

# High voltage rib cooled motors from ABB

More know-how per kilogram



ABB's latest generation of multipurpose rib cooled motors offer high power density, easy configurability and built-in serviceability. The motors are based on the successful, high performance rib cooled motor range, type HXR. They incorporate experience ABB has gained over more than 100 years of manufacturing electric motors.

### General purpose and engineered motors

ABB's high voltage rib cooled motors are available as N-series general purpose motors (type NXR) and A-series engineered motors (type AXR).

N-series general purpose motors combine cost-efficient standardized designs and short lead times with safety, productivity, energy efficiency and reliability. They are targeted at applications where a highly customized motor is not needed.

A-series engineered motors are highly customized, fine-tuned to the customer's precise needs, and offer a high degree of engineering flexibility.

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

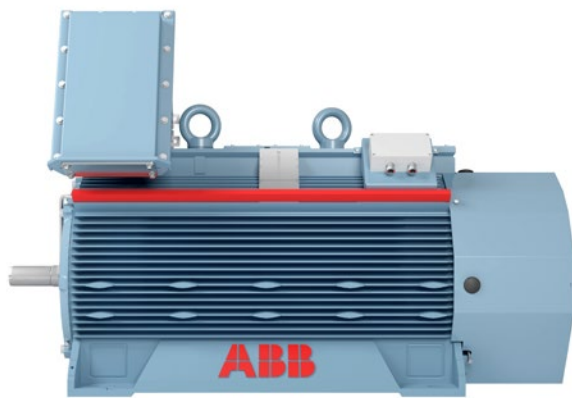
### High power density for compact installations

The new motors set a benchmark for the industry, offering more watts per kilogram than has ever 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.

Our engineering team achieved high power density by improving the coil design for increased power and optimizing internal and external airflows for maximum cooling effect.

Internal air circulation has been increased throughout the motor, and on the outside the cooling ribs maximize the cooling surface area. A cable tray for auxiliary wiring ensures clear cable routing, which keeps the airflow free and ribs easy to clean. Even the end shields have been designed for optimized cooling.

Main specifications	
Output power:	100 to 1800 kW
Frame size:	315 to 500
Number of poles:	2 to 12
Voltages:	Up to 11.5 kV
Frequency:	50/60 Hz, VSD
Cooling:	IC411, IC416
Protection:	IP55 (optionally IP56, IP65 and IP66)
Enclosure material:	Cast iron
Bearings:	Antifriction or sleeve
Motor types:	NXR and AXR
Mounting:	Horizontal
Ex protection types:	Ex ec (previously Ex nA), Ex eb (previously Ex e), Ex tb, Ex pxb, Ex pzc
Standards:	IEC (electrically NEMA feature available)
Compatible VSDs:	ABB LV drives ACS580, ACS800 and ACS880, ABB MV drives ACS1000 and ACS2000



### Easy configurability

Mounting accessories is very straightforward, thanks to ready-made fixing points along the sides of the motor. The end shields are pre-engineered for accessories such as instrumentation and the waste grease box.

The design also enables flexibility in the positioning of the terminal boxes. The main terminal box can be mounted on either side, at the D- or N-end. On frame size 400 and up, it can also be mounted in the center. ABB service personnel can perform this work on site, which means that you do not need to send the motor to a service center. The auxiliary terminal box can be mounted on either side and can be positioned along the motor. As a result, modifications can be done easily and quickly on site. 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.

For more information please visit:

[www.abb.com/motors&generators](http://www.abb.com/motors&generators)

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### Built-in serviceability cuts service downtime

Built-in serviceability makes maintenance straightforward, and therefore reduces downtime. You can easily remove the fan cover for fast access, and check the coil end and bearings with an endoscope without removing the end shields.

The cable tray ensures that the cables are clearly routed and always secured in the same position, making maintenance easy.

To maintain maximum performance over the entire life cycle, pre-designed fixing points enable easy mounting of ABB MACHsense-P or ABB MACHsense-R 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.

### Key features and benefits

- High efficiency for reduced cost of running
- High power density for more watts per kilogram than ever before with rib cooled designs
- Optional ingress protection level available up to IP66
- Compact size for smaller overall installations
- Rigid, weight-optimized frame is engineered to minimize vibration
- Fixing points make accessory fitting straightforward
- Cable tray for auxiliary wiring ensures clear cable routing, which keeps the airflow free and ribs easy to clean
- Flexible repositioning of main terminal box on site by ABB service personnel
- Interchangeable terminal boxes reduce need for spare motors
- Built-in serviceability features reduce downtime and cost of not running
- Designed for easy deployment of ABB condition monitoring systems
- Versions optimized for VSD operation can deliver even higher efficiency
- Optimized ABB motor and VSD packages are easy to install and operate
- 3D models available on request
- Based on more than 100 years of experience manufacturing electric motors