

TYPE APPROVAL CERTIFICATE

Certificate No:
TAM00000D5

This is to certify:

That the Diesel Engine

with type designations
6/8 DK(M)-28(e)(F)(L)

Issued to

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

is found to comply with

DNV GL Rules for classification, Ships - DNVGL-RU-SHIP-Pt4 Ch3 Sec1,
Reciprocating Internal Combustion Engines

Application :

Propulsion / Auxiliary

Products approved by this certificate are accepted for installation on all vessels classed by DNV GL.

This Certificate is valid until **2nd February, 2022.**

Issued at **Høvik** on **3rd February, 2017**

DNV GL local station: **Kobe**

for **DNV GL**

Approval Engineer: **Tin Nguyen**

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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.

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 : 280
Piston stroke : 390
No. of cylinders : 6, 8

"-": Generator engine, e.g. 6DK-28

"M": Propulsion engine, e.g. 6DKM-28

"F": Propulsion engine with power takeoff to other equipment, e.g. 6DKM-28F

"L": Anticlockwise rotation, seen from flywheel side, e.g. 6DKM-28L

"e": IMO Tier II Complaint version, e.g. 6DK-28e

Application/Limitation

Rated power [kW/cyl.]	343.17		368.33	
Rated speed [rpm]	720	750	720	750
Mean effective pressure [bar]	23.8	22.9	25.6	24.5
Max. firing pressure [bar]	177		177	
Definition	6DK(M)-28 (F)(L)		6DK(M)-28e(F)(L)	

Rated power [kW/cyl.]	378.67		329.38	
Rated speed [rpm]	720	750	720	750
Mean effective pressure [bar]	26.3	25.2	22.9	21.9
Max. firing pressure [bar]	177		177	
Definition	6DK(M)-28e(F)(L)		8DK(M)-28(F)(L)	

Rated power [kW/cyl.]	329.38		378.75	
Rated speed [rpm]	720	750	720	750
Mean effective pressure [bar]	22.9	21.9	26.3	25.2
Max. firing pressure [bar]	177		177	
Definition	8DK(M)-28e(F)(L)		8DK(M)-28e(F)(L)	

Tests carried out

Documentation:

Test report title: Test Records of Engine model 8DK(M)-28e
Place of test: Moriyama Factory, Shiga
Date of test: 2012-08-23 until 2012-08-24

Test engine:

Model: 8DK(M)-28e
Serial no.: DKT828Z0001 - 8DK(M)-28e
No. of cylinders: 8
Power [kW/cyl.]: 378.75
Speed [rpm]: 720

Marking of product

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

Periodical assessment

Job Id: **262.1-004125-7**
Certificate No: **TAM00000D5**

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

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 Vibration.

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

Flexible hoses 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 and/or as listed in relevant type approval certificates.

Electric cables and installation of this is not covered by this approval and must be verified to comply with the requirement of the Rules Pt.4 Ch.8 - Electrical Installation.

END OF CERTIFICATE