DNV·GL

Certificate No:
TAE00003UR

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Electric Motor

with type designation(s)
1MB15 / 1MB16 / 1MB10 / 1MB5 Series

Issued to
Siemens AG
Nürnberg, Bayern, Germany

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	**IP55 - IP65**
Insulation class	**F, H**
Temp. class (°C)	**155, 180**
Voltage (V)	**200 - 690**
Power (kW)	**0,03 - 630 at 50 Hz**
Frequency (Hz)	**50 - 60, converter operation up to 690 V**
Speed (RPM)	**660 - 3600**

Issued at **Hamburg** on **2019-01-01**

This Certificate is valid until **2020-03-31**.

for **DNV GL**

DNV GL local station: **Augsburg**

Approval Engineer: **Maik Gagern**

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.

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Job Id: **262.1-016257-2**
Certificate No: **TAE00003UR**

Name and place of manufacturers

Siemens s.r.o.; Markova 952,
744 11 Frenstat p,R
Czech Republic

Siemens s.r.o.;
Nadrazni 25, 789 85 Mohelnice,
Czech Republic

Product description

Type 1MB1 / 1MB5 ... :Explosion proof motor for zone 1, zone 2 and 21/22 *

Size	63, 71, 80, 90, 100, 112, 132, 160, 180, 200, 225, 250, 280, 315, 355
Rated Voltage:	200V up to 690V
Rated Frequency:	50Hz, 60Hz & converter operation up to 690 V
Number of poles:	2, 4, 6, 8 and pole changing type
Duty type:	S1
Enclosure class:	IP55 and up to IP65
Ambient air temp.:	45 deg. C
Material:	Cast -iron, Aluminium
Ex rating:	II 3G Ex nA IIC T1 to T4 Gc or II 3 G ExnA d IIC T1 to T4 Gc or II 3 G Ex nA e IIC T1 to T4 Gc or II 3G Ex nA d e IIC T1 to T4 Gc II 3 G Ex ec db e bib IIC T1 – T4 Gc or II 2 G Ex db eb IIC T4 Gb II 2 G Ex eb IIC T3 … T1 Gb II 2 D Ex tb IIIC T120 °C Db !P65 or II 2 D Ex tb IIIC T140 °C Db IP65 II 3 D Ex tc IIIB T120 °C Dc IP55 or II 3 D Ex tc IIIB T 140 °C Dc IP55 II 2 D Ex tb IIIC T130°C Db or II 2 D Ex tb IIIC T120°C Db All ratings depending on specific motor type and corresponding Certificate of Conformity
Insulation class:	F, H

Motors are intended for installation below deck, for IP rating IP56 or higher for installation on deck.

Product data

1MB1 … Frame Size: 63 … 315L

1MB5 … Frame Size: 315 … 355L

Application/Limitation

*Note: All details about electrical explosion protection mentioned in this certificate are for information only. For relevant binding information the corresponding Certificate of Conformity with regard to electrical explosion protection, issued by a recognised Authority, shall be observed and .

A Product Certificate is required for motors ≥300kW, if used for important or essential consumers or if required for the indended purpose by the respective DNV GL Rules.

Type Approval documentation

Tests carried out

Temperature, Overload, Overspeed, Insulation resistance, Winding resistance, No load, IP class.
Ex requirements in accordance with IEC 60079-0,-7, -15,-31 *

Marking of product

Siemens motors (manufacturing place) – type designation – technical data including rated voltage, RPM, rated power, ambient temperature, rated current, rated frequency, insulation class, IP class

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the type are complied with, and that no alterations are made to the product design or choice of systems/components/materials.

The main elements of the survey are:

- Inspection of factory samples, selected at random from the production line (where practicable)
- Review of production and inspection routines, including test records from product sample tests and control routines.
- Ensuring that systems/components/materials used comply with type approved documents and/or referenced system/component/material specifications.
- Review of possible changes in design of systems/components/materials, software version and performance, and make sure that such changes do no affect the type approval given.
- Ensuring traceability between manufacturer's product type marking and the type approval certificate.
- Ensuring that type approved documentation is available.

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