

WEG IEC MOTORS

General Purpose and ATEX/IECEX

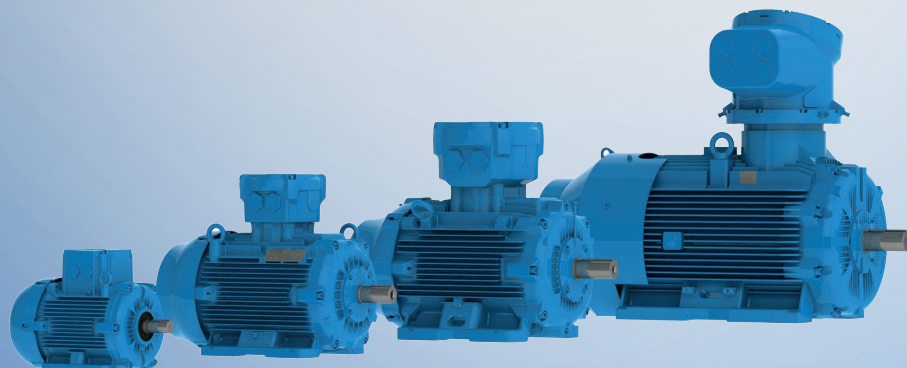
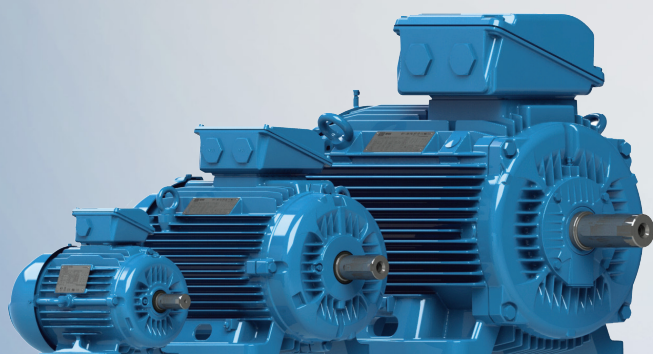
Motors

Automation

Energy

Transmission and
Distribution

Coatings



Driving efficiency and sustainability

WEG IEC lines of motors are made to meet the requirements of a global market.

Certifications are available to meet most markets around the world. WEG stocks IEC motors in the US with UL and CSA certifications to allow installation in the North American market, as well as CE for Europe and many other export markets to serve North American manufacturers that export machines to IEC markets.

WEG Offers motors for General Purpose and Severe Duty applications, as well as our W22X line for Hazardous locations (ATEX and IECEx)

GENERAL PURPOSE MOTORS

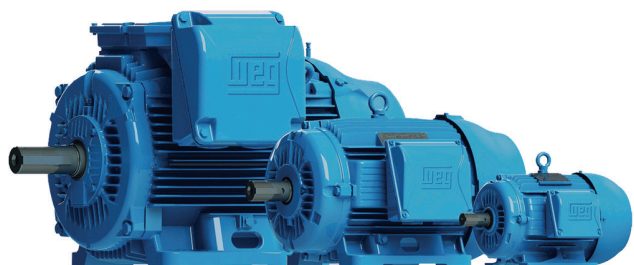
IEC TRU-METRIC™ - THREE PHASE TEFC

This line is designed and built according to European IEC 60034 and IEC 60079 standards.

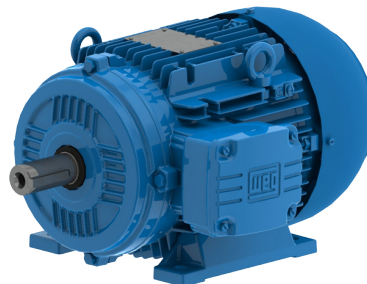
- 60 Hz (1.15 service factor) and 50 Hz (1.0 service factor)
- Class F insulation (Impregnation Resin and Magnet wire are class H)
- F2 mounting as standard (F1 convertible)
- Stainless Steel Nameplate - Laser etched with High contrast background
- Regreasable ball bearings (Frames 160 and up)
- Gasketed conduit box
- Class I, Div. 2, Groups A, B, C & D – T3, Class II, Div 2, Groups F & G – T3C (Cast Iron Frames only)
- 6-lead motors suitable for WYE/Delta Start (exception to W voltage code at 60Hz)
- Aluminum Frames available 71- 132M
- Cast Iron Frames available 90 -355M/L

Features that make a difference:

- 1.25 service factor for 60 Hz operation (IE3)
- 1.15 service factor for 60 Hz operation (IE2)
- Optimized ventilation system for cooler operation and reduced noise levels.
- Solid base for reduced vibration levels (Cast Iron Frames)
- Frames 225 and up can easily be F1 (B3L) converted by simply rotating the terminal box adapter or F3 by removing it.
- Aluminum frames have removable feet for easy F1, F2 and F3 (B3L, B3R, B3T) conversion
- Terminal blocks
- C-Din and FF flanges available from Stock
- Efficiency levels to IE4 available Induction and IE5
- Permanent magnet



W22 Cast Iron



Aluminum

Inverter Rated (IE3*): 1000:1 for variable torque 12:1 for constant torque on 60Hz Power

* IE2 is 10:1 VT and 4:1 CT



Please refer to last page for description of "NOTES". All data subject to change without notice. Refer to our electronic catalog at www.weg.net/us for drawings and data sheets.

Standards and Classification of Explosive Atmospheres



ATEX Directives

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

The ATEX Product Directive 2014/34/EU ("ATEX 114"), effective from 20th April 2016 (and replacing the former 94/9/EC or "ATEX 95"), places responsibilities on the equipment manufacturer, whereas the Worker Protection Directive 1999/92/EC - "ATEX 153" (formerly "ATEX 137") places obligations on the end user.

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

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

ATEX compliant products can be easily recognised by the explosion protection symbol  and the  mark certifying conformity with the Product Directive. Directive 1999/92/EC ("ATEX 153") lays down the minimum requirements for improving the safety and health protection of workers at risk from explosive atmospheres, and also classifies the environment into zones and outlines which category of equipment can be used in each zone.

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

IECEx System

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

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

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

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

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

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

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



ATEX/IECEX MOTORS

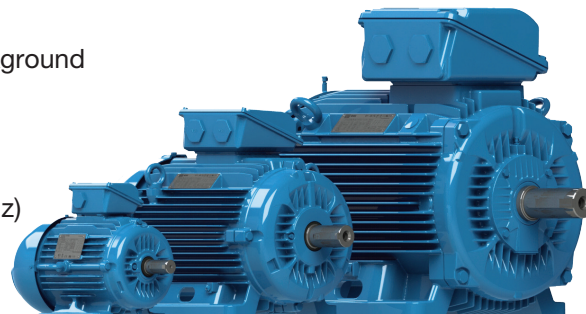
TEFC - Ex ec

ATEX: II 3G Ex ec IIC T3 Gc

IECEX: Ex ec IIC T3 Gc

Ex ec motors do not require certification by any third party entity (a manufacturer's compliance declaration is sufficient). Nevertheless the Ex ec motors manufactured by WEG are certificated by Ex NB BASEEFA.

- 50 Hz and 60 Hz rated (1.00 service factor)
- Class F insulation (Impregnation Resin and magnet Wire are class H)
- F3 mounted as standard
- Stainless Steel Nameplate - Laser etched with high contrast background
- Regreasable ball bearings (Frames 160 and up)
- Gasketed conduit box
- Zone 2, Groups IIA, IIB and IIC
- Suitable for WYE/Delta Start (exception to W voltage code at 60Hz)
- Design N
- Conductive plastic fan (frames 63 up to 315)
- Aluminum fan (frame 355)



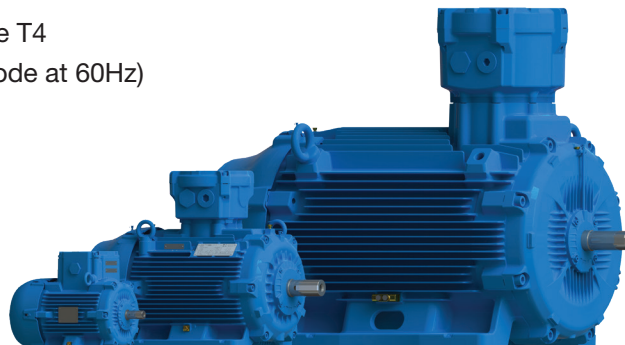
ATEX/IECEX MOTORS

TEFC -Ex db - IE2-IE4



II 2G Ex db IIB T4 Gb IECEX: Ex db IIB T4 Gb

- 50 Hz and 60 Hz rated (1.00 service factor)
- Class F insulation (Impregnation Resin and magnet Wire are class H)
- F3 mounted as standard
- Stainless Steel Nameplate - Laser etched with high contrast background
- Regreasable ball bearings (Frames 225 and up)
- Gasketed conduit box
- Zone 1 and 2, Groups IIA and IIB, class of temperature T4
- Suitable for WYE/Delta Start (exception low voltage code at 60Hz)
- Design N
- Conductive plastic fan (frames 63 up to 315)
- Aluminum fan (frame 355)
- Lip Seal on both endshields
- Thermistors 1 per phase



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W22Xtb Dust Ignition Proof Motors

W22Xtb motors are specially designed to maximise safety and reliability on installations in potentially explosive dust atmospheres classified as Zone 21 where conductive dusts either in the form of clouds (free suspension) or layers (up to 5 mm thick) may be present.

Features

Standard

- Rated Output: 0,12 up to 500 kW
- Number of Poles: 2 up to 12
- Frame Sizes: IEC 63 to 355A/B
- Voltage: 220-240/380-415 V (up to 100L)
380-415/660 V (from 112M and up)
- Frequency: 50 Hz
- Efficiency Level: IE3 Premium Efficiency
- Hazardous Area: Zone 21 – Dust Groups IIIC
- Certification marking: Ex tb IIIC T125 °C Db
- Ambient Temperature Range: -20 °C to +40 °C
- Degree of Protection: IP66
- Winding Thermal Protection: PTC 140 °C
- Painting plan: 202P (C4 according to ISO 12944)
- Insulation class: F (ΔT 80K)

Optional

- Efficiency Level: IE1 and IE2
- Single use marking Ex tb - Dust (W22Xtb)
- Ambient Temperature Range: -55 °C to +80 °C
- Pt-100, thermostats, anti-condensation heaters
- Painting plans C5M / C5I acc. ISO 12944, NORSOK M-501 etc.
- VIK Compliant Execution
- Suitable for frequency inverter application
- Certification marking: Ex tb IIIC T105 °C Db (from 71 up to 132 frame sizes)

Other Certification

- INMETRO
- EAC Ex
- SANAS

VFD Application

W22Xtb motors are also certified for operation with Variable Frequency Drives

- Thermal protection embedded in motor windings
- Separate rating plate indicating permissible operating parameters under variable speed conditions.
- Must respect WEG derating curves / conditions defined in ATEX & IECEx certificates




Protection

W22Xtb motors are certified “Ex tb” Dust Ignition Proof, for installation in hazardous areas classified as Zone 21 (Dust Groups IIIC).


WEG ATEX Offerings


THREE-PHASE CAST IRON MOTORS

Motor Line Name	Marking Examples
W22Xec	ATEX: II 3G Ex ec IIC T3 Gc IECEX: Ex ec IIC T3 Gc
W22Xeb	ATEX: II 2G Ex eb IIC T3 Gb IECEX: Ex ec IIC T3 Gb
W22db	ATEX: II 2G Ex db IIB T4 Gb IECEX: Ex db IIB T4 Gb
W50Xec	ATEX: II 3G Ex ec IIC T3 Gc IECEX: Ex ec IIC T3 Gc
HGF Ex ec	ATEX: II 3G Ex ec IIC T3 Gc IECEX: Ex ec IIC T3 Gc



W22Xec
Premium



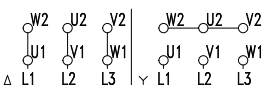


Baseefa 10ATEX0192X
II 3G Ex ec IIC T3 Gc
II 3D Ex tc IIB T125°C Dc
IEC 60034-1

89256-900/JARAGUA DO SUL/BRAZIL



3~ 225S/M-04		IP55	INS	CL. F	ΔT	80 K	S1	SF 1.00	AMB -20 to 40°C
V	Hz	kW	RPM	A		PF	IE code	100%	
380 Δ / 660 Y	50	37	1478	71.3 / 41.1		0.84	IE3	93.9	
400 Δ / 690 Y			1480	69.2 / 40.1		0.82		94.1	
415 Δ / -			1482	68.5 / -		0.80		93.9	
460 Δ / -	60		1783	60.7 / -		0.81		94.5	

→ 6314-C3(27g)
→ 6314-C3(27g)
MOBIL POLYREX EM
14000 h




THREADS 2xM50x1,5/M20x1,5

Alt 1000 m.a.s.l. 366 kg






IECEX BAS 10.0099X
Ex ec IIC T3 Gc
Ex tc IIB T125°C Dc
TC RU C-CN.AA87.B.00638
2Ex nA IIC T3 Gc X
Ex tc IIB T125°C Dc X

15471049C



W22Xdb
Premium





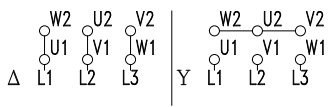
INERIS 17ATEX0001X
II 2G Ex db eb IIC T4 Gb

89256-900/JARAGUA DO SUL/BRAZIL



Threads 2xM50x1,5/2xM20x1,5

3~ 225S/M-04 DUTY S1		IP56	DES N	IEC 60034-1			
550kg	1000m.a.s.l.	INS	cl. F	DT 80K	AMB -20 to 40°C	SF 1.00	
V	Hz	kW	RPM	A		PF	IE code η 100%/75%/50%
380Δ 660Y	50	37	1480	70.4 40.6		0.85	IE3 93.9/93.5/92.5
400Δ 690Y	50	37	1480	68.5 39.7		0.83	IE3 93.9/93.6/92.5
415Δ -	50	37	1480	66.0 -		0.83	IE3 93.9/93.5/92.5
460Δ -	60	37	1784	58.5 -		0.84	IE3 94.5/94.0/92.6

→ 6314-C3 (27g)
→ 6314-C3 (27g)
MOBIL POLYREX EM (14000h)



Threads 2xM50x1,5/2xM20x1,5

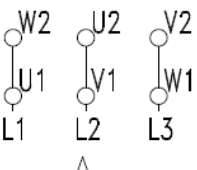
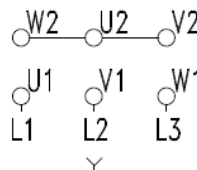
IECEX INE 16.0060X
Ex db eb IIC T4 Gb
EA3C RU C-BR.AA87.B.00379/20
1Ex db e IIC T4 Gb X

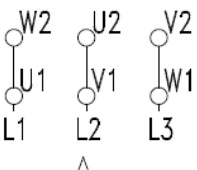
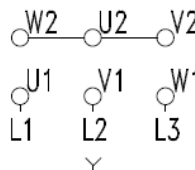
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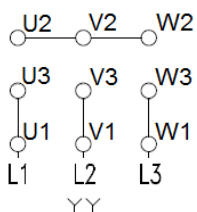
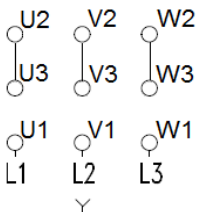


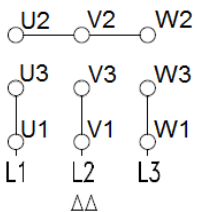
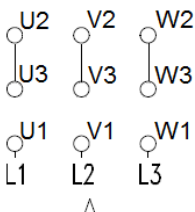
Wiring Diagrams

METRIC MOTORS

Voltage Code	W	
Frames	100 and below	
60Hz Voltage	-	460
50Hz Voltage	220-240	380-415
Wiring Diagram		
	Δ	Y

Voltage Code	Y	
Frames	112 and above	
60Hz Voltage	460	-
50Hz Voltage	380-415	660-690
Wiring Diagram		
	Δ	Y

Voltage Code	E	
Frames	90 and below	
60Hz Voltage	230	460
50Hz Voltage	190	380
Wiring Diagram		
	YY	Y

Voltage Code	E	
Frames	100 up to 132 (including)	
60Hz Voltage	230	460
50Hz Voltage	190	380
Wiring Diagram		
	$\Delta\Delta$	Δ



WEG's scope of solutions is not limited to the products and solutions presented in this brochure.


Contact WEG for information on additional products and solutions.

**For WEG's worldwide
operations visit our website**



www.weg.net



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