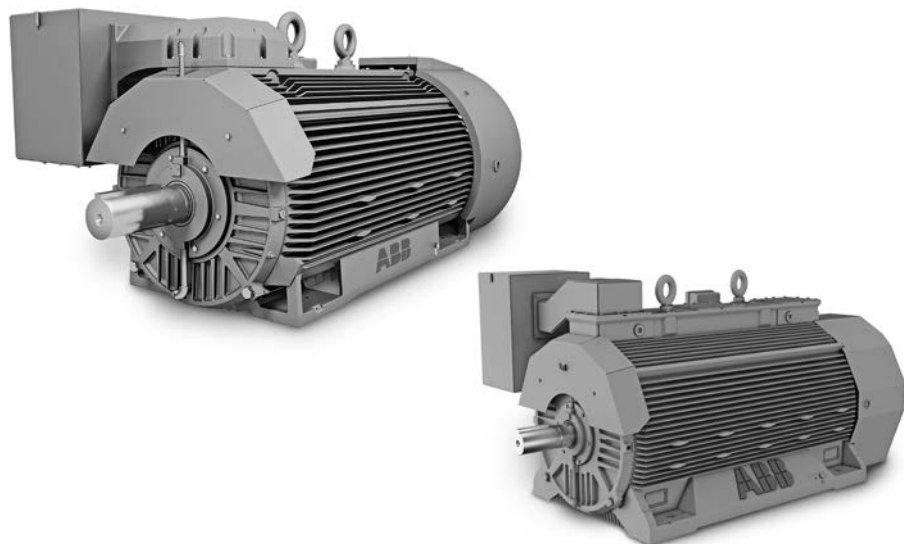


Large AC motors

ABB Large AC (Above NEMA) motors are designed with higher than standard torques and low vibration levels which allows for a longer and safe operating life in applications requiring 250 Hp or greater, all while meeting the industry's reliability and efficiency standards. The ABB line of Large AC motors offer constructions which make them suitable for petro-chemical plants, mines, quarries, foundries, pulp and paper plants, waste management facilities, as well as many other processing industry applications.



Key features:

- Low vibration, cast iron frame construction.
- Minimum NEMA Design B torques except 2 pole is 1/2 NEMA, allowing for operation across a variety of applications
- 1.15 SF as standard
- Class F insulation with Class B (80°C) temperature rise at rated power
- V-Ring slinger for increased bearing protection
- Designed for longevity with a 3 year warranty
- ABB motors meet or exceed all efficiency requirements for US, Canada and Mexico regulations

250 - 1750 Horsepower

Product line		NXR
	Frame size range for products	5008-7110 (1)
Electrical features		
Efficiency	Baldor-Reliance motors meet or exceed all efficiency requirements for US, Canada and Mexico regulations	S
Torque	Meet or exceed NEMA Design B torques (2)	S
Service factor & temperature rise	1.15 service factor – continuous	S
	Class F insulation with Class B rise @ 1.0 service factor	S
Inverter	Inverter ready - meets NEMA MG1 Part 31.4.4.2 (3)	S
Mechanical features		
IP code	IP54 enclosure ingress protection	S
	IP55 enclosure ingress protection	0
	Cast iron frame & endplates	S
Frame	Sealed joints between frame and endplates	0
	Epoxy coated internal surfaces, including endplates, rotor, and stator.	0
Fan covers	Fabricated steel fan covers	S
Shaft seals	Shaft seals: Neoprene V-ring slinger – DE & ODE	S
	Shaft seals – Labyrinth type	0
	Ball bearings designs	S
Bearings and lubrication	Roller bearing designs for belted applications	0
	Bearings: Regreasable with PLS lubrication system. Grease inlet & auto relief fittings on DE & ODE.	S
Paint	Paint: 2 part modified epoxy with enhanced UV protection topcoat	S
Conduit box	Conduit box: fabricated steel. Oversized and rotatable in 90 degree increments	S
Nameplate	Nameplate: Stainless steel with embossed raised letter	S
Other key features		
	Winding resistance temperature detectors (RTDs) - 100 Ohm platinum - 2 per phase	S
Accessories	Space heaters - 120/240 Volt	S
	Provisions for bearing resistance temperature detectors (RTDs)	S
Certifications	Nameplate marked Class I, Division 2, Groups C, D	S
Warranty	Warranty - in years from date of manufacture	3

S = Standard

0 = Optional

(1) Frame sizes range from 5008-7110 ANSI mounting.

Drawings will be referenced in inches and motors will meet NEMA.

(2) For medium voltage motors and motors with frames 5000 and larger standard torque values are represented in NEMA MG-1 2014 part 20.10.1. Motors will meet or exceed these values.

(3) For use on VFD, it is highly recommended to insulate the drive end bearing and add a shaft grounding system in order to address concerns regarding shaft currents that may be imposed upon the motor by a VFD as defined in NEMA MG1, Part 31.4.4.3. Motor is suitable for use on Inverter only in conjunction with an isolation transformer or other common mode voltage elimination. 1.0 service factor when used on VFD.

Above NEMA NXR rib cooled motors

250 thru 1750 Hp

Main specifications:	
Output power:	250 to 1750 HP
Frame size:	5008 - 7110
Number of poles:	2 to 8
Voltages:	460V, 2300/4000V
Frequency:	50 Hz Reratable, 60 Hz, VSD
Cooling:	IC411
Protection:	IP54 (optionally IP55)
Enclosed material:	Cast iron
Bearings:	Anti-friction
Motor types:	NXR
Mounting:	Horizontal
Ex protection types:	Hazardous area location Class I Div 2 area capable
Standards:	NEMA feature set and mounting dimensions

Features:

- High efficiency for lower total cost of ownership
- High power density for more Hp per pound
- Optional ingress protection level available up to IP55
- Compact size for smaller overall installations
- Rigid, weight-optimized frame is engineered to minimize vibration
- Fixing points make accessory fitting straight forward
- Flexible repositioning of main terminal box on site by ABB service personnel
- Designed for easy deployment of ABB condition monitoring systems
- Based on more than 125 years of experience manufacturing electric motor

Applications:

- Pumps
- Compressors
- Fans
- Conveyors

NEW! NXR motors can now be configured and ordered through the online tool, **MachSize**.

Your local Sales Channel can assist you with configuring and ordering your NXR motors.

Performance software and drawings can also be provided immediately using MachSize.

ABB's latest generation of industrial purpose rib cooled motors (NXR) for the above NEMA market offer high power density, customizable motors with built-in serviceability, allowing for a compact footprint and improved efficiencies.

Engineered motors

ABB's configurable design of the rib cooled motors are available as N-series config to order motors – NXR 5000 - NXR 5800 and NXR 7100.

N-series motors are engineered to meet demanding applications, while also being easy to configure, purchase, install and maintain.

The NXR series can be configured with different bearing configurations, various temperature monitoring devices and other equipment to meet the customer's specific needs.

NXR motors are available for both direct-on-line (DOL) and variable speed drive (VSD) operation.

High power density for compact installations

The NXR sets a benchmark for the industry, offering more HP per pound than has been achieved before with rib cooled motors. High power density means that for a given output you can often use a motor one frame size smaller than with conventional products. This helps to save space and enables more compact installations.

ABB's engineering team achieved high power density by leveraging the proven performance of the NXR frame rib cooled platform which has an internal cooling loop and maximized cooling fin coverage.

Internal air circulation has been increased throughout the motor, while the external cooling is maximized through

surface area optimization. Auxiliary wiring can be routed inside the motor as well as out side the motor, depending on the customers preference and requirements. The end shields have also been designed for optimized cooling.

Easy configurability

The NXR product family is designed for modifications to be quick and easy. This means you can reduce the number of spare units needed if your plant is running several motors with the terminal boxes on different sides.

- Ready-made fixing points on side of motor make mounting accessories straightforward
- End shields are pre-engineered for accessories such as instrumentation
- Auxiliary terminal box can be mounted on either side and positioned along the motor

Built-in serviceability cuts service downtime

Built-in serviceability makes maintenance straight-forward, and therefore reduces downtime.

- Cable routing ensures that the cables are clearly routed and always secured in the same position.
- Pre-designed fixing points enable easy mounting of condition monitoring systems. These systems collect and analyze operating data from the motors, providing early warnings of problems before failures can occur.

Optimized for variable speed drive use

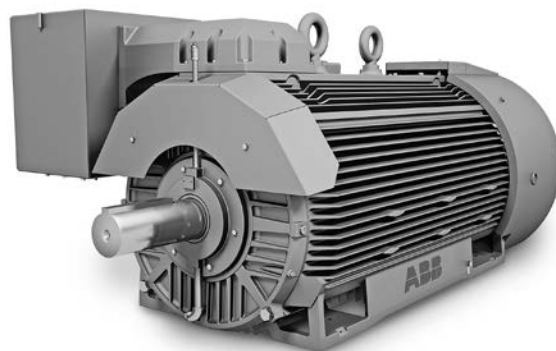
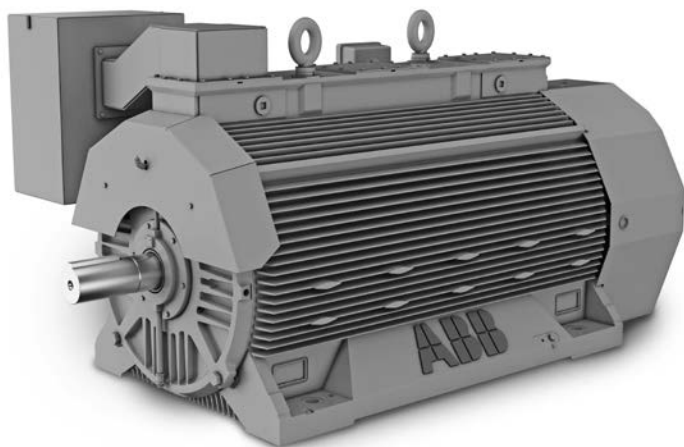
By controlling the motor with a variable speed drive, you can optimize the motor's performance, minimize energy consumption and control your process more accurately. ABB's motor-drive packages are easy to install and operate.

Configurable options available for Above NEMA NXR products in MachSize

Options listed below may not align with Motor Mod Express®.

Please use the online MachSize tool to properly configure and order the correct options.

- M1** – Balance
- M2B** – Ball to Roller Conversion
- M2D** – Bearing Temperature Detector (100 Ohm)
- M2F** – Insulated Bearing
- M7B** – Drains Choose requirement
- M12B** – Labyrinth seal (DE)
- M12C** – Labyrinth seal (ODE)
- M13F-2** – NEMA F2 Mounting
- M13F-3** – Top Mount
- M13M** – Low Noise Fan Cover
- M14A** – Open Crate NXR5000
- M14A** – Open Crate NXR5800
- M14A** – Open Crate NXR7100
- M14B** – Totally Enclosed Crate NXR5000
- M14B** – Totally Enclosed Crate NXR5800
- M14B** – Totally Enclosed Crate NXR7100
- M15A** – Auxiliary N/P
- M15B** – Auxiliary N/P
- M15D** – Provide Original N/P
- M15E** – Mail N/P (Excludes CSA nameplates)
- M15H** – CSA Ordinary Location Nameplate(Excludes CSA nameplates)
- M15I** – Non-CSA Nameplate
- M17** – Charcoal Gray Motor Paint
- M17** – Industrial Gray Motor Paint
- M17** – Black Motor Paint
- M17** – Blue Motor Paint
- M17** – Industrial Red Motor Paint
- M17** – White Motor Paint
- M17** – Traffic Yellow Motor Paint
- M26A** – Protection from Tropical Environment
- M26C** – Corrosion Treatment of Windings
- M27B** – Upgrade to IP55
- M29J** – Shaft Modification
- M31D** – Add Encoder
- M32A** – CSA C390 Method 1: (IEEE 112 Method B)
- M32B** – Witness CSA C390 Method 1: (IEEE 112 Method B)
- M39C** – Shaft Ground Brush (Non- Hazardous area only)
- M39E** – Division 2 Ground Probe
- M41A** – Provision for Vibration Detection (1/4-28)
- M41B** – Vibration Switch "Robert Shaw"
- M41C** – Velocity Transducer 1 each end B/N 9200
- M41C** – Velocity Transducer 2 each end B/N 9200
- M41C** – Velocity Transducer 3 each end B/N 9200
- M41D** – Accelerometer 1 each end B/N 33040
- M41D** – Accelerometer 2 each end B/N 33040
- M41D** – Accelerometer 3 each end B/N 33040
- M43A** – Smart Sensor
- NEW!** Shaft extension modifications
This new enhancement in MachSize will allow the user to select from predefined options to meet competitors shaft extension allowing drop in replacements.



NXR motors can now be configured online using ABB's MachSize tool.

The NXR product can be configured by using the modifications to meet the customers needs.

Your local Sales Channel can assist you with configuring and ordering your NXR motors.

Performance software and drawings can also be provided immediately using MachSize.

Short lead times for configured motors allow quick delivery to the customer

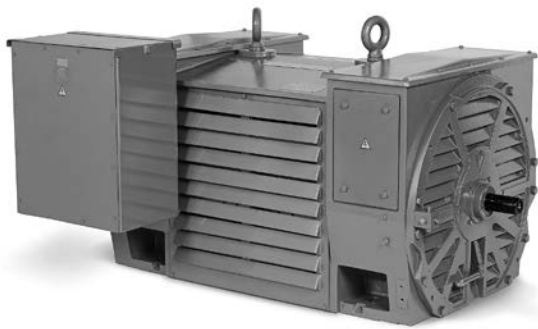
CSA certification – Class I Division 2 Hazardous area

Modifications are available for Above NEMA NXR 5000 – NXR 5800 – NXR 7100

Modification numbers are for reference only, features are selectable in the MachSize tool.

Ammonia refrigeration compressor motors, three phase, open drip proof, 460 and 2300/4160 volt, foot mounted

500 to 1000 Hp



Features:

- Low noise design
- 1.15 SF
- High efficiency designs
- Rated for across the line start
- Class F insulation with Class B temperature rise
- Cast iron frame for reduced vibration and increased strength

Applications:

- Ammonia refrigeration compressors
- Pumps

Standard 2300/4160 volt motor

Hp	RPM	NEMA Frame	Catalog Number	List Price	Mult. Sym.	"C" Dim.	Aprx. Wt. (lb)	Full Load Efficiency	Voltage	Full Load Amps	Notes (a)
2300/4160 volts											
500	3600	5008	M250502S-2341	65,645	LG	49.50	3200	94.8	2300/4160	62	1,10
600	3600	5010	M250602S-2341	76,834	LG	56.50	4200	95.2	2300/4160	73	1,10
700	3600	5010	M250702S-2341	77,258	LG	56.50	4200	95.2	2300/4160	85	1,10
800	3600	5810	M258802S-2341	103,721	LG	65.81	7000	95	2300/4160	99	1,10
900	3600	5810	M258902S-2341	107,321	LG	65.81	7000	95.2	2300/4160	111	1,10
1000	3600	5810	M2581002S-2341	112,193	LG	65.81	7000	95.2	2300/4160	141	1,10

(a) See notes on inside back flap.

■ Cast iron frame

Custom induction motors available up to 30,000 Hp, contact your sales representative for additional information. Conversion base kits are available in the Motor Accessories section.