Certificate no.:
TAE0000507

TYPE APPROVAL CERTIFICATE

This is to certify:

that the Electric Motor

with type designation(s)
E1GM..., E2GM..., E3GM..., E4GM

issued to
ELECTRO ADDA S.p.A.
Brivio, LC, Italy

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

Application:

Products approved by this certificate are accepted for installation on all vessels classed by DNV.

Degree of protection	**IP 55, IP 56, IP 65**
Insulation class	**F**
Temp. class (°C)	**155**
Voltage (V)	**220 - 690**
Power (kW)	**0,75 - 630**
Frequency (Hz)	**50 / 60**
Speed (RPM)	**750 - 3600**

Issued at **Høvik** on **2024-12-17**

This Certificate is valid until **2029-04-30**.

for **DNV**

DNV local unit: **Italy/Malta CMC**

Approval Engineer: **Georgy Abramenko**

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.

Place of manufacturing:

SHANGHAI HIMAK ELECTRICAL MA.. CO., LTD.
No. 568 YUANXI Rd, NANHUI Industry Area
Pudong, Shanghai, P. R. China

Product description

Induction Motors, Cast iron frame
Type
E1G.., E2G.., E3G.., E4G,.. frame sizes 80 up to 355

Sizes:	1, 2, 3, S, S1, S2, M, M1, M2, L, L1, L2
Rated voltage:	220 V up to 690 V
Rated power, Duty Type:	S1 0,75 kW up to 630 kW
Synchronous speed:	750 1/min up to 3600 1/min
Rated frequency:	50 Hz, 60 Hz
Ambient temperature:	45 °C
Thermal class:	155 (F)
Degree of protection:	IP 55, IP 56, IP 65
No. Of poles:	2, 4, 6 and 8
Spec. Model:	For marine applications / environments

Application/Limitation

This certificate is issued on the basis of GL Guidelines for the Performance of Type Approvals, Chapter 1 - Procedure (VI-7-1), Edition 2007

Type Approval documentation

Tests carried out

IEC 60034-1 / 2010-02
GL Guidelines for the Performance of Type Approvals, VI-7-6 part 4, ed. 1999

Marking of product

For traceability of the product to this Type Approval Certificate the products are as a minimum to be marked as follows:

1. a) Serial number, b) Manufacturer's name, c) Model and d) Type Designation
2. a) Power, b) Voltage, c) Current, d) Frequency, e) Speed, f) Power factor
3. Duty type (if other then S1/Continous)
4. a) Winding insulation class and b) Winding connection
5. Degree of protection
6. a) Maximum permissible cooling medium temperature, b) Ambient temperature
7. Performance standard
8. Total mass

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 of factory samples, selected at random from 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 of the 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