



GE INDUSTRIAL MOTORS
a WOLONG company



Mining & Minerals

AC/DC Motors up to 5000 HP





Electric motors make an average of **70%** of total energy cost.

\$87k/hr of unplanned downtime for a typical industrial processing plant

Challenges

- Multiple suppliers, designs and specifications tying up resources.
- Frequent unplanned maintenance disrupting operations requiring replacement motors onsite.
- Older low efficient motors eating profits.

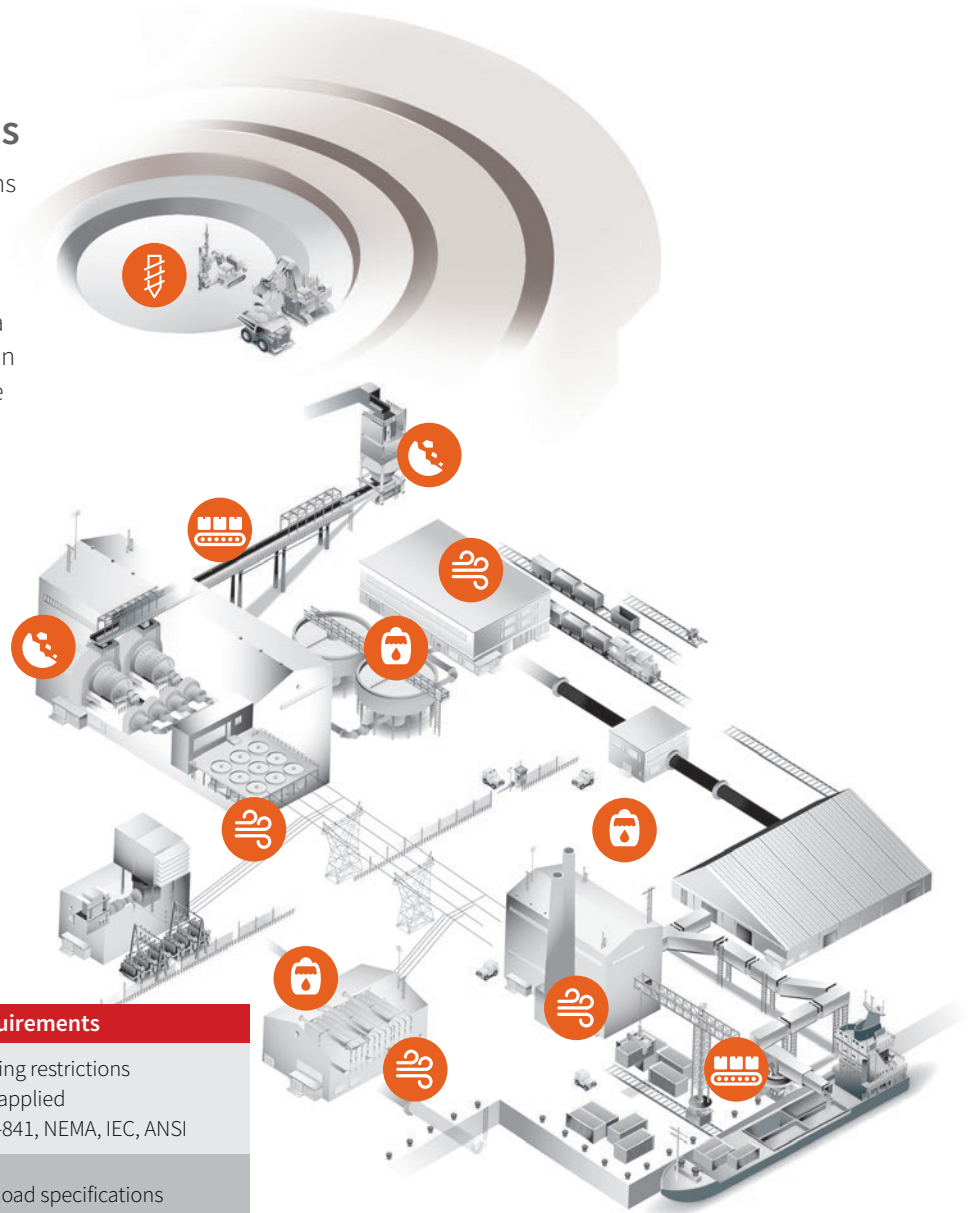
Our Solutions






- Frame agreements increase supply and specification efficiency freeing up resources.
- Less unplanned maintenance and downtime with more robust motor designs.
- +1% energy efficiency gains translate to less than a two year payback.

Higher Efficiency and Less Downtime

Meeting Heavy Industrial Application Requirements

GEIM offers comprehensive motor solutions for mining process applications. With an increasing global demand for metals and minerals, mining environments are becoming more extreme. They may be in a remote underground mine in Mongolia or in the mountains of Chile. They may be in the extreme cold of Alaska and the Canadian North or the blazing Australian Outback. Our durable and efficient motors provide a reliable lifeline to critical production equipment. Strict adherence to industry and application specifications also help ensure less downtime.



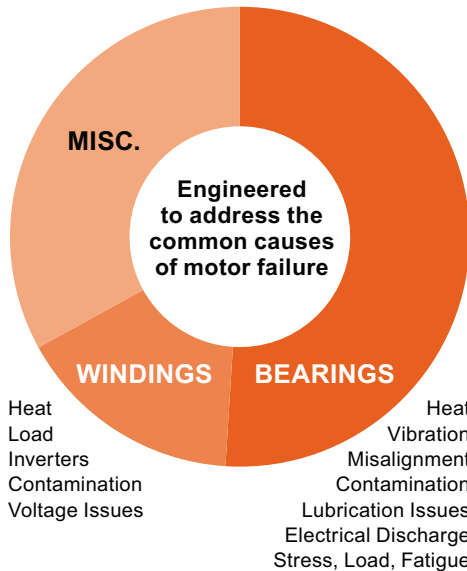
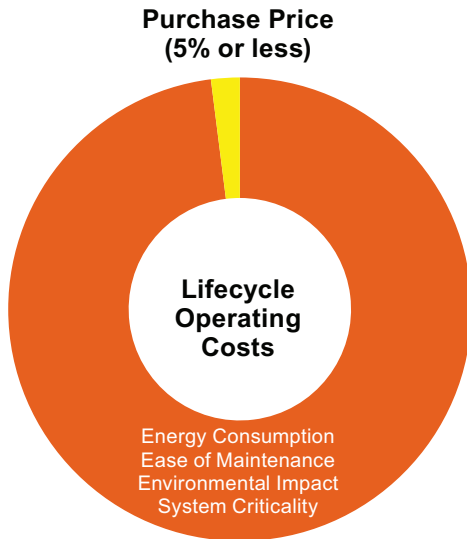
Application	Type	Requirements
 Conveyors	Earth Moving	Starting restrictions ASD applied IEEE-841, NEMA, IEC, ANSI
 Blowers	Cooling Ventilation	Belt load specifications IEEE-841, NEMA, ANSI
 Crushers	Crushers	High Inertia Starting Conditions and Frequency Vibration Restrictions VFD Compatible NEMA, IEC, IEEE, ANSI
 Augers	Excavators Shovels Drill	Starting Conditions and Frequency VFD Compatible NEMA, IEC, IEEE, ANSI
 Pumps	Booster Jockey Water injection Transfer	Starting restrictions ASD applied Vertical thrust loads Low Inrush IEEE-841, NEMA, ANSI



Application Considerations

CONSIDER LIFECYCLE OPERATING COSTS FIRST

The initial cost of an electric motor makes up 5% or less of the total cost of operation. So all aspects of the motor operation should be considered when purchasing motors.



ENGINEERING REQUIREMENTS

Each petroleum, chemical, power generation, pulp/paper, mining, metal, mineral, water/wastewater, and general process application has unique torque, speed, voltage, enclosure, temperature, and industry standard requirements that must be designed into motors.



Pumps



Compressors



Blowers



Heat Exchangers



Mixers



Conveyors



Crushers

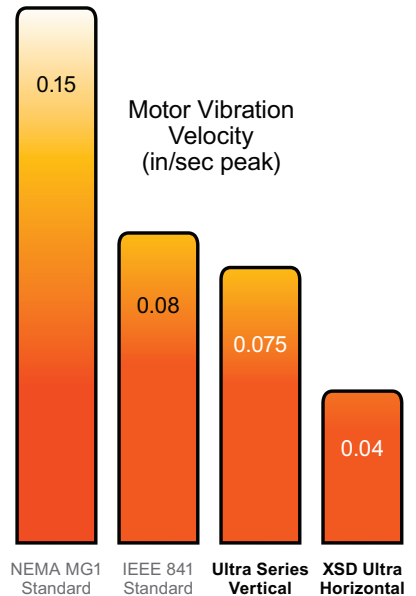


Augers

We also have the expertise to diagnose the mechanical and electrical requirements for special applications and custom engineer designs as they warrant.

LOW VIBRATION MEANS LONG LIFE

Vibration is bad for motors and driven equipment. Motor bearings, in particular, begin to wear faster with high vibration levels. Beyond focusing on proper alignment, base, and voltage, users should also pay more attention to the design of the motor itself. In most cases, manufacturers are content to simply stay within the NEMA or IEEE standards because many engineers, of course, specify these limits.



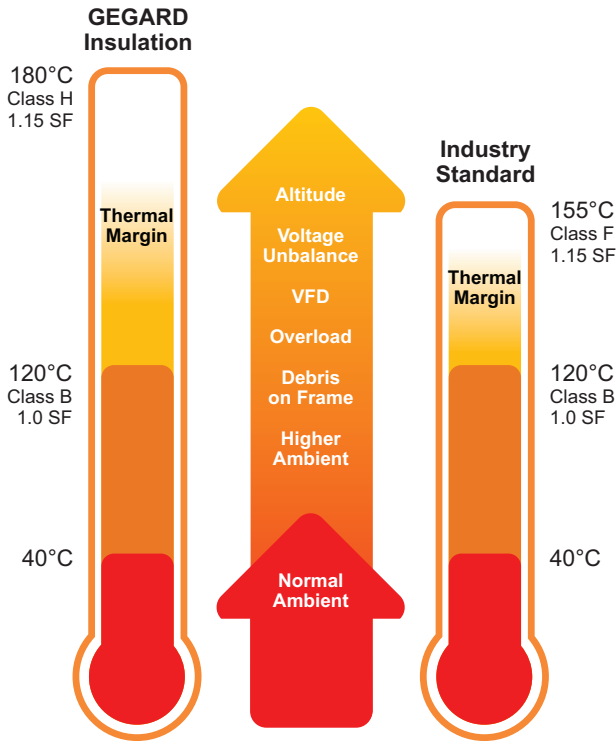
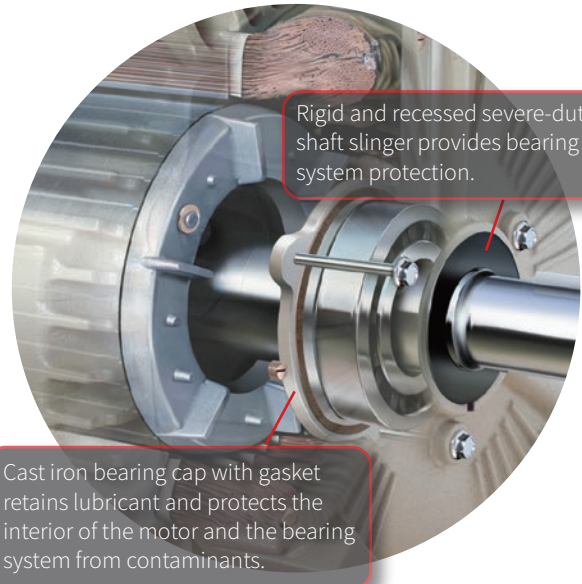
It is well documented that motors designed with low vibration have longer bearing life.

Since bearing wear is one of the leading causes of motor failure, reducing its chances reduces your unplanned downtime. Our application engineers have been told by many users that their driven equipment tends to run smoother with low vibration motors. All of this leads to lower maintenance costs on the entire drive system.

Durable and Reliable Technology

GEGARD™ INSULATION OFFERS ADDED PROTECTION IN SEVERE APPLICATIONS

Our Class H GEGARD insulation system is designed to excel in frequency drive applications where lesser designs often short circuit and cause overcurrent trips.



Larger Thermal Margin = Longer Motor Life

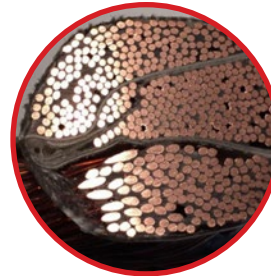
GUARDING AGAINST BEARING FAILURE

Common shaft currents create voltage spikes that reach bearings causing them to vibrate in operation. Over a short period, this vibration (fluting) will degrade bearings to the point of failure. We include bearing insulation for higher ratings and Aegis™ shaft grounding rings are optional on all ratings.



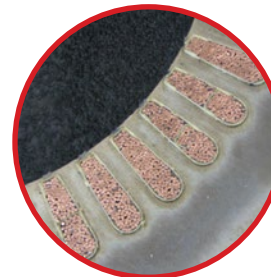
ROTATIONAL VARNISH APPLICATION

Motor coils are rotationally varnished with a “Trickle Treat” process while an electric current is passed through the windings to ensure a penetrating, thorough and even coating. This proven process fills air gaps that could cause corona inception damage during operation.



WIRE BONDING

Resin penetrates deep into tightly packed coil wire creating a strong bond that guards against end-turn vibration.



MOISTURE PROTECTION

Contaminants can't penetrate carefully and tightly packed stator coils bonded by deep resin penetration into the slots.

**SEVERE DUTY
NEMA IE3**

NEMA Premium Efficient



This versatile and robust design is ideal for a wide range of challenging industrial applications and environments.

MODELS

- XSD Ultra
- XSD Ultra 841
- Energy Saver

TECHNICAL CAPABILITIES

0.75-300 HP, 900-3600 RPM
 230/460, 460, 575V / 60 Hz
 Alternate 50 Hz data on nameplate
 TEFC (IP55) and ODP
 Frame sizes: 143T-449T
 NEMA, UL, CSA, IEEE 45, 841, 112B, and GM 7E-TA
 Division 2 applications
 C-Face and high-torque
 Design "C" models available.
 VFD ready with GEGARD
 Class H (XSD Ultra) or
 Class F (ES) insulation
 Five (XSD Ultra) or
 Three (ES) Year Warranty

**SEVERE DUTY
IEC IE3**

Rugged and Reliable



Based on the XSD Ultra mechanical and electrical design for the global market. Ideal for extreme environments.

MODEL

- XSD Ultra 841 IEC

TECHNICAL CAPABILITIES

0.55-220 kW,
 750-3000 / 900-3600 RPM
 200, 400, 400/690, 690V / 50 Hz
 230/460, 460, 575, 690V / 60 Hz
 TEFC (IP55)
 Frame size: 90S-280H
 IEC, IEEE 841, IEEE 45,
 ATEX, and IEC Exn
 Zone II, ABS
 VFD ready with GEGARD
 Class H insulation
 Five Year Warranty

**EXPLOSION PROOF
NEMA IE3**

Protects Systems
in Hazardous Zones



This enclosure has been specially designed to contain any sparking for hazardous environments where volatile gases may be present.

MODEL

- Energy Saver XP

TECHNICAL CAPABILITIES

1-300 HP, 900-3600 RPM
 230/460, 460, 575V / 60 Hz
 Alternate 50 Hz data on nameplate
 TEFC (IP55)
 Frame sizes: 143T-449T
 NEMA, UL, CSA, IEEE 112B
 Division 1, Class I - Groups C, D
 Class II - Groups F, G
 Three Year Warranty

**ADJUSTABLE SPEED
NEMA**

Excels in Constant Torque
Applications



Optimized performance in metal processing, plastic extrusion, winders, test stands, crane and hoist and material handling.

MODEL

- ASD Ultra

TECHNICAL CAPABILITIES

1.5-300 HP, 1800 RPM
 230/460, 460, 575V / 60 Hz
 TEFC, TEBC, TENV (IP55)
 Frame sizes: 143TC-449T
 NEMA, IEEE 841, IEEE 112B
 VFD ready with GEGARD
 Class H insulation
 Five Year Warranty

VERTICAL PUMP NEMA IE3

Inverter-Duty and Efficient



Combines extra severe duty engineering with advanced thrust and cooling technologies.

MODELS

- Ultra Series Vertical
- Large Custom Vertical
- Vertical Fire Pump

TECHNICAL CAPABILITIES

3-1000HP, 600-3600 RPM
460, 575, 2300/4160 V
60Hz or 50Hz
WPI and TEFC Enclosures
Hollow and Solid Shaft
Normal, High, and Thrusts
Frame Size: 182-5013
API 610 12th Edition
P-Base mountings
VFD ready with GEGARD Class H insulation
Three Year Warranty

MEDIUM VOLTAGE NEMA

Severe Duty, Long Lasting



Designed to operate in extreme Petrochemical, Power Generation, Mining and general process environments and applications.

MODEL

- Quantum LMV

TECHNICAL CAPABILITIES

100-5000 HP
900-3600 RPM / 60 Hz
900-3000 RPM / 50 Hz
460, 575, 2300/4000, 4000, 6600V
TEFC, WPII, TEAAC
Available in IEEE 841 configuration
Frame sizes: 440-12000
NEMA, CSA, UL, IEEE 112B, AEx nA
API 547 and 541, Division 2, Zone 2
Class F insulation
Three Year Warranty or
Five Year Warranty (IEEE 841)

DIRECT CURRENT

Reliable Workhorses



A reliable lifeline to driven equipment and backbone for production and operation.

MODELS

- Kinamatic
- CD6000 Series
- Mill Duty

TECHNICAL CAPABILITIES

1-500 HP, 300-3600 RPM
Armature voltage: 180, 240, 500
Field voltage: 300/150, 240/120
DPFG, DDPFG-BV, TE, and Explosion proof
TREC coils on large frames
Two Year Warranty
(CD6000 Series)
500-2000 HP, 300-1750 RPM
Armature voltage: 500, 600
(Mill Duty)
5-500 HP, 340-1025 RPM
Armature and Field voltage: 230, 460
Meets AIST standard





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