DNV·GL

TYPE APPROVAL CERTIFICATE

Certificate No:
TAM0000159

This is to certify:

That the Diesel Engine

with type designations
MINI-74, SM-56, SM-81 and SM-105

Issued to
Sole S.A.
08691 Martorell 08, Spain

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

Application :

Auxiliary / emergency

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

This Certificate is valid until **16th November, 2025**.
Issued at **Høvik** on **17th November, 2020**
DNV GL local station: **Barcelona** 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: **262.1-027608-1**
Certificate No: **TAM0000159**

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]	94
Piston stroke [mm]	120
No. of cylinders	4 and 6

Additional place of production

Mitsubishi Heavy Industies, Ltd., 3000 Tana, Chuo-ku, Sagamihara Kanagawa 252-5293, Japan

Application/Limitation

Definition	MINI-74		SM-56		SM-105		SM-81	
Rated power [kW]	29,9	33,1	37,8	45,4	42,6	49,6	58,9	70
Rated speed [rpm]	1500	1800	1500	1800	1500	1800	1500	1800
Mean effective pressure [bar]	7.2	6.6	9.1	9.1	6,8	676	9,4	9,3

Type Approval documentation

Tests carried out

Documentation:

Test report title	Genset test report, 300359 Genset test report, 300359
Place of test	Sole S.A., Martorell, Barcelona, testbench 9BPGEL01
Date of test	2019-12-05

Test engine:

Model	MINI-74	SM-81
Serial no.	300359	108806
No. of cylinders	4	6
Power [kW] @ Speed [rpm]	29.9 @ 1500	58,9 @ 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.

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