

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Electric Motor

with type designation(s)
GM ..., ALL EFFICIENCY IE1, IE2, IE3

Issued to

SEIPEE S.p.A.
Campogalliano, MO, Italy

is found to comply with
DNV GL 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 GL.

Degree of protection	See Page 2
Insulation class	See Page 2
Temp. class (°C)	See Page 2
Voltage (V)	See Page 2
Power (kW)	See Page 2
Frequency (Hz)	See Page 2
Speed (RPM)	See Page 2

Issued at **Hamburg** on **2020-06-25**

This Certificate is valid until **2025-06-24**.

DNV GL local station: **Italy/Malta CMC**

for **DNV GL**

Approval Engineer: **Maik Gagern**

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Arne Schaarmann
Head of Section

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 GL AS, its parent companies and subsidiaries as well as their officers, directors and employees ("DNV GL") 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 300,000 USD.



Product description

Induction motors, Cast iron motors

Types: GM 71 up to 400 ALL EFFICIENCY IE1, IE2, IE3

Sizes: a, b, c, S, M, L, Sa, Sb, Sc, Ma, Mb, Mc, La, Lb, Lc
Rated voltage: 220 V up to 830 V
Rated power: S1 0,25 kW up to 756 kW
Duty Type: S1, S2-10min, S2-30min, S3, S6-20%, S6-40%, S6-60%
Synchronous speed: 600 1/min up to 3600 1/min
Rated frequency: 50 Hz, 60 Hz
Ambient temperature: 45° C
Thermal class: 155 (F), temperature rise 130 (B)
Degree of protection: IP 55, IP 56
No. Of poles: 2, 4, 6, 8, 10
Spec. Model: For marine applications / environments

Application/Limitation

This certificate is issued on the basis of DNV GL Class Programme DNVGL-CP-0338, Edition 2018-09.

Type Approval documentation

Tests carried out

IEC 60034-1, 2010-02
GL Test Requirements for Electrical Machinery (VI-7-6), Edition 1999

Marking of product

Acc. IEC 60034-1 subclause 10.2

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