



TYPE APPROVAL CERTIFICATE

Certificate No:
TAM00001B2

This is to certify:

That the Diesel Engine

with type designation(s)
DV

Issued to

**Kirloskar Oil Engines Ltd.
Maharashtra Pune, India**

is found to comply with

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

Application :

auxiliary / emergency

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

Issued at **Høvik** on **26th July, 2023**

This Certificate is valid until **25th July, 2028**.

DNV local station: **Mumbai**

for **DNV**

Approval Engineer: **Dag Harald Williksen**

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Olaf Drews
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.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.

Product description

four stroke, v-engine, non-reversible, trunk-piston, with supercharging, with charge air cooling, constant-pressure charging system, direct injection, injection operation by cams, valve operation by cams, liquid fuel

Cylinder bore [mm]	130
Piston stroke [mm]	150
No. of cylinders	8, 10 and 12 in-V

Application/Limitation

	DV8	DV10	DV12
Rated power [kW]	360	447	551
Rated speed [rpm]	1500	1500	1500
Mean effective pressure [bar]	18.1	18,0	18,4
Max. firing pressure [bar]	156	156	156

Type Approval documentation

Tests carried out

Documentation:	
Test report title	Engine Type Test Report
Place of test	Kirloskar Oil Engines Ltd., Kagal Kolhapur, India
Date of test	2023-02-05 until 2023-02-05

Test engine:	
Model	DV10-M(A)
Serial no.	DV0.9606/2220002
No. of cylinders	10
Power [kW/cyl.]	447
Speed [rpm]	1500

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

Flexible hoses with couplings to be type approved by DNV.

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