DNV·GL

Certificate No:
TAM000007J

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Diesel Engine

with type designations(s)
G50ME-C

Issued to
MAN Diesel & Turbo
Copenhagen SV, Denmark

is found to comply with
DNV GL Rules for classification, Ships - DNVGL-RU-SHIP-Pt4Ch3Sec1, Reciprocating Internal Combustion Engines

Application:

propulsion

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

This Certificate is valid until **25th May, 2021**
Issued at **Høvik** on **26th May, 2016**

DNV GL local station: Copenhagen

for **DNV GL**

Approval Engineer: Amir Dzaferi

Oddvar Deinboll
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.

Product description

two stroke, in-line engine, reversible, crosshead, with supercharging, with charge air cooling, constant-pressure charging system, direct injection, injection operation electronically controlled, valve operation electronically controlled, liquid fuel

Cylinder bore: 500 mm
Piston stroke: 2500 mm

Additional place of production

not applicable

Application / Limitation

Rated power [kW/cyl.]	1720
Rated speed [rpm]	100
Mean effective pressure [bar]	21
Max. firing pressure [bar]	185
Definition	Mk 9

Type Approval documentation

15-071129, 262.1-021750-1

Tests carried out

Documentation:

Test report titel	Type Approval Test Report
Test report reference	3099638-6.2, 2016-04-14
Place of test	Mitsui Engineering & Shipbuilding Co., Ltd.
Date of test	2016-03-01 until 2016-03-03

Test engine:

Model	MAN B&W 7G50ME-C-GIE
Serial no.	Engine No. 6867
No. of cylinders	7
Power [kW/cyl.]	1720
Speed [rpm]	100

Marking of product

The product to be marked with manufacturer's name or trademark and type number identification.

Periodical assessment

Meetings on regularly basis and at least every second year with the Type Approval applicant (hereof: the Engine Designer) shall be arranged with the objective to verify that the conditions for the Type Approval are not altered since the Type Approval Certificate was issued, and to keep DNV GL updated with regard to:

- The latest development status and design as covered by the Type Approval certificate.
- Damages and failures of products certified by DNV GL leading to break down or other malfunctions in service. The causes and reasons for the failure and results from investigations are to be made available to DNV GL upon request. Failure to inform DNV GL may lead to suspension of this Type Approval certificate.

In cases where the Type Approved design is manufactured at other companies, DNV GL shall verify that the Type Approval applicant has a quality control system for consistent production at their licensees/subcontractors.

Other conditions

This Type Approval covers the mechanical parts of the G50ME-C engine type.

Engine safety, control and monitoring systems, including sensors and actuators are not covered by this Type Approval certificate. Documentation for engine safety, control (including speed governing) and monitoring systems shall be submitted for approval according to the Rules Pt.4 Ch.9 Sec.1 Table 5 - "Documentation resquirements" and/or as listed in relevant Type Approval certificates.

Electric wiring, instrumentation and automation are not included in this Type Approval.

Torsional vibration calculations to be submitted for each installation according to the Rules Pt.4 Ch.2 Sec.2 - "Torsional vibrations". Torsional vibration dampers shall be approved by DNV GL.

Signboards to be according to the Rules Pt.4 Ch.3 Sec.1 [2.3.6] - "Warning notice".

Flexible hoses for flammable fluids to be type approved by DNV GL.

Oil fuel lines, lubrication oil lines and lines for other flammable oils are to be screened or otherwise suitable protected to avoid as far as practicable oil spray or oil leakages onto hot surfaces, into machinery air intakes, or other sources of ignition. Reference to the Rules Pt.4 Ch.3 Sec.[2.6.2] - "Screening".

Type Approval Certificate for the G50ME-C engine may upon request be issued to engine manufacturers upon approval of documentation, submitted as required by the Rules. Reference to the Rules Pt.4 Ch.3 Sec.1 [1.2] - "Documentation of the engine".

END OF CERTIFICATE