
NEMA

Severe Duty Motors

BALDOR • RELIANCE



A robust motor for challenging environments

We know your business operates in challenging environments and difficult conditions. Your need for a reliable, easy to use and maintain and durable motor is more crucial than ever.

Severe Duty motors from Baldor-Reliance® are designed to provide exceptional performance and long life in harsh industrial processing applications. A few typical applications which might require these types of motors include petrochemical plants, mines, foundries, pulp and paper plants, waste management facilities, rock crushers, and chemical plants. These motors use Super-E® premium efficient electrical designs which are built to handle demanding duty cycles, provide high starting and peak torques, and operate over wide speed ranges. Severe Duty motors provide safe, long operating life, reliable performance, and reduced energy consumption in the toughest applications.

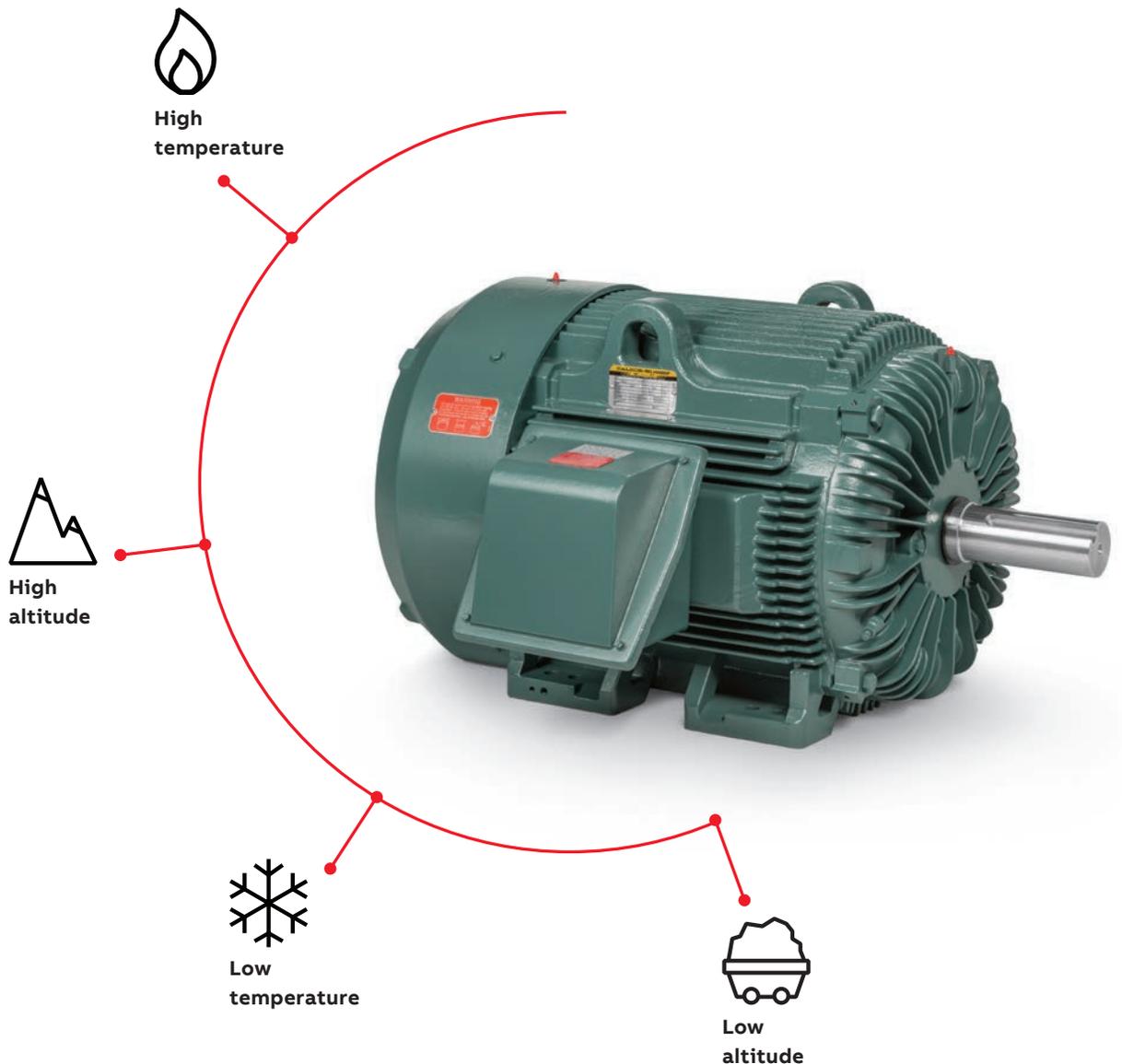
With over a century of experience, ABB has listened to equipment designers, operators and maintenance engineers. We've learned about their toughest applications and their most demanding conditions. We have been on the ground and are able to offer motors with features that help you get continuous operations.

“The reliability of a motor should not be a stress factor in your operations.”

Demanding applications

- 01 High temperature
- 02 High altitude
- 03 Low temperature
- 04 Low altitude

Severe Duty electric motors are installed in the most demanding applications. Rain or shine, these motors are expected to run to peak performance without disruptions. Protected from contaminants as small as dust particles that get into small crevices and can damage the electrical components inside the motor. To large rocks that bounce off the motor as it operates. Capable of withstanding extreme low and high temperatures. Capable of performing in high altitude where the air is thinner. Down to sea level conditions where salt corrosion eats up the equipment.





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04



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01

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02



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03



Reliability

Performance and protection for any application

Rugged, durable motor construction protects rotating and electrical components to provide extended operating life in industrial applications prone to dusty, dirty, wet outdoor and potentially high vibration environments.

Suited for normal torque applications in harsh industrial environments where reliability and highest operating efficiency is desired. Built with heavy duty cast iron enclosure and regreasable bearings to maximize the life of the motor. The entire severe duty line harnesses a feature rich philosophy that is standard on all frame sizes of the product family. Premium efficiency electrical designs provide 1.15 service factor and are suited for use on inverter power. Rated for IP55 enclosure protection to increase the reliability of your equipment.

Extended Life

- Our superior design allows the motor to run cooler, extending its life

Enclosure protection

- Full cast iron design is standard across all frame sized and parts. From the frame and endplate, down to the conduit box and internal parts.
- Extended bearing life
 - PLS
- Enclosure protection
 - High IP56 protection
 - Metal labyrinth seals
- Temp limits, vibration limits, service factor



Easy to use

Designed to simplify your operations

Our severe duty motors are designed to make your life easier with a series of features specifically designed for its use.

Conduit box – Oversized cast iron conduit box for easy and reliable installation process.

Gasket – Premium lead separator prevents friction and abrasion between the leads which eliminates electrical shorts and failure.

Color leads – Permanently labeled, numbered and colored leads provides two factor identification for easier and safer connections

Volume – The volume of the conduit box is larger than standard. This makes it easier to connect and install the motor.

Grounding lug – Grounding lug located on the foot of the motor which makes a safer and easier installation. No need to go looking in the conduit box.

Vertical jacking provisions – Vertical jacking provisions make the difficult and critical task of aligning the motor easier. It allows the installer to micro adjust the final and critical adjustments required to ensure the motor's shaft is aligned to perfection, which ensures the motor performs to its prime.

Dowel pin holes – Speeds up the maintained process. The end-user is able to drill his base using dowel pins. So when the motor needs to be taken our for regular maintenance, the installation process is easy.



Embossed SS nameplate – Long lasting nameplate ensures that sensitive and sometimes critical information is available when it is needed the most.

New nameplate

60/50Hz – Both 60 and 54Hz information is available on the nameplate. This is a feature much anticipated and requested by most OEMs.

Connection diagram – Easy to find connection diagram ensures a safe and easier connection.

Inverter data – Inverter duty information is standard on all stock product. This gives the customers greater flexibility in their operation by operating the motor across the line, or paired with a VFD.

Lower operating cost

Technology for every application

Flexible operation

Our premium design allows the motor to perform efficiently across the line or paired with a VFD.

Super-E or Permanent magnet

Multiple technology available to suit the need/application

- **Smart motor (connectivity)**
 - Smart Sensor
- **Variable speed** – Standard variable speed (inverter duty) to fit the application to minimize costs, and maximize their productivity.
 - **Phase paper** – This provides another level of reliability, ensuring a safe, and long motor life.
 - **Class H wire** – Premium motor materials ensure a low total cost of ownership.
 - **Class B rise at 1.00 SF** – Premium design ensures the motor runs cooler, which increases the life of the motor.
- **Warranty** – Long warranty. Standard 3 year warranty on Premium efficient motors. 5 year warranty on 841xl and 661xl motor.



Safety

Protection in hazardous environments

These motors are designed to have capabilities that protect against hazardous gases, vapors and dusts that have explosive properties. Our highly engineered shaft sealing system protects against all three hazardous dust groups

Safer installation

- Rugged and reliable lifting provisions
- Oversized conduit box

Safer connection

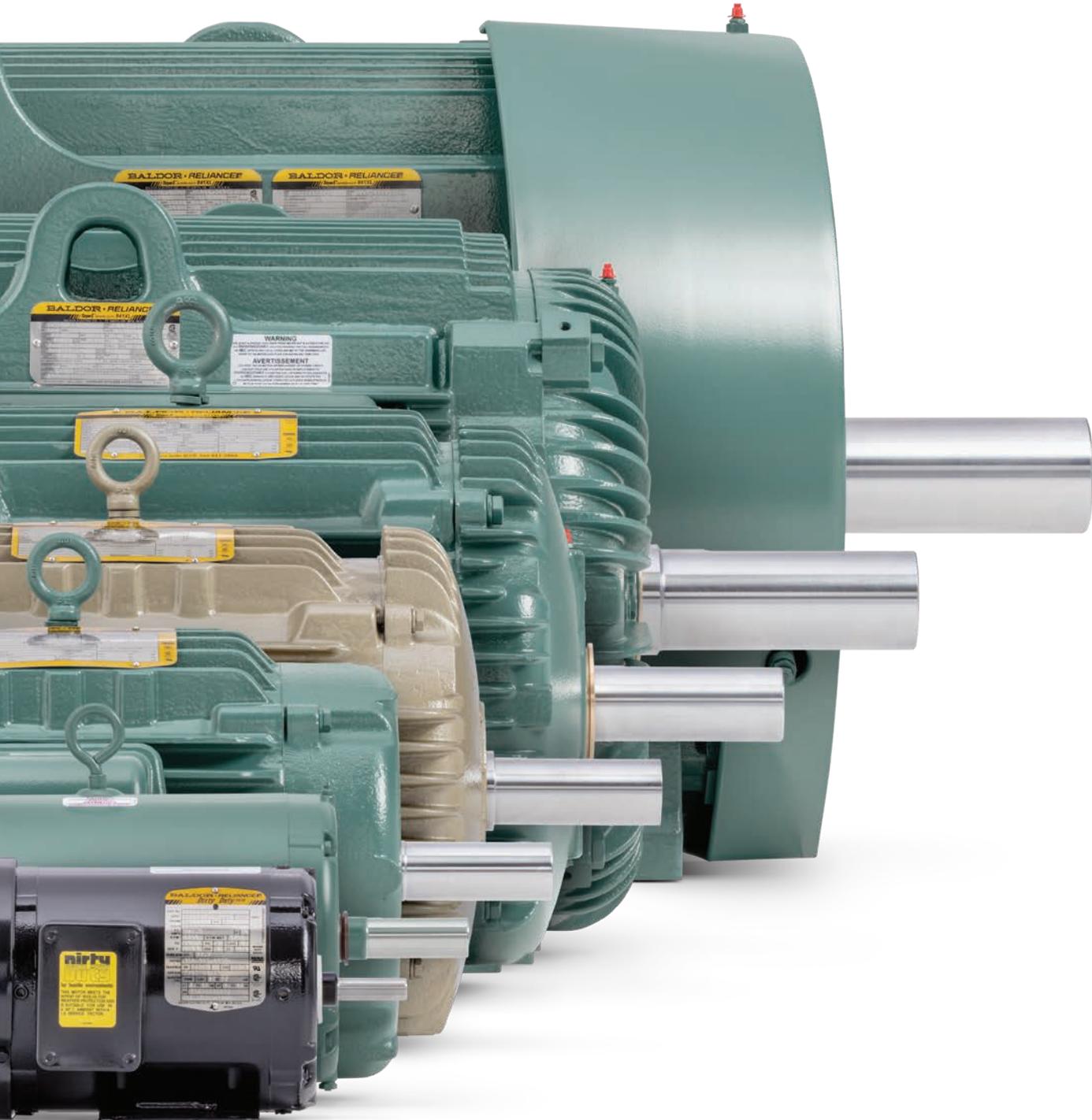
- Clamp type grounding lug
- Permanently labeled color leads

Safer operation

- Division 2 for Hazardous Locations
- UL and other certifications



Severe duty Motors



841XL & 661XL

These motors meet and exceed the requirements of the IEEE 841-2009 standard. Built for the demanding applications in the chemical oil and gas industry. Patented PLS lubrication system paired with inpro seals provide maximum life in the application. Embossed stainless steel, inverter ready nameplate, and IEEE 841 test report that ships with every motor.

Crusher Duty

Crusher Duty motors are designed to meet demanding aggregate industry challenges. Equipped with industry leading locked rotor and breakdown torques and above average service factor up to 1.25; the Crusher Duty motors are capable of reliable operation during peak loading conditions

Severe Duty

Built with heavy duty cast iron enclosure and regreasable bearings to maximize the life of the motor. The entire Severe Duty line harnesses a feature rich philosophy that is standard on all frame sizes of the product family.

Quarry Duty

Low horsepower solutions for specialty high torque and overload applications in industrial environments where lighter motor weight, reliability and highest operating output are desired. Motors have heavy gauge steel frame construction rated for IP55 enclosure protection for long life in applications exposed to the elements.

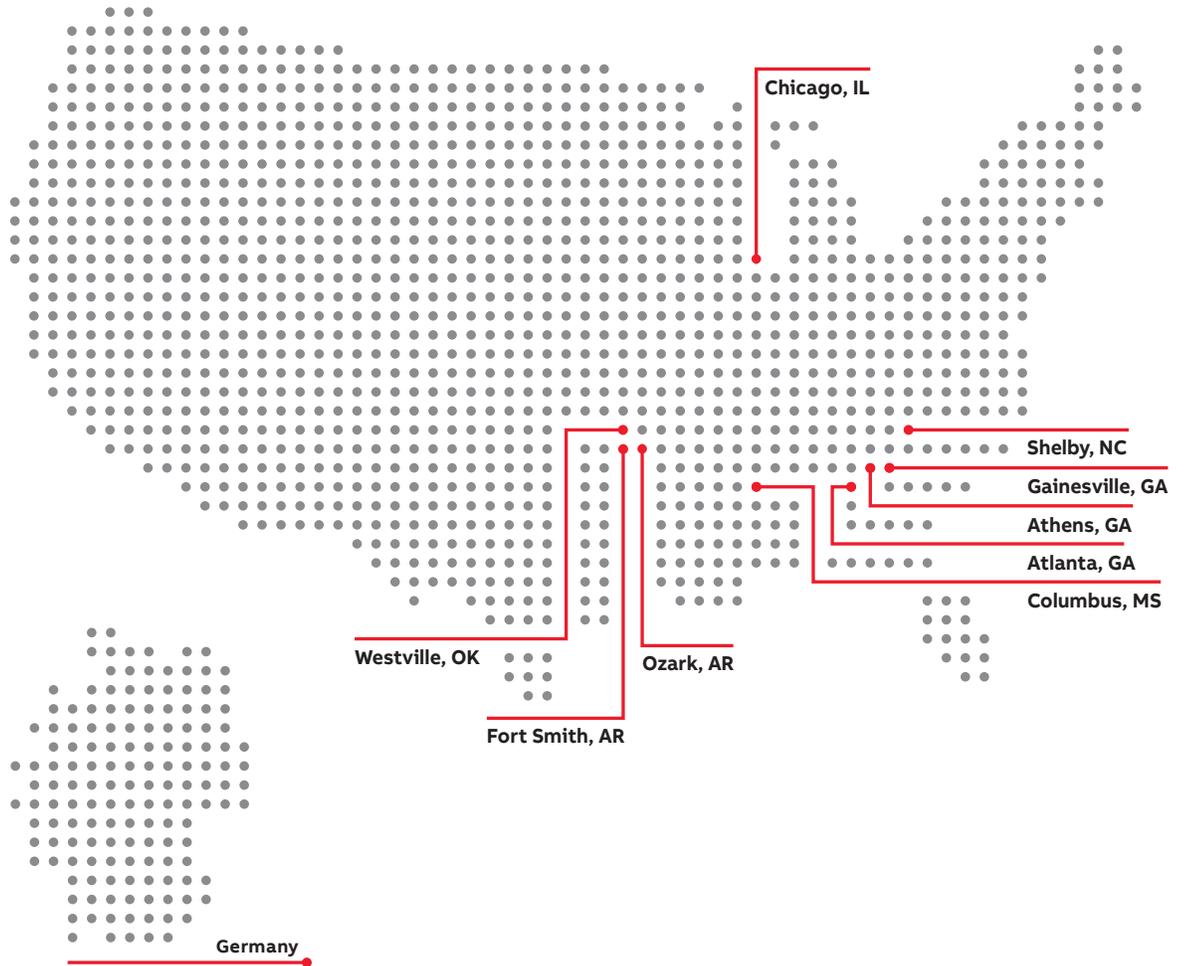
RPM XE

Ideally suited for continuous operation on pumps and compressors, the Baldor-Reliance® RPM XE is an innovative, NEMA drop-in replacement motor which achieves leading efficiency and lower lifetime costs. This synchronous motor is unique as it starts across the line and offers IE4+ efficiencies. The motor is also capable of operating on a standard inverter without feedback.

Dirty Duty Plus

Built for highly corrosive environments, the Dirty Duty Plus family boasts a 2 part epoxy paint system. designed to pass the 2,000+ hour salt fog test per ASTM B 117. Permanently lubricated, double sealed ball bearings increase reliability and reduce downtime. standard IP56 enclosure with an inverter ready nameplate and IEEE 45 compliant.

Flexibility, Manufacturing, ModEx



Manufacturing locations: Fort Smith, AR; Ozark, AR; Athens, GA; Gainesville, GA; Columbus, MS; Shelby, NC; Westville, OK

Modex centers: Fort Smith, AR; Atlanta, GA; Chicago, IL, Germany



Notes

Additional information

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