

PRODUCT NOTE

# Low voltage cast iron motors

## For open deck installation



ABB open deck motors are designed to withstand the most demanding conditions of water and ice on on-deck installations.

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01 ABB open deck motors are designed to withstand the hardest marine wet conditions.

### Extremely robust and reliable

Open deck motors are mostly used in marine for deck machinery, such as several winch types, deck cranes, hatch covers, deep well cargo pumps and other equipments. Installation on the ship's deck means that they are exposed to extremely harsh marine wet and ice conditions.

The motors in ABB's open deck range are designed to withstand salt, humidity and even waves washing over the deck. Robust, low temperature resistant designs can be supplied for vessels that operate in Arctic or Antarctic waters, and Ex protected versions are also available.

All open deck motors supplied by ABB are designed to comply with stringent safety criteria while providing the highest reliability. At the same time special attention is paid to marine classification requirements and individual customer needs.

### Improved design

Compared to standard motors, ABB's open deck motors feature a number of significant design improvements. In particular, they have enhanced cold resistance, corrosion protection and waterproofing.

In line with marine classification society rules, ABB's open deck motors are rated for ambient temperatures from -25°C to +50°C. In addition, ABB also supplies open deck motors rated for operation in ambient temperatures down to -55°C.

### Main features

- Very durable construction to cope with extreme conditions
- Specially designed "low wear" shaft seal
- IP56 open deck protection (highest protection class for motors: standard IP 56 is not adequate)
- Durable metal fan to withstand icy conditions
- Special type open deck fan cover
- Corrosion resistance improved with zinc primer painting
- High power standstill heating
- Bearings greased for life in frame sizes 160-250
- Standard re-greased bearings in frame sizes 280-450
- Stainless bolts and nipples
- Special endshields
- Watertight enclosure IP67 open deck type terminal box

### Special shaft seal

ABB's open deck motors (frame sizes 200 and above) feature a specially designed shaft seal to ensure that no water can enter the motor in either the running or standstill conditions.

These "low wear" open deck seals have been developed by ABB to combine the benefits of radial and labyrinth seals but without the drawback of high wear that is sometimes associated with radial seals.

### Rugged and waterproof terminal box

The rugged terminal box on ABB's open deck motors prevents water from entering the motor under any conditions.

Terminal box features include:

- Durability tested according to EN/IEC 60079-0:2007, 26.4, 26.8, 26.9
- Very waterproof, rugged and durable, IP 66/IP 67 protection
- Service temperature -55°C to +120°C
- Can be turned 4\*90°
- Offshore zinc primer painting as standard
- Durable solid silicone rubber seals on terminal box frame
  - Excellent thermal stability
  - High stability and flexibility at low temperatures
  - High stability to ultraviolet light

### Product offering

<b>Process performance motors, M3BP</b>	
Output power, kW	37 to 1000
Frame size	280 to 450
<b>Motors for explosive atmospheres, M3JP/KP/HP/GP</b>	
Output power, kW	4 to 1000
Frame size	160 to 450
<b>Waterjacket cooled motors, M3LP</b>	
Output power, kW	100 to 1100 kW
Frame size	280-450

- Outstanding resistance to ageing
- Good resistance to fluids
- Compliance with flame retardant class UL 94 V0
- No divided sealing surfaces
- Top cover and flange screw threads sealed against environment. Minimal thread corrosion makes subsequent access to terminal box easier

### Noise

The Open deck design can now be complemented with low noise fan and fan cover design on frames 280-400.

It also improves the cooling on the motor frame and bearings. This demand comes from new requirements of inland and harbor noise requirements.

### After-sales service

ABB products are supported by a full range of after-sales services. With a global service network and efficient technical and product support, ABB can provide fast response to its customers no matter where they are located.

### How to order an open deck motor?

The general open deck variant code is 434.

**For more information for open deck motors, please ask your local ABB representative.**

