



Certificate No. 02-002728/024681

TYPE APPROVAL CERTIFICATE

This is to certify that this product, on the basis of 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 D16

MANUFACTURER:

AB Volvo Penta

Vara Volvofabriken 1
SE-534 91 Vara
Sweden

THE PRODUCT MEETS FOLLOWING RULES/REGULATIONS:

CRS: 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: **2023-11-07**

Place and date: Split, 2019-05-24

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:

4-stroke, single acting diesel engine

Cylinder bore: 144 mm
Piston stroke: 165 mm
Cylinder number: 6(L)
Compression ratio: 17,5:1

APPLICATION / LIMITATIONS:

for propulsion

MCR (kW)	Speed (rpm)
478	1800
551	1900

genset power

MCR (kW)	Speed (rpm)
479	1500
532	1800

Highest power at a certain revolution speed.

TYPE APPROVAL DOCUMENTATION:

Drawings and calculations approved by CRS with letters: 2065/TS/IA/023011 (2011-11-07)
1979/TS/IA/023978 (2016-08-25)
1419/TSE/IA/024681 (2019-05-24)

MARKING OF PRODUCT:

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

CONDITIONS FOR CERTIFICATION:

Minimal tensile strength of crankshaft material is 600 MPa.

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.

Torsional vibration calculation shall be submitted for each installation in accordance with the Rules of CRS.