



Certificate No. 02-004176/025979

TYPE APPROVAL CERTIFICATE

This is to certify that this product complies with the Rules for the classification of ships, Part 1 - General requirements, Chapter 3 - Type approval of products.

TYPE AND DESCRIPTION OF PRODUCT:

DIESEL ENGINE
Type
DI13 M

MANUFACTURER:

Scania CV AB
SE-151 87 Södertälje
Sweden

THE PRODUCT MEETS FOLLOWING RULES/REGULATIONS:

Rules for the Classification of Ships, Part 9-Machines.

FURTHER DETAILS OF THE PRODUCT AND CONDITIONS FOR CERTIFICATION ARE GIVEN OVERLEAF.

APPROVAL IS VALID UNTIL: **2027-12-16**

Place and date: Split, 2023-10-06

Seal

Marinko Popović, dipl.ing.

NOTE: This certificate is not valid for equipment, the design or manufacture of which has been varied or modified from the specimen tested. The manufacturer should notify Croatian Register of Shipping of any modification or changes to the product in order to obtain a valid certificate.

DETAILED PRODUCT DESCRIPTION:

<i>Number of cylinders</i>	6
<i>Cylinder arrangement</i>	In-line
<i>Working cycle</i>	4- stroke
<i>Cylinder bore (mm)</i>	130
<i>Stroke (mm)</i>	160
<i>Kind of fuel</i>	Liquid
<i>Fuel system</i>	Electronically controlled, direct injection type
<i>Valve operation</i>	Cam control
<i>Turbocharging system</i>	Pulsating, single-stage with charge air cooling

APPLICATION / LIMITATIONS:

Application: Propulsion

<i>Rated power (kW)</i>	405	441	551
<i>Rated speed (rpm)</i>	1800	2100	2300
<i>Mean effective pressure (bar)</i>	21,2	19,8	22,6
<i>Max. firing pressure (bar)</i>	184	179	202
<i>Application / Rating*</i>	ICFN-Continuous service	IFN-Intermittent service	Patrol craft short

*Reference is made to manufacturer's marine rating classification.

Application: Auxiliary and emergency

<i>Rated power (kW)</i>	426	426
<i>Rated speed (rpm)</i>	1500	1800
<i>Mean effective pressure (bar)</i>	26.7	22.3
<i>Max. firing pressure (bar)</i>	186	172

Engines in auxiliary and emergency service are over loadable with 10% of power.

Power ratings (at the same rated speed) lower than those stated is accepted as long as they are within the values approved by engine designer.

TYPE APPROVAL DOCUMENTATION:

Approved by the Croatian Register of Shipping with letters No.(dated):

2327/TS/IA/023161	(2011-12-16)
2555/TSE/IA/024489	(2018-11-16)

MARKING OF PRODUCT:

- manufacturer's mark
- location and year of final fitting
- CRS mark

CONDITIONS FOR CERTIFICATION:

Signalization and protection related to the engine shall be subject to CRS approval in each particular case and will depend on service applied and the degree of automation of the engine plant.