Certificate no.:
TAE0000520

TYPE APPROVAL CERTIFICATE

This is to certify:

that the Electric Motor

with type designation(s)
AMXE200

issued to
ABB Electrical Machines Ltd.
Shanghai,, China

is found to comply with
DNV rules for classification – Ships, offshore units, and high speed and light craft

Application:

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.

Issued at **Høvik** on **2025-05-21**
This Certificate is valid until **2030-05-20**.
DNV local unit: **Shanghai**

for **DNV**

Approval Engineer: **Andreas Andrecht**

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to USD 300 000.

Product description

The AMXE Marine Motor is a 3-phase permanent magnet synchronous liquid cooled motor with temperature sensors inside the stator winding

Type
AMXE200S - 3GLX203183-xxx
AMXE200S - 3GLX203184-xxx
AMXE200S - 3GLX203185-xxx
AMXE200S - 3GLX203186-xxx
AMXE200L - 3GLX203583-xxx
AMXE200L - 3GLX203584-xxx
AMXE200L - 3GLX203585-xxx
AMXE200L - 3GLX203586-xxx

AC supply voltage:	220 V up to 690 V
Degree of IP protection:	IP 66 / P67(excluding shaft seal)
Duty type:	S1 and other load cycles
Insulation class:	H
Rated frequency:	75-150 Hz
Rated power:	up to 269 kW
Rated speed.	1500; 2000; 2500; 3000 rpm (max 5000 rpm)
Temperature Class:	A (0 °C to 45 °C)

Application/Limitation

The motor needs an inverter to operate. The inverter must be able to supply 3 phase AC current and be capable of controlling the motor. The motor has been tested and optimized together with the ABB HES880 inverter. An inverter with a different control strategy, switching frequency and pulse pattern might have an impact on the motor performance. Higher coolant and ambient temperatures are allowed, but the thermal class of the insulation 180 (H) shall be respected. The AMXE Marine Motor is not certified for use in redundancy design concept Type 3, as specified in DNV Rules Pt.4 Ch.8 Sec.5.

Type Approval documentation

Tests carried out

Type tests for the AMXE Marine Motor phase permanent magnet synchronous liquid cooled motor according to applicable DNV rules and standards as listed below have been carried out. DNV-RU-SHIP Pt.4 Ch.8, DNV-RU-SHIP Pt.4 Ch.9, DNV-CG-0339, IEC 60349-4:2012

Marking of product

- Manufacturers name and type designation
- Serial number
- Year of production
- Voltage, frequency, rpm
- Power class (kW / kVA)
- Winding insulation class
- Degree of protection
- IEC60349-4

Manufactured by:

ABB Electrical Machines Ltd. (10008648)

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the Type approval are complied with and that no alterations are made to the product design or choice of materials.

The main elements of the assessment are:

- Inspection on factory samples, selected at random from the production line (where practicable)

- Results from Routine Tests (RT) checked (if not available tests according to RT to be carried out)
- Review of type approval documentation
- Review of possible change in design, materials and performance
- Ensuring traceability between manufacturer's product type marking and Type Approval Certificate.

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE