DNV·GL

Certificate No:
TAE000027C

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Generator

with type designation(s)
AMG 0400, AMG 0500, AMG 0560

Issued to
ABB Electrical Machines Ltd.
Shanghai, China

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	**IP 23, IP 44**
Insulation class	**H**
Voltage (V)	**380 V to 690 V**
Power (kW)	**688 kVA up to 2750 kVA**
Frequency (Hz)	**50 Hz, 60 Hz**
Speed (RPM)	**1200 1/min, 1500 1/min, 1800 1/min**

Issued at **Hamburg** on **2018-04-12**
This Certificate is valid until **2023-04-11**.
DNV GL local station: **Shanghai**

for **DNV GL**

Approval Engineer: **Heinz-Dieter Hespe**

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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Product description

AC Synchronous Generators
Types: AMG 0400
AMG 0500
AMG 0560

AMG 0400 (type designation)	**Technical Data**
Rated Power	688 kVA up to 1175 kVA
Rated Voltage	380 V up to 690 V
Rated Power Factor	0.8
Duty Type	S1
Speed	1500 1/min, 1800 1/min
Rated Frequency	50 Hz, 60 Hz
Ambient Temperature	45 °C
Thermal Class	155 (F)
Degree of Protection	IP 23, IP 44 with derating of 10 %
Standard	IEC 60034-1 / 2010-02
Excitation	PMG

AMG 0500 (type designation)	**Technical Data**
Rated Power	950 kVA up to 2250 kVA
Rated Voltage	480 V up to 690 V
Rated Power Factor	0.7 or 0.8
Duty Type	S1
Speed	1200 1/min, 1500 1/min, 1800 1/min
Rated Frequency	50 Hz, 60 Hz
Ambient Temperature	45 °C
Thermal Class	155 (F)
Degree of Protection	IP 23, IP 44 with derating of 10 %
Standard	IEC 60034-1 / 2010-02
Excitation	PMG, SE

AMG 0560 (type designation)	**Technical Data**
Rated Power	2619 kVA up to 2750 kVA
Rated Voltage	600 V up to 690 V
Rated Power Factor	0.7 or 0.8
Duty Type	S1
Speed	1200 1/min
Rated Frequency	60 Hz
Ambient Temperature	45 °C
Thermal Class	155 (F)
Degree of Protection	IP 23, IP 44 with derating of 10 %
Standard	IEC 60034-1 / 2010-02
Excitation	PMG

Application/Limitation

The AVR (automatic voltage regulator) is not a part of this Type Approval Certificate. It must be ensured, that the Generator including the AVR fulfills the DNV GL Rules Pt.4 Ch.8 Sec.5 [2.1] and [2.2].

The adjustment of the AVR to be checked during FAT at the manufacturer´s works and during commission on board.

End user responsible for correct IP protection according to location and use.

This Type Approval Certificate does not replace the requirement to a DNV Product Certificate. Documents and drawings for the actual application as stated in our Rules Pt.4 Ch.8 Sec.1 Table 2.

Type Approval documentation

Tests carried out

According to
test reports no: 8810232 dated 2016-12-19
test reports no: 4658324 dated 2017-08-19
test reports no: 4658326 dated 2017-08-19

Marking of product

According to IEC 60034-1, clause 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 Production Sample Tests (PST) and Routines (RT) checked (if not available, tests according to PST and 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