DNV·GL

TYPE APPROVAL CERTIFICATE

Certificate No:
TAM00000TU

This is to certify:

That the Diesel Engine

with type designations
Wärtsilä 20, Wärtsilä 20 CR, Wärtsilä 20 Auxpac

Issued to
Wärtsilä Finland Oy
Vaasa, Finland

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

Application :

propulsion / auxiliary

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

This Certificate is valid until **31st December, 2022**.

Issued at **Høvik** on **2nd February, 2018**
DNV GL local station: **Vaasa** 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: **262.1-001042-19**
Certificate No: **TAM00000TU**

Product description
Four stroke, in-line engine, non-reversible, trunk-piston, with supercharging, with charge air cooling, direct injection, injection operation by cams, injection operation electronically controlled, liquid fuel

Cylinder bore :	200
Piston stroke :	280
No. of cylinders :	4, 6, 8, 9

Wärtsilä 20 CR engine series is approved with an electronic controlled common rail fuel injection system.

Additional place of production
Wärtsilä Qiyao Diesel Co., Ltd., Shanghai, China

Application/Limitation

Rated power [kW/cyl.]	185	200
Rated speed [rpm]	900	1000
Mean effective pressure [bar]	28.0	27.3
Max. firing pressure [bar]	200	200

Type Approval documentation

Tests carried out

Test report titel	Type Approval Test Protocol
Place of test	Vaasa
Date of test	2003-06-11 until 2003-06-12

Test engine:

Serial no.	22239 and 22240
No. of cylinders	6

Marking of product
The product to be marked with manufacturer's name or trademark and type number identification.

Periodical assessment
For retention of the Type Approval, a DNV GL surveyor shall perform an assessment after 2 years and after 3.5 years to verify that the conditions of the type approval are complied with. A renewal assessment will be performed at renewal of the certificate.

In cases 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