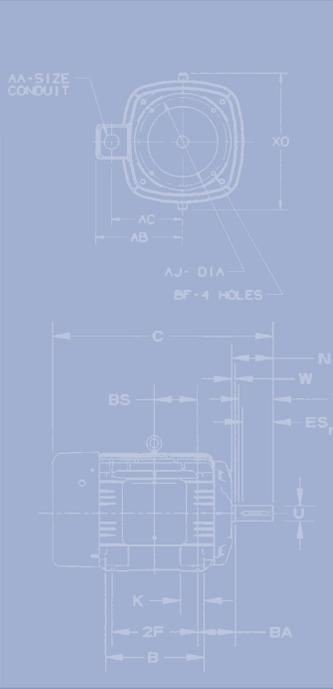




# Product Data Sheet

Horizontal A.C. Motors  
Totally Enclosed Fan Cooled  
841 PLUS®



- Designed to Exceed IEEE 841 Standard - 2000
- **NEMA Premium** Premium Efficient Design with Patented "Inverter Grade®" Insulation System
- Inverter Duty - 10:1 variable, 5:1 constant torque
- New Oversized Bearings - Exceeds 50,000 hours belted and 130,000 hours direct drive bearing life
- Oversized Conduit Boxes - Twice NEMA Volume
- 1 - 500 HP; 3600 through 900 rpm; custom or stock product
- ALLGUARD® Motor Quality System
- 0.05 IPS peak vibration



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## Product Overview

The new 841 PLUS<sup>®</sup> motor is designed for constant speed as well as inverter duty applications typically found in Petro/Chemical, Pulp & Paper, Automotive, Mining and Wastewater treatment industries. The best performing motor in the industry for severe environments, the 841 PLUS<sup>®</sup> motor consists of an all cast iron construction along with a NEMA<sup>™</sup> premium efficient electrical package designed to lower your overall operating costs. Combine these features with a 5 year warranty and you have the most versatile motor in the industry today.

Now, the **841 PLUS<sup>®</sup>** comes standard with our patented "Inverter Grade" insulation system which includes the "Pulse Resistant" magnet wire. The enhanced 841 PLUS motor fully complies with the NEMA MG-1, Part 31 specification for inverter duty applications. The end result is a motor capable of withstanding spike and transient voltages induced by IGBT drives. Over and above the standard insulation package, our "Inverter Grade" insulation system includes: additional lacing on the end turns for coil rigidity, multiple dips and bake for added protection of a coil-to-coil short, additional phase paper to protect from a phase-to-phase arc, and pulse resistant magnet wire to protect against high voltage spikes. The net result is an off-the-shelf motor that meets the end user's sine wave power needs as well as any adjustable frequency 5:1 constant

torque or 10:1 variable torque needs.

In addition to the motor's ability to meet multiple power requirements, additional enhancements have been added to make the 841 PLUS<sup>®</sup> the most versatile machine in the industry. These enhanced product features include:

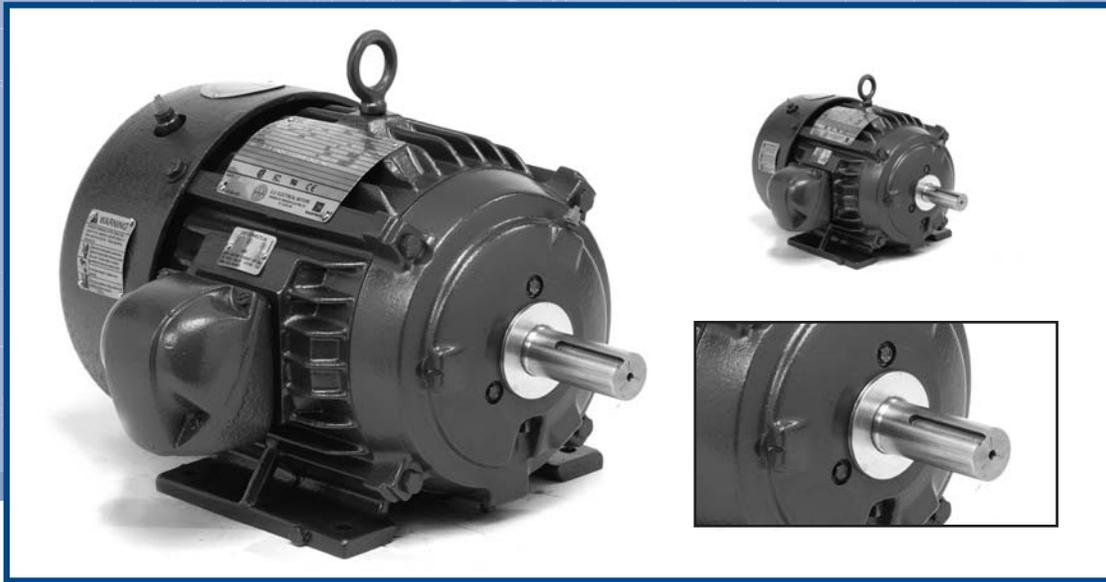
- ◆ A rugged bearing system that accommodates one bearing size on both ends of the motor;
- ◆ A motor bearing life of 50,000 hrs belted or more than 130,000 hours of direct-coupled;
- ◆ VBXX Inpro/Seals on both ends of the motor. The first motor manufacturer to standardize on the new VBXX Seal. VBXX can protect the bearing in even harsher and higher volume liquid environments and in either a vertical or horizontal position.
- ◆ 0.05 inches per second (IPS) peak vibration overall, with banded test limits/results included.

The end user's benefits to purchasing the 841 PLUS motor are reduced inventory to meet a wide variety of motor requirements and peace of mind knowing that if the line shuts down at 3:00 a.m. the correct motor will be in stock and installed on demand.

**The 841 PLUS exceeds NEMA MG-1,  
Part 31**



# Product Features



**Precision Balanced Rotors** 0.05 in/sec vibration (1/3 NEMA standard). Currently available from 140 through 440 T frame. Reduces overall system vibrations - extending equipment life.

**VBXX Inpro/Seal™** The first motor manufactured to standardize on VBXX seals on both ends of the motor to inhibit the passage of contaminants into the bearing system, prolong bearing life, and reduce system downtime.

**NEMA Premium Efficiency Design** Meets "NEMA™ Premium" and CEE efficiency levels. With the use of low loss silicon steel, premium efficient designs lower energy costs and operating temperatures.

**Insulation System** Class F insulation materials with less than 80° C temperature rise at rated load provides longer motor life.

**Foot Flatness** Precision machined foot flatness ensures proper equipment alignment (less than 0.005" tolerance)

**Oversized Conduit Box** Dual gasketed, rotatable conduit box protects against contaminants and positions non-braided, non-wicking motor leads.

**Oversized Bearings** Oversized bearings provide 130,000 hour direct connected (50,000 hour minimum belted) bearing life improving motor reliability and reducing system downtime.

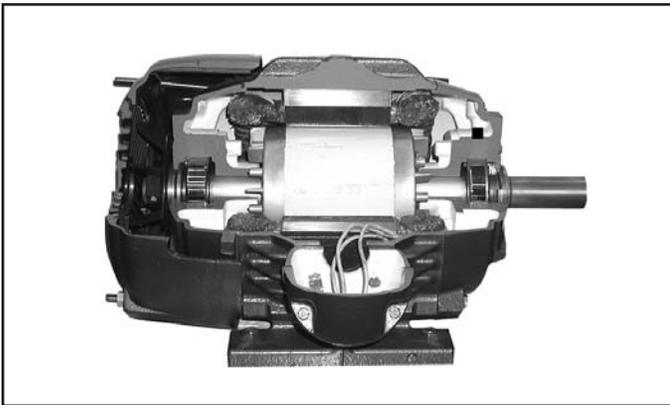
**Warranty** 5 year warranty for sine wave power and 3 year warranty for inverter duty applications.



# Summary

## 841 PLUS® Motor

Stock Motors	Custom & Conversion Motors:
<ul style="list-style-type: none"><li>• 1 through 200 Horsepower</li><li>• 2, 4, or 6 pole designs</li><li>• 460 and 575 volt</li><li>• Constant or variable torque</li><li>• 1-10 hp C-Face Footless</li></ul>	<ul style="list-style-type: none"><li>• 1 through 500 Horsepower</li><li>• 2, 4, 6, or 8 pole designs</li><li>• 200, 230, 460, 575, 2300 &amp; 4000 volts</li><li>• Constant or variable torque</li><li>• C &amp; D flange kits available 140-440 frame</li></ul>



841 PLUS® features same size bearings and “Inverter Grade” insulation for constant and variable speed inverter duty applications.

Emerson Motor Technologies, a global leader in the design and manufacture of electrical motors, provides a complete line of general and special purpose electric motors from 1/200 through 4,000 horsepower. Brands such as Emerson, Doerr, U.S. Electrical Motors, Hurst, and Switch Reluctance Drives, allow Emerson Motor Technologies to support a wide variety of applications including commercial and industrial, appliance, hermetic, automotive, and HVAC. For more information about Emerson Motor Technologies visit [www.emersonmotors.com](http://www.emersonmotors.com). St. Louis-based Emerson ([www.gotoemerson.com](http://www.gotoemerson.com)) is a global leader in bringing technology and engineering together to provide innovative solutions to customers in industrial automation; process control; heating, ventilating and air conditioning; electronics and telecommunications; and appliance and tools. Sales in fiscal 2001 were \$15.5 billion.

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