DNV·GL

Certificate No:
TAM00000BW

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Diesel Engine

with type designations(s)
4000-Mx4

Issued to
MTU Friedrichshafen GmbH
88045 Friedrichshafen, Germany

is found to comply with
DNV GL Rules for classification, Ships - Pt.4, Ch.3, Sec.1, Reciprocating Internal Combustion Engines

Application:

propulsion, multi engine plant / auxiliary

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

This Certificate is valid until **20th September, 2021**
Issued at **Hamburg** on **21st September, 2016**

DNV GL local station: Augsburg

for **DNV GL**

Approval Engineer: Ralph Michael

Frank Lutz
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

four stroke, v-engine, non-reversible, trunk-piston, with supercharging, with charge air cooling, constant-pressure charging system, direct injection, injection operation electronically controlled, valve operation by cams, liquid fuel

Cylinder bore: 170 mm
Piston stroke: 210 mm

Additional place of production

not applicable

Application / Limitation

Rated power [kW/cyl.]	125	125	137.5
Rated speed [rpm]	1800	1550	1800
Mean effective pressure [bar]	17.48	20.3	19.23
Max. firing pressure [bar]	190	190	190
Definition	cont.	cont.	non-cont.

Type Approval documentation

13-081513, 13-090555, 14-012331, 262.1-016211-2

Tests carried out

Documentation:

Test report titel	Type Test MTU Diesel Engine 16V 4000 M64 Workboat
Test report reference	14-012331, 2014-02-26
Place of test	MTU Friedrichshafen, Plant 2, Stand 120
Date of test	2013-10-14 until 2013-10-21

Test engine:

Model	16 V 4000 M64
Serial no.	548 100 105
No. of cylinders	16
Power [kW/cyl.]	125
Speed [rpm]	1800

Marking of product

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

Periodical assessment

For retention of the Type Approval, DNV GL shall perform a Periodical Assessment every second year and before the expiry date of this certificate.

The objective of the Periodical Assessment is to verify that the conditions for the Type Approval are not altered since the Type Approval certificate was issued.

In case where the Type Approved product is manufactured at other companies, the Periodical Assessment shall verify that the Type Approval applicant has a quality control system for consistent production at their licensees/subcontractors. Furthermore Periodical Assessment shall be carried out randomly at these companies.

Other conditions

Engine safety, control and monitoring systems, including sensors, cables 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 DNV GL Rule Pt.4 Ch.9 Sec.1

The flame resistant hoses with couplings shall DNV GL approved according to the DNV GL Rule Pt.4 Ch.6 Sec.9

END OF CERTIFICATE