

TYPE APPROVAL CERTIFICATE

Certificate No:
TAM00000DK

This is to certify:

That the Diesel Engine

with type designation(s)
W-X82, W-X82-B

Issued to

Winterthur Gas & Diesel Ltd.
Winterthur, Switzerland

is found to comply with

DNV GL Rules for classification, Ships - DNVGL-RU-SHIP-Pt4 Ch3 Sec1, Reciprocating Internal Combustion Engines

Application :

propulsion

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

This Certificate is valid until **30th June, 2019**.

Issued at **Hamburg** on **20th December, 2016**

for **DNV GL**

DNV GL local station: **Augsburg**

Approval Engineer: **Sven Neddenien**

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Frank Lutz
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.

Product description

two stroke, in-line engine, reversible, crosshead, with supercharging, with charge air cooling, constant-pressure charging system, direct injection, injection operation electronically controlled, valve operation electronically controlled, liquid fuel

Cylinder bore : 820
Piston stroke : 3375
No. of cylinders : 6, 7, 8, 9

Additional place of production

not applicable

Application/Limitation

Rated power [kW/cyl.] 4750
Rated speed [rpm] 76
Mean effective pressure [bar] 21
Max. firing pressure [bar] 170
Definition

Type Approval documentation

Tests carried out

Documentation:

Test report titel Type Approval Test Wärtsilä RT-flex82T Type Engine
Place of test HHI EMD Ulsan
Date of test 2009-09-29 until 2009-10-01

Test engine:

Model 7RT-flex82T
Serial no. AA3447
No. of cylinders 7
Power [kW/cyl.] 4520
Speed [rpm] 76

Marking of product

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

Periodical assessment

Meetings on regularly basis and at least every second year with the Type Approval applicant (hereof: the Engine Designer) shall be arranged with the objective to verify that the conditions for the Type Approval are not altered since the Type Approval Certificate was issued, and to keep DNV GL updated with regard to:

- The latest development status and design as covered by the Type Approval certificate.
- Damages and failures of products certified by DNV GL leading to break down or other malfunctions in service. The causes and reasons for the failure and results from investigations are to be made available to DNV GL upon request. Failure to inform DNV GL may lead to suspension of this Type Approval certificate.

In cases where the Type Approved design is manufactured at other companies, DNV GL shall verify that the Type Approval applicant has a quality control system for consistent production at their licensees/subcontractors.



Job Id: **262.1-016035-2**
Certificate No: **TAM00000DK**

Other Conditions

Engine safety, control and monitoring systems, including sensors, cables and actuators are not covered by this type approval certificate. Documentation for engine safety, control and monitoring systems shall be submitted for approval according to DNV GL Rule Pt.4 Ch.9 Sec.1

END OF CERTIFICATE