TYPE APPROVAL CERTIFICATE

Certificate No:
TAM000017F

This is to certify:

That the Diesel Engine / Dual Fuel Engine

with type designation
S35ME-C9

Issued to
MAN Energy Solutions, branch of MAN Energy Solutions SE, Germany
Copenhagen SV, Denmark

is found to comply with
DNV GL Rules for classification, Ships – DNV GL-RU-SHIP-Pt4 Ch3 Sec1,
Reciprocating Internal Combustion Engines

Application :

mechanical propulsion

Issued at **Høvik** on **2nd March, 2021**
This Certificate is valid until **1st March, 2026**.

DNV GL local station: **Copenhagen**

for **DNV**

Approval Engineer: **Tage Olav Alexander Strøm**

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.

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 300,000 USD.

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 by cams

Cylinder bore [mm]	350
Piston stroke [mm]	1550
No. of cylinders	5, 6, 7, 8

Application/Limitation

Rated power [kW/cyl.]	870
Rated speed [rpm]	167
Mean effective pressure [bar]	21
Max. firing pressure [bar]	200
Definition	C9

Type Approval documentation

Tests carried out

Documentation:

Test report title	Type Approval Test report
Place of test	MAN Diesel, Frederikshavn, Denmark
Date of test	2008-11-19 until 2008-11-21

Test engine:

Model	8S35ME-B9
Serial no.	P-20722-01-11
No. of cylinders	8
Power [kW/cyl.]	870
Speed [rpm]	167

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 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 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 upon request. Failure to inform DNV may lead to suspension of this Type Approval certificate.

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

Other Conditions

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 and/or as listed in relevant type approval certificates.

Electric cables and installation of these are not covered by this approval and must be verified to comply with the requirement of the Rules Pt.4 Ch.8 - Electrical Installation.

END OF CERTIFICATE