

W51Xdb Flameproof Motors

**Driving a future
that's more
sustainable**



Industrial Motors

Commercial &
Appliance Motors

Automation

Digital &
Systems

Energy

Transmission &
Distribution

Coatings

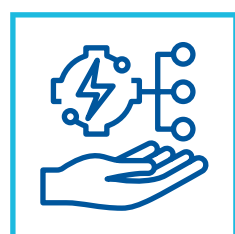
Driving efficiency and sustainability





Suitable for all
explosive
atmosphere
segments

Unmatched power density, leading its class.
Combining compact size and high efficiency.



+ POWER
Less space &
installation costs



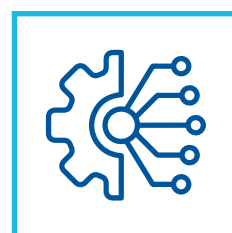
+ EFFICIENCY
Less carbon
emissions



+ RELIABILITY
Less operating
costs



+ CONNECTIVITY
Less downtime



+ FLEXIBILITY
Less limitations



W51Xdb / Standard features

- Hazardous areas classification: Zones 1 and 2, Group IIB (IEC / EN / NEC / CEC) - Temperature class: T4 (135 °C)
- Rated output: up to 800 kW
- Voltage: up to 13,800 V (50 or 60 Hz)
- Efficiency level:
 - Low voltage: IE3 according to IEC 60034-30-1
 - High voltage: IE4 according to IEC 60034-30-3 (*)
- (*) Motors for explosive atmospheres are excluded from the scope of this standard
- Altitude: up to 1,000 m.a.s.l.
- Service factor (SF): 1.0
- Duty: S1 (continuous)
- Insulation: Class F (“B” temperature rise - 80K)
- Range of ambient temperatures: -20 °C up to +40 °C
- International protection rating:
 - Frame: IP55
 - Terminal boxes: IP66
- Mounting: B3
- Cable entries: on right hand side, facing drive end
- Main terminal box: Ex eb - rotatable in 90° steps
- Cooling method: IC411 (TEFC – Totally Enclosed Fan Cooled)
- Frame, endshields, fan cover and terminal box material: cast iron
- Shaft material: AISI 4140
- Grounding: double grounding (frame and terminal boxes)
- Low voltage - thermal protection and space heaters:
 - Winding: PTC 150 °C, 3 wires (1 per phase)
 - Space heaters: 200-240 V, wired to the main terminal box
- High voltage - thermal protection and space heaters:
 - Winding: RTD - Pt100, 3 wires (1 per phase)
 - Bearing: RTD - Pt100, 3 wires (1 per bearing cap)
 - Space heaters: 200-240 V, wired to the dedicated terminal box
- Painting plan: C4 - according to ISO 12944
- Color: RAL 5009 (Azure Blue)
- Tropical treatment: rotor, windings and castings



W51Xdb / Optional features

- Hazardous areas classification:
 - Zones 1 and 2, Group IIC (IEC / EN / NEC / CEC)
 - Zones 1 / 21 and 2 / 22, Groups IIB / IIIC (IEC / EN / NEC / CEC)
 - Zones 1 / 21 and 2 / 22, Groups IIC / IIIC (IEC / EN / NEC / CEC)
 - Class I, Division 1, Groups C & D (NEC / CEC)
 - Class II, Division 1, Groups E, F & G (NEC / CEC)
- Wide range of operating temperatures:
 - Maximum ambient temperature: up to +60 °C
 - Minimum ambient temperature: down to -55 °C
- Special mounting arrangements and custom designed solutions
- Main terminal box: Ex db - rotatable in 90° steps
- Phase segregated, phase insulated or phase separated terminal boxes
- Accessible neutral point on the main terminal box or dedicated terminal box
- Fault rated terminal boxes (up to 50 kA during 1 second)
- Current transformers (protection or measurement), surge protection (arrestors or capacitors), signal transducers and partial discharge monitoring
- Terminal boxes in different materials: carbon steel or stainless steel
- International protection ratings: IP56, IP65 and IP66
- Certified drain plugs on motor frame and terminal boxes
- Special shaft materials and dimensions
- Forced ventilation (IC416)
- Shaft grounding ring
- Suitable for VSD application (without the need for a combined type test)
- Reduced vibration levels according to IEC 60034-14 or API 541/547
- Stainless steel hardware
- Vibration monitoring accessories (provision or supply of SPM, accelerometers, key-phasors)
- Special painting plans according to customer specification
- Wide range of accessories (Pt1000, thermocouples, surge diverters, temperature transmitters, encoder or tacho assembly, etc.)
- Other optional features (sunshade, flying leads, low starting current, etc.)
- Designed to meet main industry specifications, including API 541/547 and IEEE 841, and to comply with JIP33 per IOGP guidelines, as well as offshore application requirements.

The reliability and flexibility recognized worldwide, now with even greater efficiency.



More power and efficiency

W51Xdb motors combine advanced cooling and an innovative endshield design for optimized airflow, maximizing power density and efficiency. With a higher output-to-weight ratio, low mechanical losses and robust compact frames, our motors deliver superior performance.



More reliability

The W51Xdb frame is designed to minimize noise, vibration and bearing operating temperature, ensuring greater reliability and lower operational costs. It is also ideal for variable speed drive operation.



More connectivity

Perfectly suited for WEG's condition monitoring system, enabling real-time cloud-based predictive analysis and minimizing operational downtime.



More flexibility

The modular design of the W51Xdb offers full customization to meet your installation or drop-in replacement needs. A wide variety of optional features is also available.

Certifications



Main marine and offshore approvals



Better together for maximum performance



From motors and drives to services, everything is available at our High Voltage Solutions Center, your one-stop shop for variable speed drive systems!

Discover our full range of motors designed for explosive atmospheres, combining safety and high performance

Low voltage:

Flameproof motors - Ex db (eb)
Suitable for Zones 1, 2, 21 and 22
Rated output: up to 1,400 kW
Voltages: up to 1,140 V

Dust ignition proof motors - Ex tb
Suitable for Zone 21
Rated output: up to 450 kW
Voltages: up to 690 V

Increased safety motors - Ex ec & Ex tc
Suitable for Zones 2 and 22
Rated output: up to 1,100 kW
Voltages: up to 690 V

Medium and high voltage:

Flameproof motors - Ex db (eb)
Suitable for Zones 1, 2, 21 and 22
Rated output: up to 7,500 kW
Voltages: up to 13,800 V

Increased safety - Ex eb & Ex ec
Pressurized motors - Ex px (eb), Ex py (eb) & Ex pz (eb)
Rated output: up to 50,000 kW
Voltages: up to 13,800 V

The scope of WEG Group solutions
is not limited to products and solutions
presented in this catalogue.


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operations visit our website**



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