

W21

MODEL



High Efficiency - General Purpose Motors Specification Sheet

- Special voltages
- Specially designed shaft
- Space heaters (standard on 588/7 frames)
- Labyrinth taconite seal available for all ratings
- Thermistors, thermostats or RTDs (PT100)
- Additional terminal box
- Drip cover (canopy) for shaft down applications
- Cable glands 'C' and 'D' flanges for all ratings
- Roller bearings on drive end available for all frames
- Special epoxy painting

TEFC - Three phase foot and flange mount

The W21™ Severe Duty High Efficiency motors are designed to meet or exceed all EPCAct requirements for energy efficiency as defined by the DOE. The efficiency values are certified according to the DOE's regulations (Certificate of Compliance number CC029A). W21 motors meet the most demanding severe duty application requirements. These TEFC motors are all cast iron construction, with enclosures rated IP55 to handle wet and dirty environments. They are painted with a Eurotherm® special system, using synthetic enamel alkyd resin paints, which exceed the ASTM B117 standard for salt spray test. The W21 line is rated for 1.25 Service Factor up to 100HP. This line is rated for dual frequency and dual voltage (with reduced service factor) up to 30 HP. The entire line is certified Inverter Rated for use with a VFD. This rating meets or exceeds MG1 Part 31 NEMA Specifications.

Standard features (frames 143T and up)

- Efficiency certificate No. CC029A according to US Department of Energy regulations
- Three-phase, II IV, VI and VIII pole, 60Hz
- Voltage: 208-230/460V, 200V 460V or 575V
- 50/60Hz rated up to 30HP. (For 40HP and up please contact your sales office).
- Totally Enclosed Fan Cooled - TEFC (IP55) water tight and dust tight enclosure
- Squirrel cage rotor/Aluminium die cast
- V-ring slingers on both endshields (586/7 frame equipped with labyrinth taconite seal as standard)
- 1045 Carbon Steel Shaft for frames up to 365T
- 4140 steel shaft for motors 404T and above. (3600 RPM motors supplied with 1045)
- NEMA dimensions
- Class 'F' insulation for all frames
- Class 'H' impregnation resin
- Temperature rise: class 'B' (80°C)
- NEMA ratings design 'B'
- Most ratings meet Design C torque*
- Service Factor: 1.25 up to 100HP 1.15 from 125HP and up
- Continuous duty (S1)



* Design B torque rating on nameplate can be re-placed for Design C. All motors are tested according to IEEE 112 std. - method "B" or C390 CSA. Energy efficiency motors verified by UL in addition to the DOE.

- F1 mounted T-Box (F2 mounted capable)
- Stainless steel nameplate AISI 316 with laser etching
- Paint Synthetic enamel alkyd resin base (exceeds ASTM B117 salt spray test)
- Colour: RAL 5007 - Blue (II, IV and VI pole)
- Automatic drain plugs - pressure compensated
- Regreasable bearings, positive pressure lubrication system (frames 254T and up)
- Gasket conduit box
- Roller bearing models available
- MGI Part 31 rating for use with VFD at 12:1 constant torque speed range. Speed range can be extended with optional Blower Kit
- Glass 1, Div 2, Groups B, C & D

Fan cover

Steel covers on 143T up to 215T frames and cast iron on frames 254T and up.

Bearings

The bearings are dimensioned to ensure long life to the motor, even under heavy working conditions. A positive pressure lubrication system includes a drain plug that allows the outflow of excess grease on 254T frames up to 586/7.

Eye bolt

For easy handling, motors 184T frame and larger are provided with an eyebolt. Footless motors are provided with two eyebolts.

Frame

Made of FC-2000 cast iron, with external fins for maximum cooling effect.

Motor

Aluminum die cast into a magnetic steel lamination for low electric losses. Dynamically balanced for smooth operation, reduced vibration and noise.

Name plate

Stainless steel nameplate contains a complete and permanent record of all motor data (according to NEMA requirements).

Drain plugs

Provided with automatic drain plug that quickly drains condensation.

Endshields

Made of cast iron, with external fins for heat dissipation. They also have polished bearing housings for longer bearing life.

Fan

Made of rigid plastic for frames from 143T up to 505T and aluminum for frame 586/7. Non-sparking, non-toxic, resistant to environmental conditions, and ensures low noise operation.

Terminal box

Oversized, cast iron construction. Gasketed lid and between box and frame. NPT threads holes to connect conduit or cable glands.

Winding

All copper winding wire enameled with class "H" polyester varnish. Insulating materials of high dielectric rigidity and solvent free polyester resin providing excellent mechanical resistance.

Stator

Made of silicon steel laminations thermochemically treated to improve the electric characteristics, reducing electric losses and operating temperature.

V-Ring sling

In both endshields to protect bearings and motor from the aggressive components present in the environment.

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