min-1

90	125	BFGC3 315LA (1)(2)	1169	5,0	0,7	1,9	2,0	1400	73	735	88,0	90,0	90,5	0,54	0,65	0,72	13,3
90	125	BFGC3 355MA	1158	5,9	1,1	2,5	4,5	1850	74	742	90,5	92,5	93,0	0,54	0,66	0,72	12,9
110	150	BFGC3 355MA	1418	5,8	1,0	2,4	5,1	1975	74	741	90,8	92,8	93,3	0,54	0,66	0,72	15,8
132	175	BFGC3 355MA	1701	5,8	1,0	2,4	6,0	2150	74	741	91,0	93,0	93,5	0,54	0,66	0,72	18,9
160	220	BFGC3 355LA	2059	6,0	1,1	2,5	7,2	2350	74	742	91,5	93,5	94,0	0,54	0,66	0,72	22,7
200	270	BFGC3 400LA	2567	5,9	0,8	2,3	11,9	2950	74	744	93,0	94,0	94,5	0,58	0,69	0,74	27,5
250	340	BFGC3 400LA	3209	5,8	0,8	2,3	13,6	3125	74	744	93,5	94,5	95,0	0,58	0,69	0,74	34,2
280	370	BFGC3 400LA	3599	5,6	0,7	2,1	15,3	3300	74	743	94,0	95,0	95,5	0,59	0,70	0,75	37,6

(1) - Temperature rise class F at full load

(2) BFGC3 Series

T_n = Full load torque
 I_s/I_n = Locked rotor current
 T_s/T_n = Locked rotor torque
 T_{max}/T_n = Breakdown torque
 I_n = Full load current

Notes: - The motors can also operate on a 60Hz supply.

- To obtain this change in the electrical data for 60 Hz, please refer to any local WEG office or its representative.

- The indicated values for sound pressure levels are @ 1m no load, with 3 dB(A) tolerance.

- All values according to IEC 60034-1 tolerances.

- This data can be changed without prior notice.



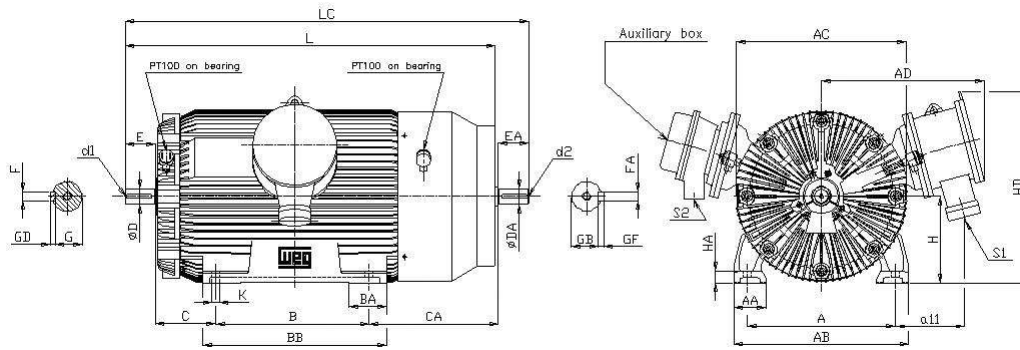
3.1.5 OUTLINE DIMENSIONS

II C T4

Flameproof Motors, BFGC range - EEx d

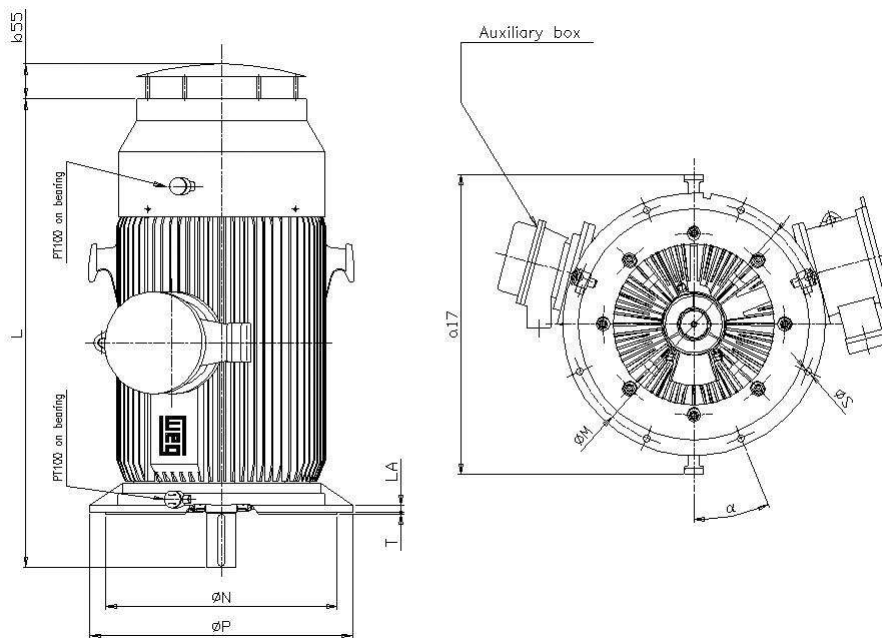
Flameproof Motors with Increased Safety Terminal Box, BFGC range - EEx de

Medium Voltage



Frame	A	AA	AB	AC	AD (3)	a11	B	BA	BB	C	CA	Shaft Dimensions										H	HA	HD (3)	K	L	LC	S1	S2	d1	d2	Bearings																											
												D	E	F	G	GD	DA	EA	FA	GB	GF											D.E.	N.D.E																										
* 315MA (1)	508	130	632	622	686	340	150	613	216	426	60m6	90m6	170	25	81	14	140	18	53	11	315	43	762	28	1254	1409	1xM63x1,5	2xM20x1,5	DSM24	NUJ220	6317 C3	6317 C3																											
* 315MA (2)												70m6	140	20	62,5	12									1224	1379							DSM20	6317 C3	NU317																								
* 315LA (1)												90m6	170	25	81	14									1305	1460							DSM24	6317 C3	NU317																								
* 315LA (2)												70m6	140	20	62,5	12									1275	1430							DSM20	6317 C3	NU317																								
355MA (1)												610	145	730	713	710									314	560							800	254	589	80m6	95m6	170	25	86	14	140	18	53	11	355	49	812	28	1558	1743	1xM63x1,5	2xM20x1,5	DSM24	NUJ320	6320 C3	6317 C3	NU317	
355MA (2)																																					70m6	140	20	62,5	12									1528	1683								DSM20
355LA (1)	95m6	170	25	86	14	1618	1803	DSM24	NUJ320	6320 C3																																																	
355LA (2)	70m6	140	20	62,5	12	1588	1743	DSM20	6317 C3	NU317																																																	
400LA (1)	686	150	810	785,5	756	321	710	850	280	599	80m6						110m6	210	28	100	16	140	18	53			11	400	55	885	35	1784					1969	1xM63x1,5	2xM20x1,5	DSM24	NUJ324									6324 C3	6317 C3								NU317
400LA (2)																	70m6	140	20	62,5	12											1714					1869																						

NOTES: (1) 1500, 1000 and 750 rpm (2) 3000 rpm (3) For 60 Hz please refer to us (*) BFGC3 Series



Frame	"FF" Flange Dimensions										Nr. holes	a17	Bearings	
	Flange	b55	LA	M	N	P	T	S	α	D.E.			N.D.E	
* 315MA/LA (1)	FF-600	116,5	22	600	550	660	6	24	22,5°	8	906	NUJ220	6317 C3	
* 315MA/LA (2)														NU320
355MA/LA (1)	FF-740	125	25	740	680	800	6	28	22,5°	8	952	NUJ324	2x7322 BG	
355MA/LA (2)														NU317
400LA (1)	FF-940	132	28	940	880	1000	6	28	22,5°	8	1010	NUJ324	2x7316 BG	
400LA (2)														NU317

NOTES: (1) 1500, 1000 and 750 rpm (2) 3000 rpm (3) For 60 Hz please refer to us (*) BFGC3 Series

- Notes:
- All the dimensions are in millimeters.
 - For all vertical applications or unusual coupling conditions, the customer shall inform the load figure with the inquiry/order.
 - Construction drawings with guaranteed values are available under request.
 - Shaft dimensions for 2 pole motors, only for direct coupling.
 - If required terminal box entry on left hand side, please refer to us.
 - Execution with second shaft end available on request.
 - 'EEx de' execution dimensions under request.
 - The average values shown are subject to change without prior notice.



3.2 MEDIUM VOLTAGE NON SPARKING MOTORS

3.2.1 PRODUCT INFORMATION

• Range

The present catalogue refers to TEFC, high voltage, three phase, squirrel cage induction motors up to 6600 V, ribbed frames, **BFN** series, with shaft height from 315 to 500 mm, with following powers:

KW	RPM
90 up to 800 kW	3000 RPM
90 up to 1400 kW	1500 RPM
90 up to 1120 kW	1000 RPM
90 up to 800 kW	750 RPM

Under request, are available higher outputs on this motor series.

• Particular specifications related to Hazardous Areas

The motor series **BFN** have the specification code **EEx nA**, and comply with European Standards **EN 50014** and **50021**, for the gases group **II** and Temperature Class **T3**.

This motor series has the **CE** marking in compliance with European Directive **94/4/EC (ATEX)**, and are classified as equipment group **II** (Surface Industries), category **3**, suitable to use on Zones **2**. – Gases and Vapours (**G**).

The Non Sparking motors in this catalogue are self certified, according to the above standards, or under request to be certified by the Notified Body Baseefa in UK, accredited organization by EU.

• Standards

The motor series **BFN**, high voltage are manufactured according to IEC and equivalent national standards:

- Rating and performance - **IEC 60034-1**
- Outputs and Dimensions - **IEC 60072-1** and **60072-2**
- Mechanical protection - **IEC 60034-5**
- Cooling method - **IEC 60034-6**
- Mounting arrangements - **IEC 60034-7**
- Insulation class - **IEC 60085**
- Terminals identification and rotation - **IEC 60034-8**
- Noise limits - **IEC 60034-9**
- Balancing and vibration limits - **IEC 60034-14**

• Construction

- **Mechanical protection:** IP 55
- **Insulation:** class F
- **Temperature rise:** 80 K
- **Main components:**
 - Frame: **cast iron**
 - Terminal box: **cast iron**, with **pressed steel** cover
 - Endshields: **cast iron**
 - Fan: **aluminium, steel** or **polypropylene**
 - Fan cover: **steel**
- **Finish:** industrial paint system, standard color **RAL 5007**

• Voltage and frequency

The performance data referred on the present catalogue is for motors operating with a voltage of **6000V ± 5%** and a frequency of **50Hz ± 2%**, on continuous service.

For voltages of **6600V** all figures are equivalent, except the rated current (**In**), which shall be multiplied by a factor of 0,9.

Under request are available other voltages up to **6600V**, and frequencies **50** or **60Hz**.

- **Basic design**

- **Cooling method:**

The cooling method is IC 411 in accordance with standard IEC **60034-6** - motors cooled by an external fan.

- **Direction of rotation:**

On frame sizes 315 (all speeds) and frames 355/400 (4 pole and above), as standard the motors are fitted with a bi-directional fan. On remaining frames, the fans are unidirectional, leaving the factory as standard CW direction viewed from shaft end with the phase sequence of U, V, and W. In these cases the direction of rotation must be specified with the order.

- **Electrical connection:**

3 terminals are provided for star connection with neutral point connected inside the windings.

- **Terminal boxes:**

On **BFN** motors, the mains and auxiliary terminal box, are located at top of motor frame and can be rotated by 180° to suit cable entry from left or right hand side.

As standard the cables entries are foreseen on right hand side when viewed from D.E side.

- **Protections/Auxiliaries:**

As standard the **BFN** medium voltage motors are fitted with the following protections:

- 3 RTD's - Pt 100 – on windings, 1 per phase, 3 wires
- 2 RTD's - Pt 100 – on bearings, 1 per bearing, 3 wires
- Anti-condensation heaters – 220V

All auxiliaries are connected in to an auxiliary terminal box.

As option under request, the motors can be fitted with other number or type of protections either on windings and bearings.

- **Earth connection:**

All motors are equipped with an earth screw inside of terminal box. A second external earth connection is also provided on motor frame, on foot or on flange depending on mounting form.

- **Bearings:**

The bearings indicated on this catalogue refer to standard horizontal mounting form and for direct coupling.

On frame sizes 315L and above, the motors are equipped on both sides with deep groove ball bearings, pre-loaded by an axial spring washer or springs, except the 2 pole motors frames 450 and 500, which are fitted with sleeve bearings as standard.

As optional execution under request, sleeve bearings can also be fitted on other frame sizes and polarities.

In the case of pulley/belt drive transmission, the drive end bearing can be replaced by a roller bearing.

On vertical mounting motors, the bearings can be thrust bearing types and are defined according to the axial loads involved on the application.

- **Lubrication:**

As standard, when the motors are equipped with ball, roller, or other type of bearings, they are lubricated with lithium complex based grease. Grease nipples and relief valves are provided to allow re-lubrication while the motor is running.

When the motors are fitted with sleeve bearings, as standard they are self lubricated type

- **Balancing:**

The motors are dynamically balanced with half-key to meet the vibration limits of standard IEC **60034-14**, grade **N**.

Grades R or S can be provided under request.

The D.E. and N.D.E. endshields are designed to fit, under request, optional captors for vibration monitoring detectors or other devices.

3.2.2 ELECTRICAL DATA

Non Sparking Motors, BFN range - EEx nA

Output		Frame IEC	T_n (Nm)	I_s/I_n	T_s/T_n	T_{max}/T_n	Inertia J Kg m^2	Weight Kg	Sound dB (A)	6000 V, 50 Hz						
										rpm min^{-1}	% of full load			I_n (A)		
											Efficiency η				Power Factor Cos Φ	
KW	HP	50	75	100	50	75	100									

II Pole - 3000 min-1

90	120	BFN6 315L	288	6,7	1,7	2,7	1,0	1100	82	2982	91,3	93,1	93,8	0,67	0,76	0,81	11,4
110	150	BFN6 315L	353	6,1	1,6	2,4	1,1	1150	82	2980	91,7	93,5	94,2	0,69	0,78	0,83	13,5
132	180	BFN6 315L	423	6,5	1,7	2,5	1,2	1200	82	2980	92,2	94,0	94,8	0,71	0,80	0,84	16,0
160	215	BFN6 355L	512	5,8	1,3	2,5	2,4	1675	80	2983	94,3	95,2	95,5	0,83	0,86	0,88	18,3
200	270	BFN6 355L	640	6,0	1,3	2,5	2,6	1775	80	2983	94,4	95,3	95,7	0,83	0,86	0,88	22,9
250	340	BFN6 355J	800	6,3	1,5	2,7	3,2	1875	80	2985	95,0	95,8	96,0	0,83	0,86	0,88	28,5
280	380	BFN6 355J	896	6,9	1,8	3,0	3,4	1925	80	2985	95,4	96,0	96,2	0,78	0,84	0,86	32,6
315	425	BFN6 355J	1008	6,2	1,6	2,7	3,7	1975	80	2985	95,6	96,2	96,4	0,84	0,87	0,89	35,3
355	480	BFN6 355J	1136	6,8	1,8	2,9	4,0	2225	80	2985	95,7	96,3	96,5	0,85	0,88	0,89	39,8
400	540	BFN6 355J (1)	1280	7,0	1,9	3,0	4,1	2250	80	2985	95,7	96,3	96,5	0,83	0,86	0,88	45,3
400	540	BFN6 400L	1279	6,8	1,6	2,8	6,1	2750	80	2987	95,3	96,1	96,4	0,78	0,83	0,85	47,0
450	610	BFN6 400J	1440	6,5	1,5	2,6	6,6	2950	80	2984	95,4	96,2	96,5	0,79	0,85	0,86	52,1
500	675	BFN6 400J	1600	6,6	1,6	2,7	7,5	3150	80	2984	96,0	96,7	96,9	0,79	0,85	0,87	57,1
560	755	BFN6 400J (1)	1792	6,5	1,6	2,6	8,3	3350	80	2984	96,1	96,8	97,0	0,79	0,85	0,87	63,9
560	755	BFN6S 450H (2)(3)	1791	6,4	0,9	3,1	10,5	4400	80	2986	96,1	96,8	97,0	0,87	0,90	0,91	61,0
630	850	BFN6S 450H (2)(3)	2014	6,5	0,9	3,1	10,6	4500	80	2987	96,3	97,0	97,2	0,87	0,90	0,91	68,6
710	960	BFN6S 450H (2)(3)	2271	6,3	0,9	3,0	11,6	4600	80	2986	96,4	97,1	97,3	0,87	0,90	0,91	77,1
800	1080	BFN6S 450H (2)(3)	2556	7,0	0,7	3,1	13,6	4750	80	2989	96,5	97,2	97,4	0,84	0,88	0,89	88,8

IV Pole - 1500 min-1

90	120	BFN6 315L	580	5,7	1,9	2,0	1,7	1050	82	1483	91,6	93,0	93,3	0,66	0,74	0,77	12,0
110	150	BFN6 315L	708	6,1	2,1	2,1	1,9	1100	82	1484	91,7	93,1	93,5	0,65	0,73	0,76	14,8
132	180	BFN6 315L	849	6,5	2,3	2,3	2,2	1200	82	1485	92,2	93,6	94,0	0,63	0,72	0,75	18,0
160	215	BFN6 355L	1026	5,7	1,6	2,5	4,5	1650	80	1489	92,5	94,0	94,5	0,75	0,82	0,84	19,4
200	270	BFN6 355L	1283	6,0	1,7	2,6	5,1	1700	80	1489	92,9	94,4	94,9	0,73	0,81	0,83	24,5
250	340	BFN6 355L	1603	6,0	1,7	2,6	5,7	1775	80	1489	93,7	95,2	95,7	0,73	0,81	0,83	30,4
280	380	BFN6 355J	1796	6,1	1,8	2,6	5,9	2000	80	1489	93,8	95,3	95,8	0,71	0,79	0,82	34,5
315	425	BFN6 355J	2020	5,9	1,8	2,6	6,6	2100	80	1489	95,0	95,7	96,0	0,73	0,81	0,83	38,2
355	480	BFN6 355J	2278	5,9	1,8	2,5	7,3	2200	80	1488	95,2	95,9	96,2	0,73	0,81	0,83	42,8
400	540	BFN6 355J (1)	2565	6,2	1,9	2,7	7,6	2275	80	1489	94,5	95,8	96,2	0,71	0,78	0,81	49,2
400	540	BFN6 400L	2562	6,5	1,4	2,5	8,7	2650	80	1491	95,2	96,2	96,5	0,75	0,82	0,84	47,5
450	610	BFN6 400J	2882	7,0	1,5	2,7	9,5	2700	80	1491	95,3	96,3	96,6	0,74	0,81	0,83	54,0
500	675	BFN6 400J	3203	6,8	1,5	2,6	11,1	3125	80	1491	95,4	96,4	96,7	0,74	0,81	0,83	59,9
560	755	BFN6 400J (3)	3589	6,3	1,2	2,7	10,5	3300	80	1490	95,5	96,5	96,8	0,78	0,85	0,87	63,9
630	850	BFN6 400J (3)	4035	7,2	1,5	3,1	11,5	3400	80	1491	95,5	96,5	96,8	0,75	0,83	0,86	72,8
710	960	BFN6 450H	4545	6,1	1,3	2,4	25,6	4650	86	1492	95,7	96,7	97,0	0,77	0,82	0,84	83,8
800	1080	BFN6 450H (3)	5124	5,5	1,1	2,4	28,5	5050	86	1491	95,7	96,7	97,0	0,80	0,85	0,87	91,1
900	1250	BFN6 450H (3)	5765	5,5	1,2	2,5	30,0	5200	86	1491	95,7	96,7	97,0	0,80	0,85	0,87	102,6
1000	1350	BFN6 500K (3)	6392	7,2	1,2	3,1	38,7	7050	86	1494	95,9	96,9	97,2	0,80	0,86	0,88	112,5
1120	1510	BFN6 500K (3)	7164	6,9	1,3	3,0	42,7	7300	86	1493	96,0	97,0	97,3	0,82	0,87	0,89	124,5
1250	1700	BFN6 500K (3)	7996	6,5	1,2	2,8	48,8	8500	86	1493	96,0	97,0	97,3	0,82	0,87	0,89	138,9
1400	1900	BFN6 500H (1)(3)	8943	7,5	1,4	3,5	52,9	8950	86	1495	96,1	97,1	97,4	0,80	0,86	0,88	157,2

(1) - Temperature rise class F at full load (2) - Standard motor with sleeve bearings (3) - Copper rotor

T_n = Full load torque T_{max}/T_n = Breakdown torque
 I_s/I_n = Locked rotor current I_n = Full load current
 T_s/T_n = Locked rotor torque

- Notes:**
- The motors can also operate on a 60Hz supply, except frames 450, 2 pole.
 - To obtain this change in the electrical data for 60 Hz, please refer to any local WEG office or its representative.
 - Motor frame size 500, 2 pole available under request.
 - The indicated values for sound pressure levels are @ 1m no load, with a 3 dB(A) tolerance
 - All values are according to IEC 60034-1 tolerances
 - This data can be changed without prior notice.

Output		Frame IEC	T _n (Nm)	I _s /I _n	T _s /T _n	T _{max} /T _n	Inertia J Kgm ²	Weight Kg	Sound dB (A)	rpm min ⁻¹	6000 V, 50 Hz						I _n (A)
											% of full load						
											Efficiency η			Power Factor Cos Φ			
KW	HP	50	75	100	50	75	100										

VI Pole - 1000 min⁻¹

90	120	BFN6 315L	870	6,5	1,6	2,9	2,9	1100	76	988	88,9	90,8	91,3	0,63	0,73	0,78	12,2
110	150	BFN6 315L	1063	6,5	1,7	2,8	3,2	1200	76	988	89,2	91,1	91,6	0,62	0,72	0,77	15,0
132	180	BFN6 355L	1271	5,6	1,8	2,3	6,6	1575	76	992	93,0	94,0	94,5	0,66	0,75	0,79	17,0
160	215	BFN6 355L	1540	5,5	1,8	2,3	7,3	1675	76	992	93,3	94,3	94,8	0,66	0,75	0,79	20,6
200	270	BFN6 355L	1927	5,5	1,8	2,3	7,9	1775	76	991	93,7	94,7	95,2	0,65	0,74	0,78	25,9
250	340	BFN6 355J	2409	5,5	1,9	2,4	9,0	2025	76	991	94,0	95,0	95,5	0,65	0,74	0,78	32,3
280	380	BFN6 355J	2698	5,4	1,8	2,2	10,3	2150	76	991	94,2	95,2	95,7	0,66	0,75	0,79	35,6
315	425	BFN6 355J (1)	3039	6,2	1,8	2,2	10,6	2200	76	990	94,2	95,2	95,7	0,67	0,77	0,81	39,1
315	425	BFN6 400L	3036	6,5	1,1	2,5	12,6	2550	76	991	94,1	95,1	95,6	0,67	0,77	0,81	39,1
355	480	BFN6 400L	3421	6,5	1,1	2,5	14,4	2700	76	991	94,3	95,3	95,8	0,67	0,77	0,81	44,0
400	540	BFN6 400J	3851	6,7	1,2	2,5	15,9	2900	76	992	94,5	95,5	96,0	0,67	0,77	0,81	49,5
450	610	BFN6 400J (3)	4328	6,6	1,5	2,9	18,6	3400	76	993	94,6	95,6	96,1	0,69	0,79	0,83	54,3
500	675	BFN6 400J (1)(3)	4809	6,5	1,4	2,9	19,3	3525	76	993	94,6	95,6	96,1	0,67	0,77	0,81	61,8
500	675	BFN6 450K	4809	6,0	0,7	2,1	31,1	4200	78	993	95,3	96,3	96,8	0,74	0,80	0,83	59,9
560	755	BFN6 450K	5386	6,0	0,8	2,2	35,2	4550	78	993	95,4	96,4	96,9	0,75	0,81	0,84	66,2
630	850	BFN6 450H (3)	6053	5,7	1,1	2,7	37,3	4900	78	994	95,5	96,5	97,0	0,74	0,80	0,83	75,0
710	960	BFN6 450H (3)	6821	5,7	1,1	2,7	39,3	5050	78	994	95,6	96,6	97,1	0,74	0,80	0,83	84,8
800	1080	BFN6 450H (1)(3)	7686	5,6	1,1	2,7	44,4	5500	78	994	95,6	96,6	97,1	0,75	0,81	0,84	94,4
800	1080	BFN6 500K (3)	7694	6,0	1,0	2,0	55,7	6600	80	993	95,4	96,4	96,9	0,75	0,81	0,84	94,6
900	1220	BFN6 500K (3)	8656	6,0	1,0	2,0	61,6	7050	80	993	95,5	96,5	97,0	0,75	0,81	0,84	106,3
1000	1350	BFN6 500K (3)	9608	6,0	1,1	2,1	79,2	8300	80	994	95,6	96,6	97,1	0,75	0,81	0,84	118,0
1120	1510	BFN6 500H (1)(3)	10761	6,0	1,1	2,1	90,9	9150	80	994	95,6	96,6	97,1	0,75	0,81	0,84	132,1

VIII Pole - 750 min⁻¹

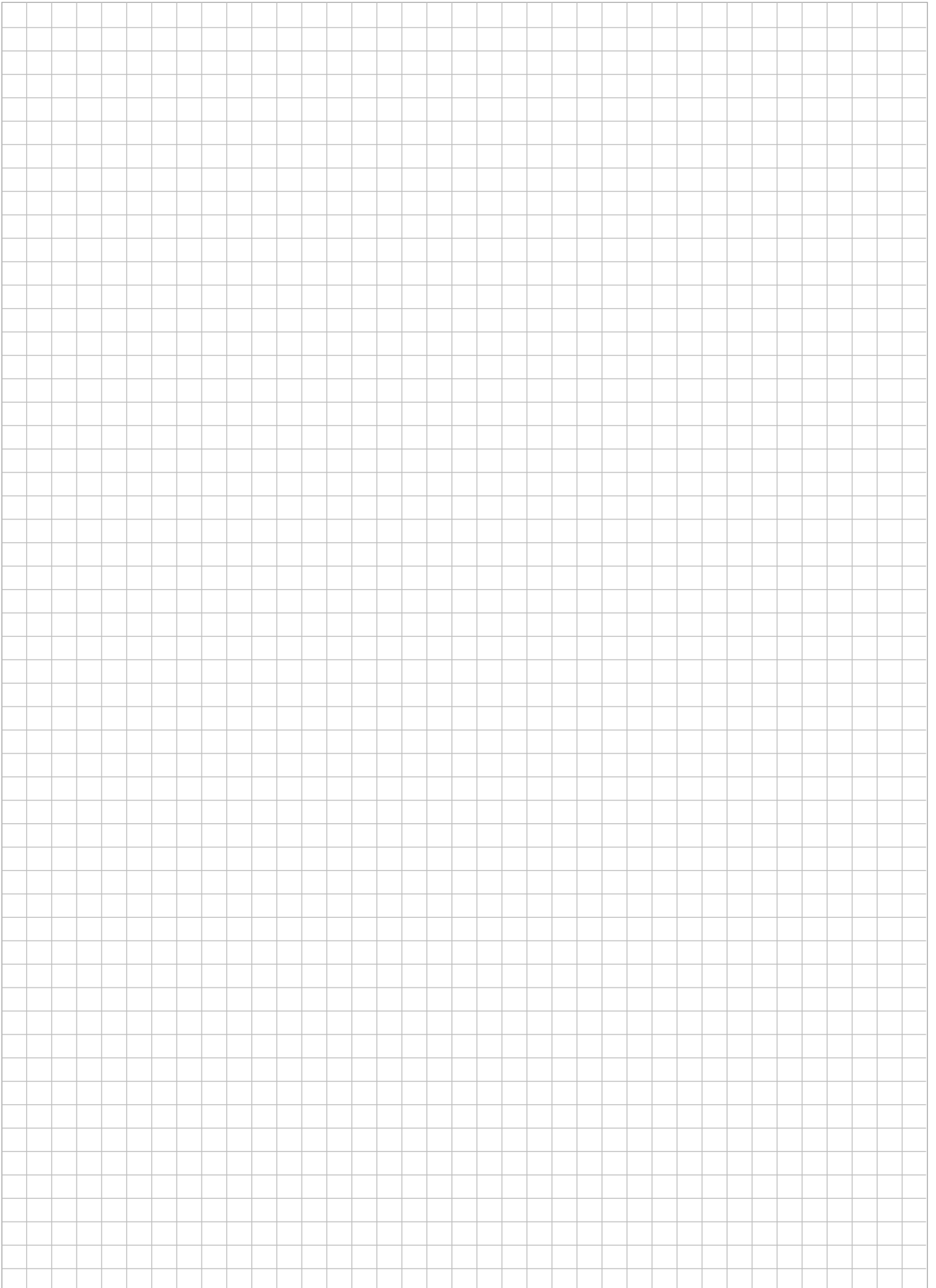
90	120	BFN6 315L (1)	1169	5,0	0,7	1,9	2,0	1250	73	735	88,0	90,0	90,5	0,54	0,65	0,72	13,3
90	120	BFN6 355L	1158	5,9	1,1	2,5	4,5	1425	74	742	90,5	92,5	93,0	0,54	0,66	0,72	12,9
110	150	BFN6 355L	1418	5,8	1,0	2,4	5,1	1550	74	741	90,8	92,8	93,3	0,54	0,66	0,72	15,8
132	180	BFN6 355L	1701	5,8	1,0	2,4	6,0	1725	74	741	91,0	93,0	93,5	0,54	0,66	0,72	18,9
160	215	BFN6 355L	2059	6,0	1,1	2,5	7,2	1925	74	742	91,5	93,5	94,0	0,54	0,66	0,72	22,7
200	270	BFN6 355J	2578	5,8	1,0	2,4	8,5	2225	74	741	92,5	94,0	94,5	0,55	0,67	0,73	27,9
250	340	BFN6 400L	3209	5,8	0,8	2,3	13,6	2625	74	744	93,5	94,5	95,0	0,58	0,69	0,74	34,2
280	380	BFN6 400L	3599	5,6	0,7	2,1	15,3	2800	74	743	94,0	95,0	95,5	0,59	0,70	0,75	37,6
315	425	BFN6 400J	4049	5,4	0,6	2,0	17,6	3075	74	743	94,2	95,2	95,7	0,60	0,71	0,76	41,7
355	480	BFN6 400J (3)	4563	5,0	0,6	2,0	22,6	3425	74	743	94,1	95,2	95,5	0,68	0,77	0,80	44,7
400	540	BFN6 450K (3)	5128	6,0	0,7	2,6	37,4	4825	76	745	93,8	94,8	95,3	0,64	0,74	0,79	51,1
450	610	BFN6 450H (3)	5784	6,0	0,6	2,1	45,3	5500	76	743	93,8	94,8	95,3	0,66	0,76	0,81	56,1
500	675	BFN6 450H (3)	6418	6,0	0,7	2,3	45,5	5850	76	744	94,0	95,0	95,5	0,66	0,76	0,81	62,2
560	755	BFN6 450H (1)(3)	7169	6,0	0,7	2,4	60,5	5750	76	746	95,7	96,2	96,5	0,71	0,78	0,80	69,8
560	755	BFN6 500K (3)	7169	5,5	1,0	2,2	80,1	6600	80	746	94,8	95,8	96,3	0,70	0,78	0,82	68,2
630	850	BFN6 500K (3)	8065	6,0	1,1	2,6	92,7	6825	80	746	95,0	96,0	96,5	0,70	0,78	0,82	76,5
710	960	BFN6 500K (3)	9077	6,0	1,1	2,6	101,2	7250	80	747	95,2	96,2	96,7	0,70	0,78	0,82	86,3
800	1080	BFN6 500K (3)	10228	6,0	1,1	2,6	113,8	8200	80	747	95,2	96,2	96,7	0,70	0,78	0,82	97,1

(1) - Temperature rise class F at full load (2) - Standard motor with sleeve bearings (3) - Copper Rotor

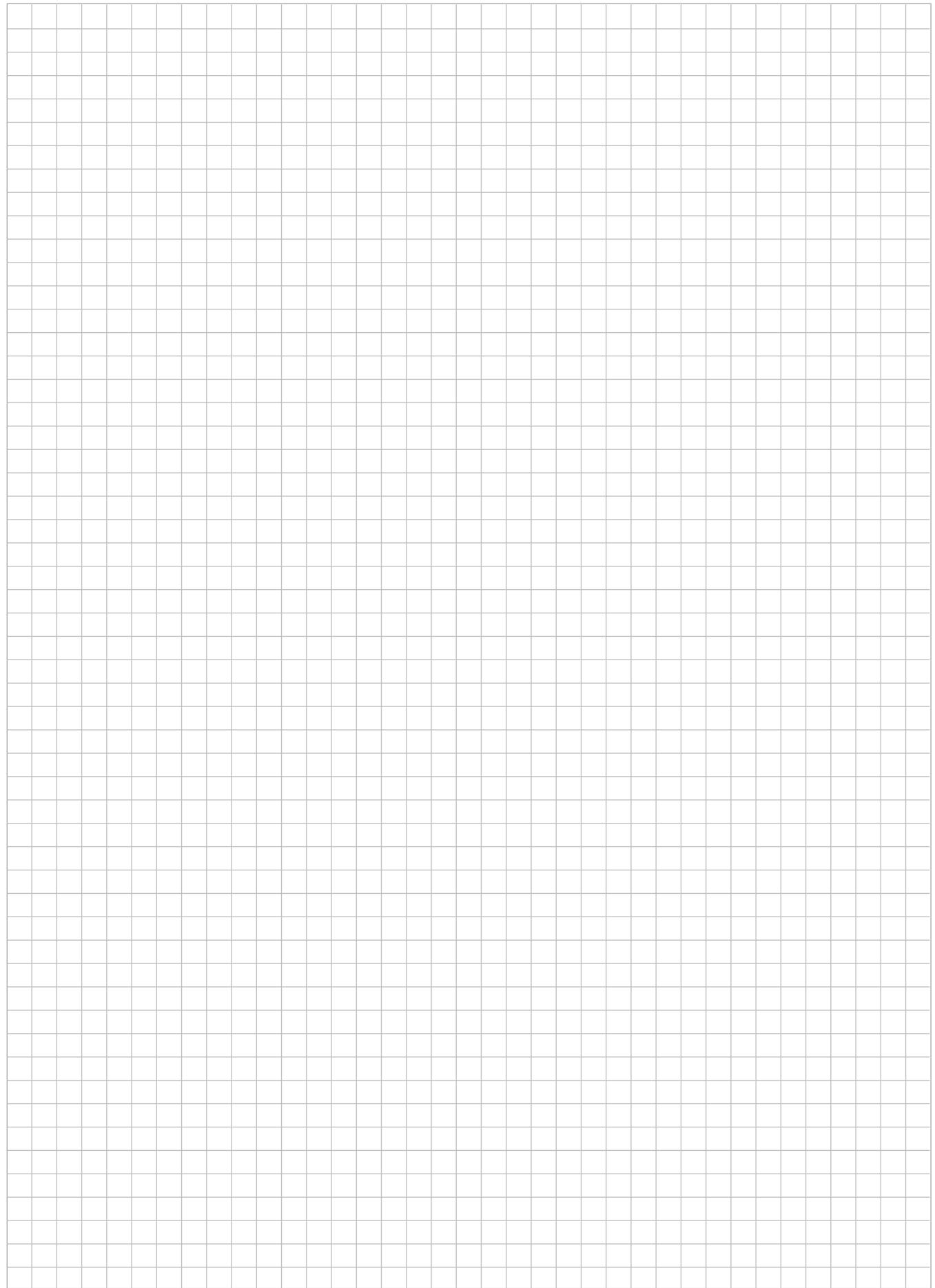
T_n = Full load torque
 I_s/I_n = Locked rotor current
 T_s/T_n = Locked rotor torque
 T_{max}/T_n = Breakdown torque
 I_n = Full load current

- Notes:
- The motors can also operate on a 60Hz supply, except frame 450, 2 pole.
 - To obtain this change in the electrical data for 60 Hz, please refer to any local WEG office or its representative.
 - The indicated values for sound pressure levels are @ 1m no load, with 3 dB(A) tolerance.
 - All values according to IEC 60034-1 tolerances.
 - This data can be changed without prior notice.



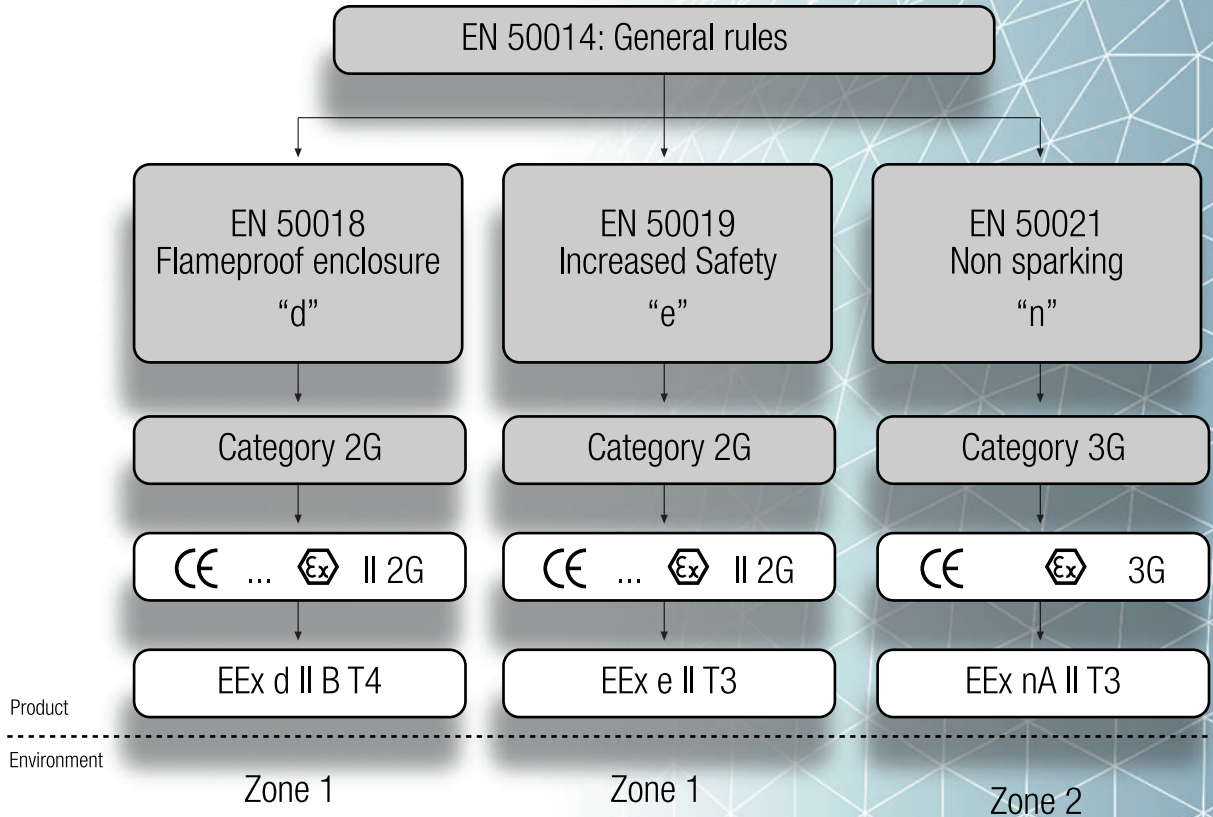


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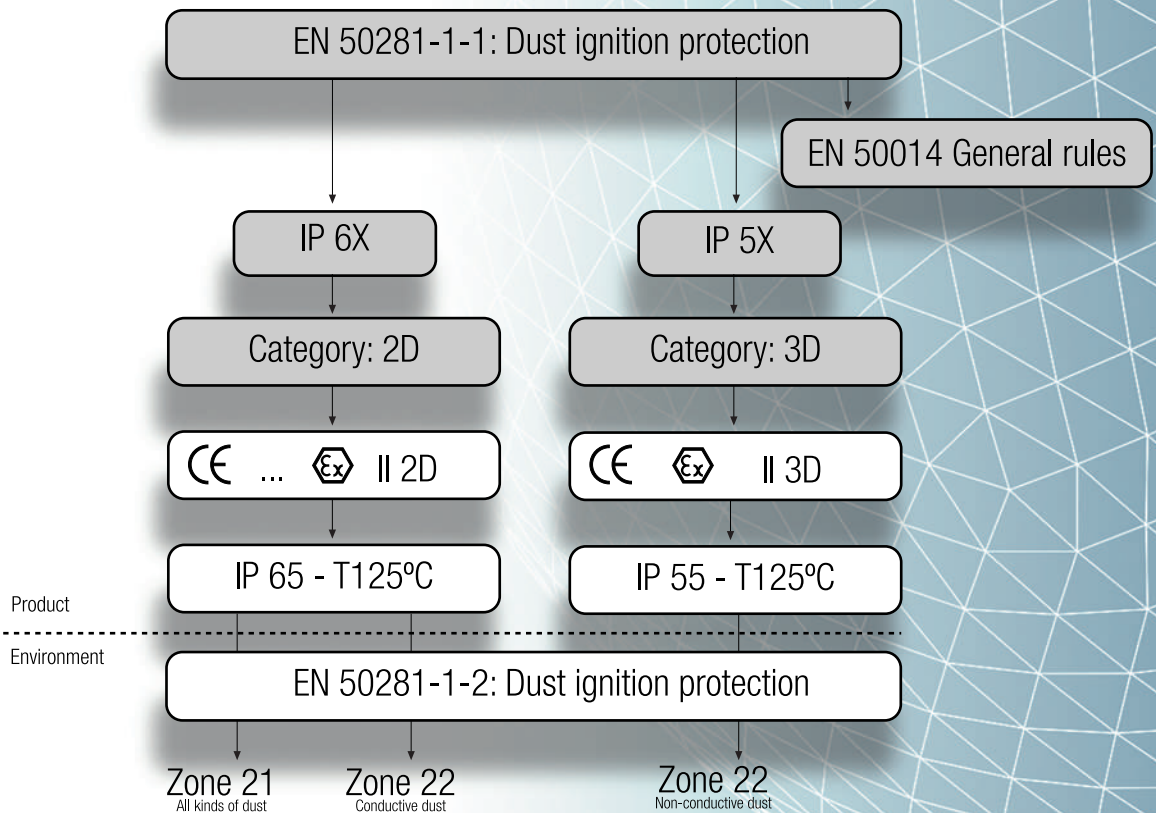


SELECTION OF PRODUCTS FOR HAZARDOUS AREAS

EN Standard for Group II: Gas environments



EN Standard for Group II: Dust environments



WEG WORLDWIDE PRESENCE

BELGIUM

WEG EUROPE S.A.
Rue Buisson aux Loups, 7
1400 NIVELLES
BELGIUM / BELGICA
Phone: + 32 (67) 88-8420
Fax: + 32 (67) 84-1748
info@wegeurope.be

FRANCE

WEG FRANCE
17, rue de Bruxelles
38070 St. Quentin Fallavier
FRANCE / FRANCIA
Phone: 33 (04) 74 99 1135
Fax: 33 (04) 74 99 1144
services@wegfrance.fr

GERMANY

WEG GERMANY GmbH
Alfred-Nobel-Str. 7-9 / D-50226 Frechen
GERMANY / ALEMANIA
Phone: +49 (2234) 9 5353-0
Fax: + 49 (2234) 9 5353-10
info@weg-germany.de
http://www.weg-germany.de

ITALY

WEG ITALIA S.R.L.
Via Milazzo, 21 - 20092 - Cinisello Balsamo - Milano
ITALY / ITALIA
Phone: (39) 02 6129-3535
Fax: (39) 02 6601-3738
info@wegitalia.com

NETHERLANDS

WEG Netherlands
Keulenstraat 4e
7418 ET DEVENTER
Tel: +31 - (0)570 - 620550
Fax: +31 - (0)570 - 620560
berend@weg-netherlands.nl

PORTUGAL

WEGeuro - Indústria Eléctrica, S.A.
Rua Eng. Frederico Ulrich
Apartado 6074
4476-908 Maia
PORTUGAL
Phone: +351 229 477 700
Fax: +351 229 477 792
sales@weg.com.pt
http://www.weg.com.pt

SPAIN

WEG IBERIA, S.A.
Polígono Industrial Miralrío
C/ Ebanistas, 8
28891 Velilla de San Antonio - Madrid
SPAIN / ESPAÑA
Phone: 34-91-655 3008
Fax: 34-91-655 3058
wegiberia@wegiberia.es

SWEDEN / SUECIA

WEG SCANDINAVIA AB
Box 10196, Verkstadgatan 9, 434 22 Kungsbacka
Phone: (46) 300 73400
Fax: (46) 300 70264
info@weg.se
http://www.weg.se

UNITED KINGDOM

WEG ELECTRIC MOTORS (U.K.) LTD
28/29 Walkers Road - Manorside Industrial Estate
North Moons Moat, Redditch
Worcestershire, B98 9HE
UNITED KINGDOM / REINO UNIDO
Phone: 44 (01527) 596-748
Fax: 44 (01527) 591-133
wegsales@wegelectricmotors.co.uk

BRASIL

WEG EXPORTADORA
Av. Prof. Waldemar Grubba, 3000
89256-900 Jaraguá do Sul - SC - BRAZIL
Phone: +55 (47) 372-4002
Fax: +55 (47) 372-4060
http://www.weg.com.br

ARGENTINA / ARGENTINA

WEG EQUIPAMIENTOS ELECTRICOS S.A.
Headquarters - San Francisco
Sgo. Pampiglione 4849
Parque Industrial San Francisco
2400 - San Francisco (Córdoba)
Phone: + 54 (3564) 421484
Fax: + 54 (3564) 421459
wegee@weg.com.ar

Branch - Buenos Aires

Moreno 794 Piso 7º / (1091) Buenos Aires
Phone: + 54 (11) 4334-1901
Fax: + 54 (11) 4345-6646
wegba@weg.com.ar

MORCHIO Y BENITEZ S.A.I.C.

Avda. Gral. Bernardo O'Higgins, 4045
X5014IHC Córdoba
Phone: (351) 464-1366
Fax: (351) 464-4058
morbe@wegmorbe.com.ar

INTERMATIC

Gabino Ezeiza, 9534, (1657)
Loma Hermosa, 3 de Febrero, Buenos Aires
Phone/Fax: (54) 11 47690890
info@weg-intermatic.com.ar

AUSTRALIA

WEG AUSTRALIA PTY. LTD.
Unit 2/112 - 120 Browns Road
Noble Park VIC 3174 - Melbourne
AUSTRALIA / AUSTRALIA
Phone: +61 (3) 9790-6800
Fax: +61 (3) 9790-6700
sales@weg.com.au

COLOMBIA

WEG COLOMBIA LTDA
Calle 13 Nº 47-54/64
Bogotá DC
Phone: (57 1) 268-6668
Fax: (57 1) 268-7040
marcoc@weg.com.br

CHILE

WEG CHILE S.A.
Dr. Barros Borgoño 233
Providencia - Santiago
Phone: (56-2) 810 4833
Fax: (56-2) 810 4838
wegchile@wegchile.cl

JAPAN

WEG JAPAN CO., LTD.
Room # 501, Nº 2, Ishi Bldg.
Kamata 4-47-5, Ohta-ku - Tokyo, 144
JAPAN / JAPON
Phone: (81) 3 3736-2998
Fax: (81) 3 3736-2995
wegjapan@mb.newweb.ne.jp
http://www.weg.co.jp

MEXICO

WEG MEXICO, S.A DE C.V.
Henry Ford No. 4, Esquina Gustavo Baz
Fraccionamiento Industrial San Nicolás
54030 Tlalnepanitla, Estado de Mexico
MEXICO / MEXICO
Phone: + 52 (55) 5321 4275
Fax: + 52 (55) 5321 4262
wegmex@weg.com.mx

USA

WEG ELECTRIC MOTORS CORP.
Headquarters - Atlanta
1327 Northbrook Parkway - Suite 490
Suwanee, GA 30024
U.S.A / E.U.A
Phone: 1-770-338-5656
Fax: 1-770-338-1632
http://www.wegelectric.com

Branch - Rochester

2100 Brighton - Henrietta Townline Road
Rochester, NY 14623
U.S.A / E.U.A
Phone: (1-716) 240-1000
Fax: (1-716) 240-1067

Branch - Kansas City

11705 W. 83rd. Terrace
Building I - Suite 100 - Lenexa, KS 66215
U.S.A / E.U.A
Phone: 1-913-492-7000
Fax: 1-913-492-6999

Branch - Los Angeles

2631 Lidsay Privado
Ontario, CA 91761
U.S.A / E.U.A
Phone: 1-909-390-5030
Fax: 1-909-390-1190

VENEZUELA / VENEZUELA

WEG WVE
Avenida Leste-Oeste 6, Galpón 4
Zona Industrial Municipal Norte
Parroquia Rafael Urdaneta
Ciudad: Valencia- Estado: Carabobo
Phone: +58 241 838-9694
Fax: +58 2417838-9239
wegfgarcia@cantv.net



WEGeuro - Indústria Eléctrica, S.A.

Sede e Fábrica: Rua Eng. Frederico Ulrich
Z. I. Maia - Sector V
Apartado 6074 - 4476-908 Maia PORTUGAL
Phone: +351 229 477 700, Fax: +351 229 477 792
sales@weg.com.pt - http://www.weg.com.pt

Delegação Sul: Phone/Fax: +351 219 410 514
Mobile: +351 965 390 113
afreixeiro@weg.com.pt