

W22Xeb

Increased Safety Motors

Commercial Catalogue
European Market



Motors | Automation | Energy | Transmission & Distribution | Coatings

W22Xeb

Increased Safety “Ex eb” motors are designed to prevent the occurrence in operation (including starting & locked rotor conditions) of arcs, sparks and excessive overheating of all inner and outer surfaces of the machine which could reach the self ignition temperature of the surrounding potentially explosive atmosphere.



Features

Standard

- Rated Output: 0.12 to 250 kW
- Number of Poles: 2 to 8
- Frame Sizes: IEC 63 to 355M/L
- Voltage: up to 690 V
- Frequency: 50/60 Hz
- Efficiency Level: IE2 High Efficiency
IE3 Premium Efficiency
- Hazardous Area: Zone 1 – Gas Groups IIA, IIB, IIC
- Ambient Temperature Range: -20 °C to +40 °C
- Degree of Protection: IP55
- Painting plan C2 according to ISO 12944 (CENELEC Design)
- Painting plan C4 according to ISO 12944 (VIK Design)
- Mounting: B3T
- Insulation class: “F” (DT80K)

Optional

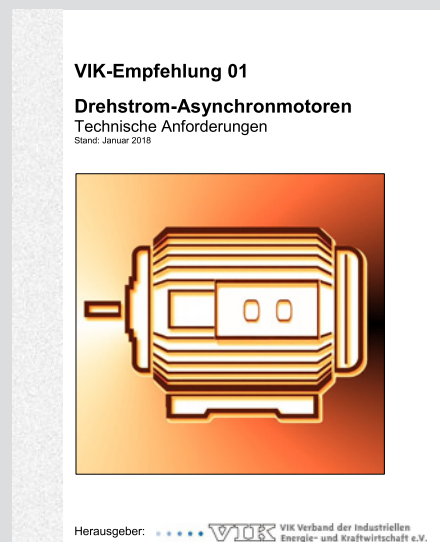
- Dual marking for Zone 1 / Zone 21, Gas & Dust: Ex eb / Ex tb
- Degree of Protection up to IP66
- Ambient Temperature Range: -55 °C to +60 °C
- PTC thermistors, anti-condensation heaters
- Painting plans C4, C5M/C5I, CX according to ISO 12944
- Suitable for frequency inverter application

W22Xeb – VIK Execution

According VIK Recommendation No VE 1 (January 2018)

- Rated output: 0.12 kW to 100 kW¹⁾ (according DIN 42673-2)
- Minimum efficiency IE2
- Frame Sizes: IEC 63 to 315S/M¹⁾
- tE time according VIK recommendation
- Additional nameplate inside the terminal box
- Mobil Unirex N2 grease (frames 160 & above)
- Grease nipples M10x1 acc. DIN 3404
- Extended grease outlet (frames 160 & above)
- Removable gland plate (frames 315+)
- Loctite 5923 sealing on joints
- Cooling fans: plastic

Note: 1) Larger frame sizes & outputs > 100 kW acc. IEC 60034-1.



VFD Application

W22Xeb e motors are also certified for operation with Variable Frequency Drives

- Certified 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

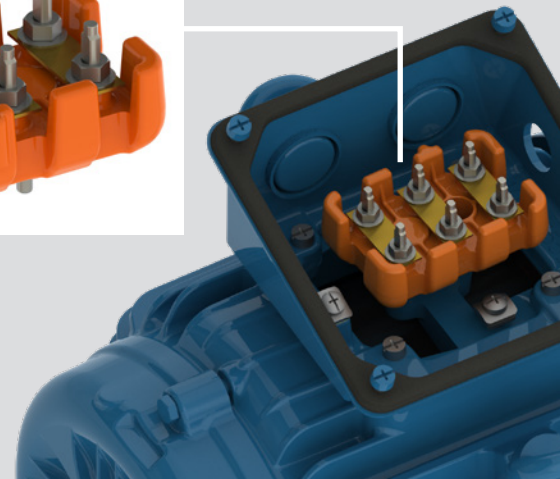
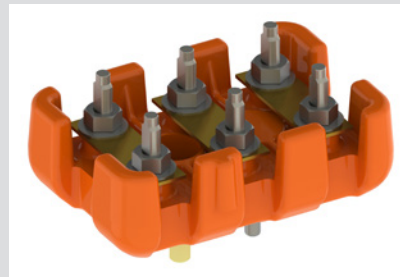
W22Xeb “Ex eb” Increased Safety motors are certified for installation in hazardous areas defined as Zone 1 (Gas Groups IIA, IIB, IIC) and, optionally, “Ex tb”, Zone 21 (Dust Groups IIIA, IIIB, IIIC).

IEC			Operating Conditions	
Hazardous Areas	Gas	Zone	0	Explosive atmosphere is continuously or frequently present
			1	Explosive atmosphere is likely to occur in normal operation condition
			2	Explosive atmosphere is not likely to occur in normal operation condition
		Group	I	Methane
			IIA	Propane
			IIB	Ethylene
	Dust	Zone	IIC	Hydrogen
			20	Explosive atmosphere is continuously or frequently present
			21	Explosive atmosphere is likely to occur in normal operation condition
		Group	22	Explosive atmosphere is not likely to occur in normal operation condition
			IIIA	Solid particles, larger than 500 µm suspended-combustible dusts
			IIIB	Non-conductive dust, smaller than 500 µm and resistivity greater than to 10 ³ Ω.m - grime
IIIC	Conductive dust, smaller than 500 µm and resistivity lower than 10 ³ Ω.m – metallic dust			



Ex eb Design - Key Requirements

- Terminal boxes must have a minimum degree of protection IP54
- All components and connection cables must be firmly fastened, without allowing any movement during installation and operation
- The screw connections have a specified torque value (indicated in the O&M manual)
- tE time may not be below than 5 seconds and starting current ratio IA/IN not exceeding 10 times rated current
- Special attention to cross section, impregnation and reinforcement of winding wire
- Temperature rise limited to 70 K for ambient conditions of 40 °C (must be at least 10K below the permitted maximum of the insulation class)



Certification

SGS BASEEFA

- ATEX & IECEx certifications
- Zone 1 / Zone 21
- Gas groups IIA, IIB, IIC / Dust groups IIIA, IIIB, IIIC
- Standards IEC 60079-0, 60079-7 & 60079-31

Marking

- Ex eb IIC T3 Gb / Ex tb IIIC T125 °C Db

For WEG's worldwide
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The values shown are subject to change without prior notice.

The information contained is reference values.