DNV·GL

Certificate No:
TAM000005C

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Diesel Engine

with type designation(s)
6DK(M)-36(e)(F)(L), 8DK(M)-36(e)(F)(L)

Issued to
Daihatsu Diesel Mfg. Co. Ltd Moriyama Division
Moriyama Shiga Pref, Japan

is found to comply with
DNV GL rules for classification – Ships

Application :

The approval is valid for propulsion and auxiliary duty.

Type	Rating
6DK(M)-36(e)(F)(L)	3450 kW @ 600 rpm
8DK(M)-36(e)(F)(L)	4500 kW @ 600 rpm

This Certificate is valid until **2020-12-31**.

Issued at **Høvik** on **2016-01-28**

for **DNV GL**

DNV GL local station: **Kobe**

Approval Engineer: **Tage Olav Alexander Strøm**

Oddvar Deinboll
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.

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Four stroke diesel engine

Cylinder bore: 360 mm
Piston stroke: 480 mm
No.of cylinders: 6 and 8 in-line

Model designation as follows:
"-" is generator duty, eg 6DK-36
"M" is proulsion duty, eg 6DKM-36L
"F" is prepared for front end power take off of any duty, eg 6DK-36F
"L" is anticlockwise rotation, eg 6DK-36L
"e" complies with IMO Tier II requirements, eg 6DK-36e

Application/Limitation

The approval is valid for propulsion and auxiliary duty and based on the following main data:

	6DK(M)-36(e)(F)(L)	8DK(M)-36(e)(F)(L)
Mean indicated pressure, [bar]:	25,3	24,8
Max. cylinder pressure, [bar]:	177	177
Rated cont.output, [kW]:	3450	4500
Corresponding to, [rpm]:	600	600

Tests carried out

- Workshoptest including verification of surface temperatures dated 2011-12-14, List no TID 11086A, engine type 6DK(M)-36e
- Type test performed 2006-12-5/6 according to test records for type test with engine type 6DKM-36L, engine serial no DK636Z0099.
- Verification of surface temperatures and screening of pipe connections, dated 2007-11-12.

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, a DNV GL surveyor shall perform a survey every second year and before the expiry date of this certificate. This to verify that the conditions of the type approval are complied with and not altered since the Type Approval Certificate was issued.

In cases 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

Foundation arrangement to be submitted for each installation according to the Rules, Pt. 4 Ch.3 Sec.1 [1.4] - Documentation of arrangement.

Torsional vibration calculations to be submitted for each installation according to the Rules Pt.4 Ch.2 Sec.2 - Torsional Vibrations.

Signboards according to the Rules Pt.4 Ch.3 Sec.1 [2.3.6] - Warning Notice.

Flexible hoses with couplings to be type approved by DNV GL.

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 the rules Pt.4 Ch.9 Sec.1 Table 5 - Documentation requirements.

Electric cables and cabling are not covered by this approval and must be verified to comply to the rules Pt.4 Ch.8 - Electrical Installation.

END OF CERTIFICATE