

GE Energy

X\$D Ultra[®] 841 IEC

Extra Severe Duty Motors (IP55)

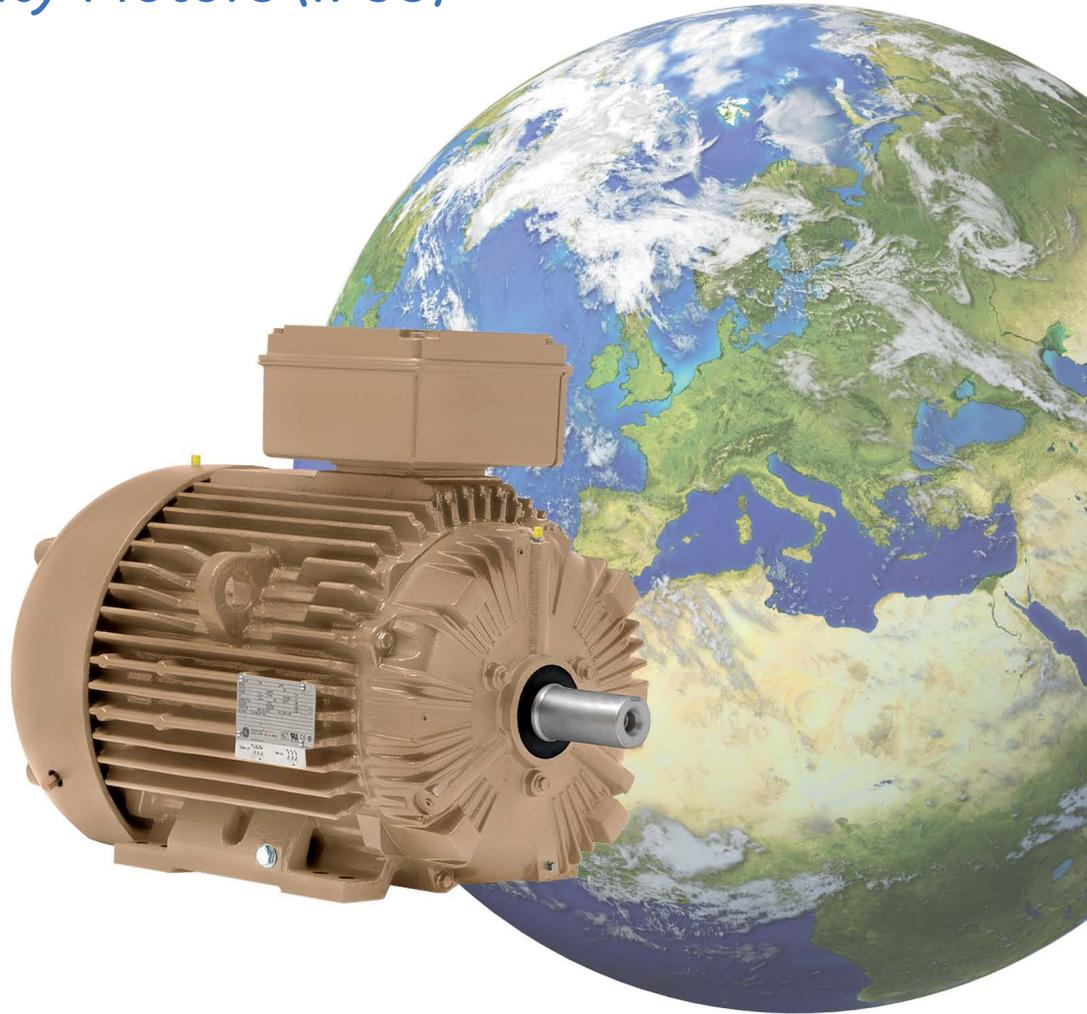
IE3 Premium Efficiency

IEC 90S-280H

0.55-220kW

200V-690V

50-60 Hz



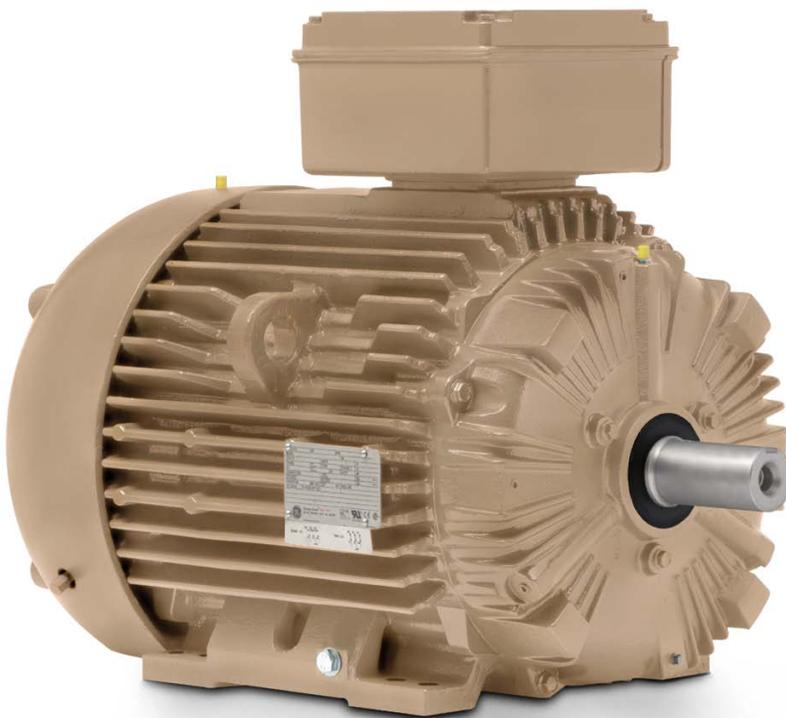
Expect more.



imagination at work

Expect more from your motor

GE's X\$D Ultra[®] 841 IEC motors build on more than 20 years of industry experience in extra severe duty motor applications. They are specifically designed with features that meet or exceed the intent of IEEE 841-2009, the "*gold standard*" for the petrochemical and process industries.



Key features

Efficiency

- IE3 Premium Efficiency

Reliability

- Inverter duty capability
- GEGARD2400™ insulation system
- Six Star Bearing System™
- Low vibration / provisions for vibration monitoring
- Low Class B temperature rise
- Cast iron construction
- 5 Year Warranty

Safety

- 4-point Cast-in lifting lugs
- Extended grease fittings

What is the IEEE 841-2009 standard, and what does this mean for your application?

Many of the specified materials and components in this standard stem from experience with severely corrosive atmospheres and the necessity for safe, quiet, reliable, high efficiency motors.

It means that each X\$D Ultra 841 IEC motor delivers even more.

- X\$D Ultra 841 IEC vibration standard of 1.4 mm/sec peak is 50% less than IEEE 841-2009 standard of 2.03 mm/sec, plus the total shaft runout does not exceed 0.025 mm for shaft diameters up to 41 mm, and 0.038 mm for those greater than 41 mm for ball bearing machines. *These factors help extend the life of the motor and connected equipment.*

Get more for your application

Maximizing your investment means getting the most from the motors you choose. More than just getting the job done, motors must be dependable, rugged and built to last. Your application demands the best, and GE delivers.



Industries

- Petrochem / Oil & Gas
- Utilities & Power Generation
- Pulp & Paper
- General Process Industries

Applications

- Fans
- Pumps
- Compressors
- Conveyors
- And many others

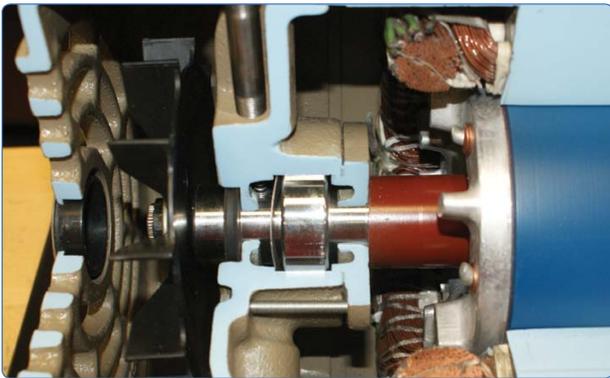
- The steel reinforced recessed slinger, integrated into the drive end and non-drive end, **ensures IP55 protection of the bearing system.**
- **Low temperature rise designs help increase bearing life**, and are on average 15% cooler than the class B 80°C rise specified by the IEEE 841-2009 standard.
- Epoxy ester paint system meets the IEEE specification and **stands up to the corrosive environments of the petrochemical and process industries.**
- The non-hygroscopic, chemical and humidity resistant insulation system **ensures long and reliable operation.**
- Sound levels of <90 dBA meet or exceed the requirements set by the IEEE 841-2009 standard.
- A rigorous 5 point test report of each motor ensures the X\$D Ultra 841 IEC **meets the demanding performance requirements for harsh application environments.**

X\$D Ultra 841 IEC motors— built to a higher standard

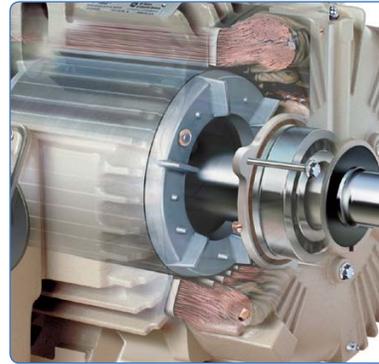
Six Star Bearing System™

Bearings, the life force of a motor, are what keep the X\$D Ultra 841 IEC running smoothly. These features protect and lubricate the bearings, adding to the durability and longevity of the X\$D Ultra 841 IEC.

- Oversized bearings on both ends of the motor offer optimum performance.
- Cast-iron bearing caps with gaskets retain lubrication and protect the bearing system from contaminants.



- Low temperature rise designs— 15% cooler on average than IEEE standards— increase bearing life.
- Overall vibration of 1.4mm/s peak results in smooth, reliable operation and extends bearing life.
- 130,000 hour L10 direct connected and 26,280 hours belted bearing life increases uptime and decreases maintenance costs.
- Full charged lubrication system with a temperature resistant polyurea grease, suitable for a wide temperature range (-40°C to +130°C).



Rotor assembly balanced to ISO 1940 Grade 1.0 for low vibration.

The vibration level is 50% lower than the requirement of IEEE 841-2009 Standard and can increase bearing life by as much as 60%

Safety

- Safer lifting is possible with a four point lifting system versus a single eyebolt. Cast-in lifting lugs eliminate eyebolts that may strip, shear, get lost or be improperly selected.
- Extended grease fittings for easy and safe access.

IEC Design N electrical design

- Normal starting torque and low inrush current



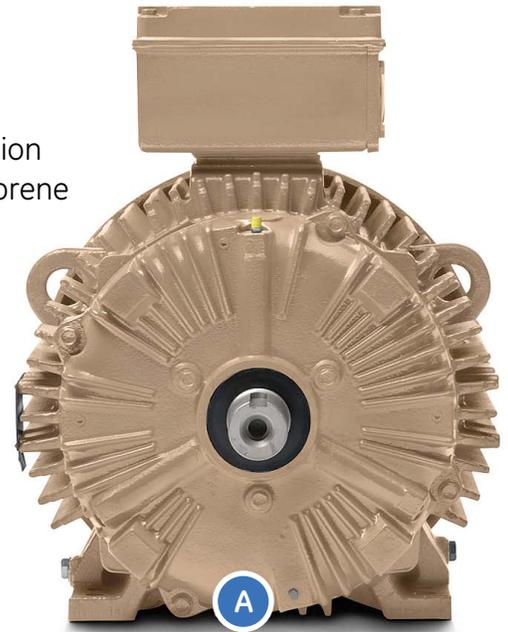
Extra severe duty construction gives you more assurance

The X\$D Ultra 841 IEC has a rugged, all cast iron construction with corrosion resistant ISO Grade 8.8 metric hardware. A recessed steel reinforced neoprene slinger is used on both the drive end and opposite drive end for better protection from outside elements, and ensures IP55 protection.

Terminal block and bronze ground terminal inside the terminal box provides quick and easy connection of the lead wires to the connection block with removable gland plate.



Oversized, gasketed IP-56 conduit box with lead separation gasket and conduit box cover gasket restricts moisture and contaminants from entering the motor.



- A** Stainless Steel combination breather/drains allow condensation to drain from the motor.
- B** Epoxy ester paint system provides corrosion resistance inside and out, and meets IEEE 841 paint requirements.
- C** Embossed 316 stainless steel nameplate on the motor contains alternate 50Hz data.
- D** Finned endshield for improved heat dissipation and long bearing life (IEC 200-280 frames).
- E** The X\$D Ultra features unique, cast-in vibration pads so users can monitor shaft/bearing vibrations as part of their preventative maintenance program.

Premium energy efficient motors deliver more bottom line savings

IE3 Premium Efficiency

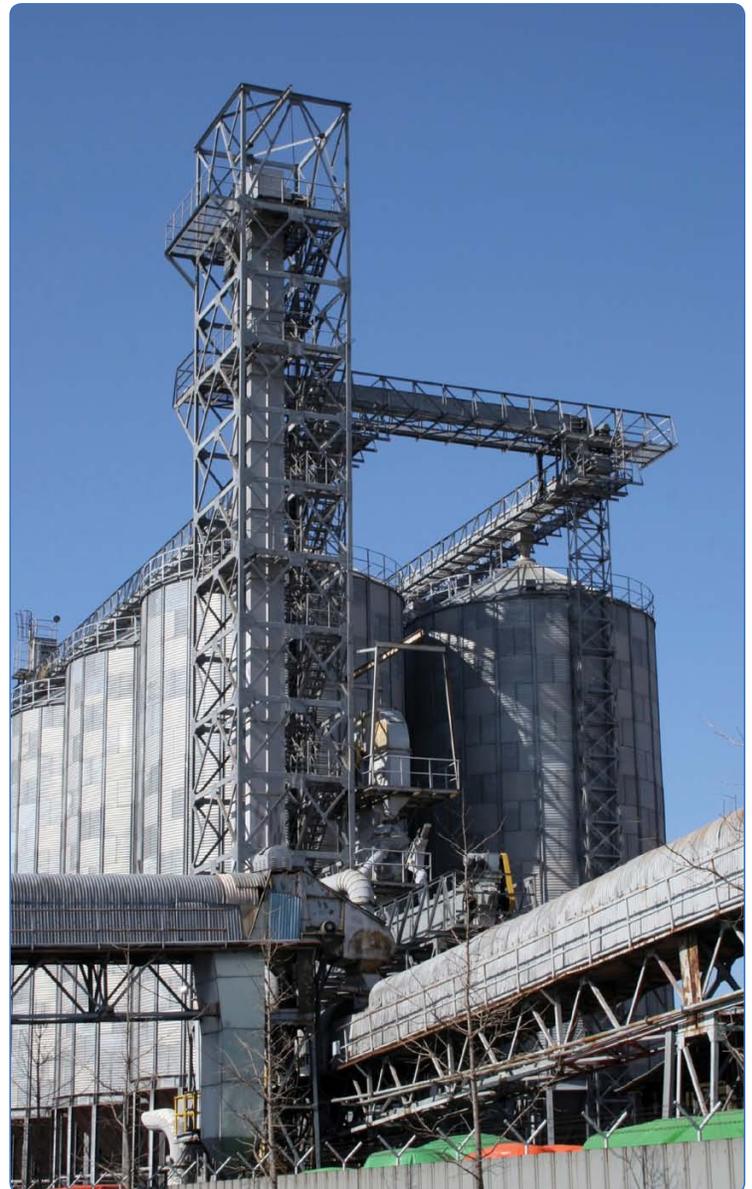
One of the greatest benefits of the X\$D Ultra 841 IEC is its efficiency rating. X\$D Ultra 841 IEC motors exceed all IE3 minimum guaranteed efficiency levels, and GE guarantees the minimum efficiency levels stamped on the nameplate.

In addition to meeting the IE3 Premium Efficiency Standards, the X\$D Ultra 841 IEC motors meet World Zone 2, which includes ATEX, IEC Ex Zone 2 and Class 1, Div. 2, CE Mark and GOST-R.



- The GE Premium Efficiency design lowers annual energy cost and extends motor life without any sacrifice in performance.

The X\$D Ultra 841 IEC motors are the first in the market with IEEE 841 features to meet the demands of the process industry.



GE reliability means more uptime operation

Insulation System

GEGARD2400™ insulation systems feature Class H insulation materials and exceeds IEC TS 60034-25 requirements by 60% at 400V. All motors are 100% tested to verify the corona inception voltage prior to shipment.

- Trickle treat varnish system provides a reliable and consistent encapsulation of the stator winding and utilizes a fully automated computer controlled process.
- Low temperature rise designs provide more thermal margin than industry-standard designs and maximize the bearing and winding life of the motors.

Optional AEGIS Shaft Grounding Rings

- Variable frequency drive operation for energy savings and reduced operating costs
- Eliminates bearing currents and failures due to erosion
- Lifetime guarantee against bearing fluting

Better built,
better performing,
better motors.

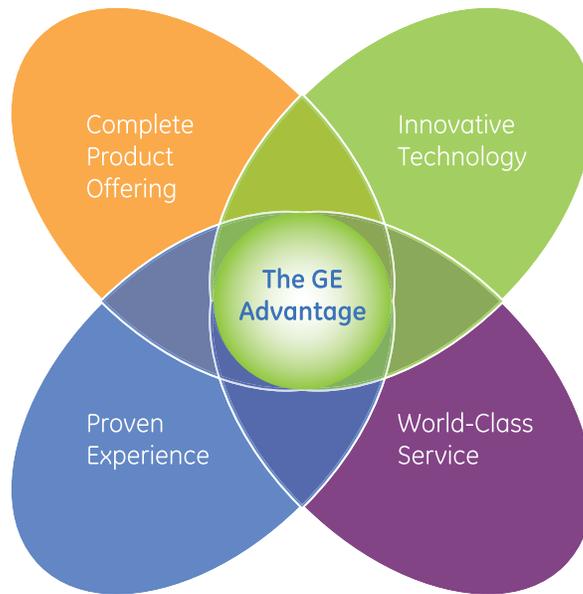
GE X\$D Ultra®
841 IEC Motors—
You can expect more.

5-year manufacturer warranty is standard for the X\$D Ultra 841 IEC motors. This comprehensive warranty program covers mechanical, electrical and efficiency performance. Further proof that you can expect more from GE, and our global network of GE approved service and support locations.



Find out more about GE X\$D Ultra® 841 IEC Motors at:

www.gemotors.com



With GE, you have a single point of responsibility for all your motor needs. GE offers a complete portfolio of equipment from which to choose, including:

- Motors from 1 to 100,000 HP (0.75 to 75,000 kW)
- Generators up to 75 MVA
- Low and medium voltage variable frequency drives
- All enclosures: WPI, WPII, TEFC, TEAAC, TEWAC
- GE motors can adhere to these industry standards among others: NEMA, IEC, CSA, API 541, 546, 547, and 661; IEEE 841, GOST, DIV 2, Ex-n for Zone 2, Ex-p for Zone 1 or 2, ATEX



GE has over 125 years of experience in the electrical industry with successful global installations spanning a wide variety of applications. Very few competitors can claim the depth and breadth of experience that GE has in creating and executing solutions for its customers.



With GE's wealth of global experience comes a full coverage offering for its products along with leading experts in the industries they serve. Additionally, GE experience and innovation brings:

- Experienced sales force
- Engineering support optimized for your application
- Project management tools



GE is constantly innovating product technologies to meet and exceed customer expectations. Founded by world renowned inventors, General Electric continues to be a company made up of individuals striving to design, create, and build products and solutions that improve people's lives. Among the many tools used to produce innovative products are:

- Electromagnetic finite element analysis
- 3D solid modeling
- Virtual motor "building" while in design phase

For more information, contact your GE sales representative.

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