

TYPE APPROVAL CERTIFICATE

Certificate No:
TAM00000DE

This is to certify:

That the Diesel Engine

with type designation(s)
D81 (S,Z,C)

Issued to
Motorenfabrik Hatz GmbH & Co. KG
Ruhstorf, Germany

is found to comply with
DNVGL Rules for Classification: Ships/ High Speed and Light Craft

Application :

auxiliary / emergency

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

This Certificate is valid until **8th October, 2022**.

Issued at **Hamburg** on **9th October, 2017**

DNV GL local station: **Augsburg**

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: **262.1-024114-1**
Certificate No: **TAM00000DE**

Product description

four stroke, in-line engine, non-reversible, trunk-piston, without supercharging, direct injection, injection operation by cams, valve operation by cams, liquid fuel

Cylinder bore [mm] :100
Piston stroke [mm] :85
No. of cylinders :1

Additional place of production

not applicable

Application/Limitation

Rated power [kW/cyl.] 9.5
Rated speed [rpm] 3600
Mean effective pressure [bar] 4.7
Max. firing pressure [bar] 80
Definition -

Type Approval documentation

05-027604, 262.1-007957, 94-94887, 95-64614

Tests carried out

Documentation:

Test report titel Type Approval for D81 of Motorenfabrik Hatz GmbH & Co. KG
Place of test Ruhstorf / Rott Germany
Date of test 1995-06-29 until 1995-06-29

Test engine:

Model 1D81Z
Serial no. 0731 0950 01769
No. of cylinders 1
Power [kW/cyl.] 9.5
Speed [rpm] 3600

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 Rules Ships Pt.4 Ch.9 Sec.1 Table 5 and/or as listed in relevant Type Approval certificates.

END OF CERTIFICATE