

Medium power traction motors

A new generation based on innovative thinking and latest technology



ABB presents a high performance traction motor in the medium power range, 100–600 kW. The development is based on our 130 years experience in the design and manufacture of electrical motors.

The main feature of the new range is a flexible and modular design that allows us to adapt motors quickly to customer requirements, to reduce the weight and to shorten delivery times.

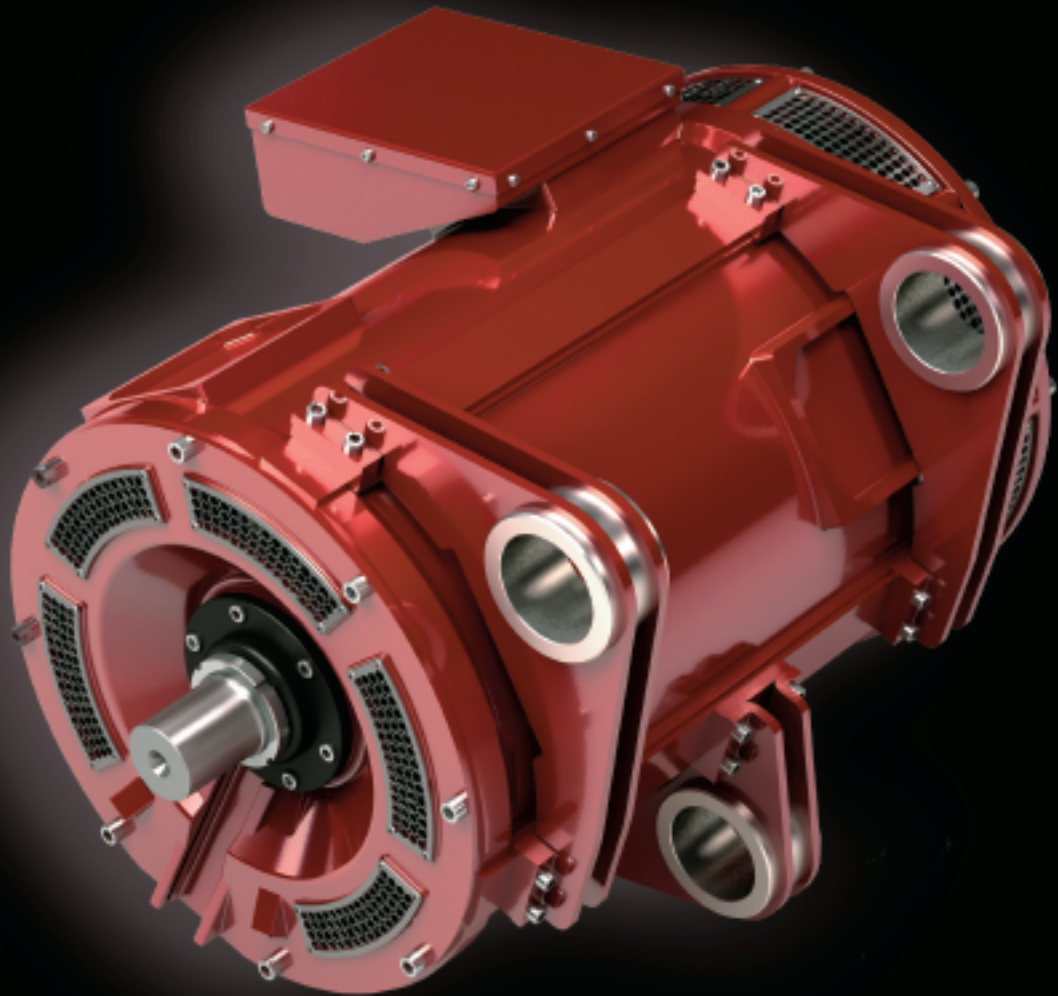
The motor is compact, has high performance and a robust design giving safe, heavy-duty operation and ensuring a good investment. The robustness is enhanced as the modular design permits the use of well proven standard parts. The design takes advantage of ABB's large-scale production capability to set a new standard for high quality motors. Special attention is given during design to fast and easy servicing which results in lower operating costs. This is in addition to the benefits of ABB's global service network and fast access to spare parts.

The first motors based on the modular concept include Open Self and Open Force Ventilated designs with high power/weight ratios. Our estimate is that the modular design results in a weight saving of 10–20% compared to other traction motors with the same output. The motors are optimised to give the highest possible efficiency; the new design of the live components delivers high output and effectively suppresses harmonics from the converter.

Housings and end shields are from nodular iron and the shafts from high strength steel providing a durable design and structure that exceeds the mechanical requirements of applicable traction standards. The design is analysed by FEM simulation and safety margins are included in accordance with traction standards (fatigue and shock load) in the design of components and the whole motor structure.



Innovative thinking in the design of traction motors



The new high performing range of traction motors represents innovative thinking in designing where ABB combine knowledge of the traction industry with its market-leading low voltage motors and machines.

The design takes account of localised production, quality assurance, ease of assembly and servicing. All newly developed ABB products aim for lower losses and reduced environmental impact in the production phase (for example, constant lowering of emissions, transportation, energy consumption and the selection and quantities of materials). ABB Machines is ISO 9001, ISO 14001 and OHSAS 18001 certified and voluntarily follows the RoHS directive.

ABB is a global leader in power and automation technologies that enable utility and industry customers to improve their performance while lowering environmental impact. The ABB Group of companies operates in more than 100 countries and employs about 115,000 people.



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