

TYPE APPROVAL CERTIFICATE

Certificate No:
TAM00000ZA

This is to certify:

That the Diesel Engine

with type designation(s)
VM43(C), M43(C)

Issued to

Caterpillar Motoren GmbH & Co. KG
Kiel, Germany

is found to comply with

DNV GL Rules for classification, Ships - Pt.4, Ch.3, Sec. 1, Reciprocating Internal Combustion Engines

Application :

propulsion / auxiliary

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

This Certificate is valid until **26th September, 2023**.

Issued at **Hamburg** on **27th September, 2018**

DNV GL local station: **Hamburg**

for **DNV GL**

Approval Engineer: **Ralph Michael**

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Burkhard Lilienthal
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.

Job Id: **262.1-029235-1**
Certificate No: **TAM00000ZA**

Product description

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

Cylinder bore [mm]	430
Piston stroke [mm]	610
No. of cylinders	16, 12 in Vee 9, 8, 7, 6 in-line

Additional place of production

Caterpillar Motoren Rostock GmbH, Rostock, Germany

Application/Limitation

Rated power [kW/cyl.]	1050	1050
Rated speed [rpm]	514	500
Mean effective pressure [bar]	27.7	28.4
Max. firing pressure [bar]	215	215
Definition	-	-

Type Approval documentation

Tests carried out

Documentation:

Test report title	Type Approval Test VM43C
Place of test	Caterpillar Motoren Rostock, Testbed 2
Date of test	2014-02-19 until 2014-02-21, 2012-06-12

Test engine:

Model	12VM43C	12VM43C	8M43C
Serial no.	69051	69051	66228
No. of cylinders	12	12	8
Power [kW/cyl.]	1050	1050	1050
Speed [rpm]	500	514	500

Marking of product

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

Periodical assessment

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.

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 and actuators, are not covered by this 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 Table 5 and/or as listed in relevant Type Approval certificates.

The renewal of Type Approval is based on previous certificates M-12565, 86006-14HH, 49658-04HH .

END OF CERTIFICATE