

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Diesel Engine

with type designations(s)
M20(C)

Issued to

Caterpillar Motoren GmbH & Co. KG
Kiel, Germany

is found to comply with

DNV GL Rules for classification, Ships - DNVGL-RU-SHIP-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 **29th September, 2021**

Issued at **Hamburg** on **30th September, 2016**

DNV GL local station: Hamburg

for **DNV GL**

Approval Engineer: Jan Sell

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, in-line engine, non-reversible, trunk-piston, with supercharging, with charge air cooling, direct injection, injection operation by cams, valve operation by cams, liquid fuel

Cylinder bore: 200 mm
Piston stroke: 300 mm

Additional place of production

CSSC Motoren Anqing-Kiel Co., Ltd., Anqing, China
Caterpillar Motoren Rostock GmbH, Rostock, Germany

Application / Limitation

Rated power [kW/cyl.]	200
Rated speed [rpm]	1000
Mean effective pressure [bar]	25.5
Max. firing pressure [bar]	190
Definition	

Type Approval documentation

03-043827, 04-051596, 05-023422, 052226/02, 06-047895, 08-184855, 09-149056, 10-116752, 10924P/90, 11-014976, 11-095262, 11-096671, 11-126456, 12-101090, 12-111718, 12-128017, 12163/93, 13-063252, 13-070115, 13722/96, 14388P/00, 15-004949, 27589/91, 28002/97, 37804/95, 52413/98, 57625/01, 97047/92

Tests carried out

Documentation:

Test report titel	Type Approval of the engine M20, 190 kW/cyl.
Test report reference	37796/97, 1997-07-08
Place of test	Kiel, Germany
Date of test	1996-11-11 until 1996-11-12

Test engine:

Model	6M20
Serial no.	30002
No. of cylinders	6
Power [kW/cyl.]	190
Speed [rpm]	1000

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.

Job Id: **262.1-001340-16**
Certificate No **TAM0000098**

Other conditions

1. For installation, operation, and service of the engine, the relevant instructions of the engine manufacturer are to be observed.
2. 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 DNV GL Rules Pt.4 Ch.9 Sec.1 Table 5 and/or as listed in relevant Type Approval certificates.
3. Electric cables and cabling are not covered by this Type Approval certificate and shall be verified to comply with DNV GL Rules Pt.4 Ch.8.
4. For single main propulsion application a suitable speed control system is to be used ensuring continuous control or immediate resumption of control after a fault; DNV GL Rules Pt.4 Ch.3 Sec.1 [5.2.3.2].
5. Torsional vibration damper approval is included in this certificate: Caterpillar spring sleeve damper:
6M20C 1.00.7-62.50.00-39, rev -, test report 2020-408
8M20C 1.00.7-62.50.00-40, rev -, test report 2025-407
9M20C 1.00.7-62.50.00-41, rev -, test report 2025-409
6. This renewal of Type Approval for M20C is based on previous certificates M-11859 and 26768-11HH.

END OF CERTIFICATE