

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Diesel Engine

with type designations(s)
6DE(M)-23(F)(L)

Issued to

Daihatsu Diesel Mfg. Co., Ltd. Moriyama Division
Moriyama-city, Japan

is found to comply with
DNV Rules for Classification of Ships

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 **17th September, 2019**

Issued at **Høvik** on **18th September, 2015**

DNV GL local station: Kobe

for **DNV GL**

Approval Engineer: Amir Dzaferi

Oddvar Deinbol
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: **262.1-011822-2**
Certificate No: **TAM000002A**

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: 230 mm
Piston stroke: 320 mm

Additional place of production

Application / Limitation

Rated power [kW/cyl.]	213.33	213.33	252.67
Rated speed [rpm]	720	750	900
Mean effective pressure [bar]	26.7	25.7	25.3
Max. firing pressure [bar]	200	200	200
Rating Definition			

Type Approval documentation

262.1-011822-2

Tests carried out

Documentation:

Test report title	Test records of the diesel engine at shop trial
Test report reference	ADE23-0256-8, 2015-09-09
Place of test	Daihatsu Diesel Mfg. Co., Ltd. Moriyama Factory
Date of test	2015-05-14 until 2015-05-14

Test engine:

Model	6DE-23
Serial no.	DET623Z0186
No. of cylinders	6
Power [kW/cyl.]	1280
Speed [rpm]	720

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.



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Other conditions

Foundation arrangement to be submitted for each installation according to the Rules, Pt. Ch.3 Sec.1 A500 – Documentation of arrangement.

Torsional vibration calculations to be submitted for each installation according to the Rules Pt.4, Ch.3, Sec.1, G - Vibration.

Signboards according to the Rules Pt.4, Ch.3, Sec.1, C 406.

Flexible hoses for flammable fluids to be type approved by DNV.

Electric cables and installation of this is not covered by this approval and must be verified to comply with the requirement of DNV Rules for Ships/ High, Speed Light Craft and Naval Surface Craft Pt.4 Ch.8 - Electrical Installation.

The approval does not include driven member.

END OF CERTIFICATE