DNV·GL

TYPE APPROVAL CERTIFICATE

Certificate No:
TAM00000WF

This is to certify:

That the Diesel Engine

with type designations
L/AD126, MD/AD196

Issued to
Doosan Infracore Co., Ltd.
Incheon, Republic of Korea

is found to comply with
DNV GL Rules for classification, Ships - DNVGL-RU-SHIP-Pt4 Ch3 Sec1, Reciprocating Internal Combustion Engines

Application :

Propulsion / auxiliary / emergency

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

This Certificate is valid until **30th June, 2023**.

Issued at **Høvik** on **14th May, 2018**
DNV GL local station: **Seoul** for **DNV GL**

Approval Engineer: **Dag Harald Williksen**

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.

Job Id: **262.1-001250-5**
Certificate No: **TAM00000WF**

Product description

Four stroke, in-line engine, non-reversible, trunk-piston, direct injection, injection operation by cams, valve operation by cams, liquid fuel

Cylinder bore [mm]	123
Piston stroke [mm]	155
No. of cylinders	6 in-line

Application/Limitation

	Propulsion			
Engine model:	MD196T	MD196TI	L126TIH	L126TIM
Mean eff. pressure, [bar]	11.2	12.8	14.4	15.2
Max. cyl. pressure, [bar]	100	105	130	135
Rated cont. output, [kW]	206	235	265	294
Corresponding to, [rpm]	2000	2000	2000	2100

	Auxiliary/Emergency:			
Engine model:	AD126TIF	AD126TIS	AD196TIF	AD196TIS
Mean eff. pressure, [bar]	14.9	14.9	12.5	12.0
Max. cyl. pressure, [bar]	125	130	95	100
Rated cont. output, [kW]	206	247	173	199
Corresponding to, [rpm]	1500	1800	1500	1800

Type Approval documentation

Tests carried out

Place of test	Incheon, Republic of Korea
Date of test	1999-02-24 until 1999-03-12

Test engine:

Model	MS 196TI

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.

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 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