

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Steam Turbine for Auxiliary Purpose**with type designation(s)
RVR2-2

Issued to

Shinko Ind. Ltd.
HIROSHIMA, Hiroshima Pref., Japanis found to comply with
DNV GL rules for classification – Ships**Application :****The turbine is Type Approved for driving cargo oil pump and ballast pump.****Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.****Max. power (kW) 3000**
Max. speed (RPM) 7418
Min. speed (RPM) 7418This Certificate is valid until **2024-07-29**.Issued at **Hamburg** on **2019-07-30**DNV GL local station: **Hiroshima**for **DNV GL**Approval Engineer: **Stanislav Avanesov**

Olaf Drews
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.

Certificate No: **TAM000013V**
File No: **731.20**
Job Id: **262.1-018990-2**

Product description

Three stage impulse turbine with single reduction gear.

Application/Limitation

Steam turbine : RVR2-2

The turbine is approved for driving cargo oil pump and ballast pump.

Reduction gear:

The application factor $K_a = 1.05$ is applied for all types of reduction gears.

Type Approval documentation

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 a survey after 2 and 3,5 years after issue date of the certificate to verify that the conditions of the type approval are complied with.

The objective of the Periodical Assessment is to verify that the conditions for the Type Approval are not altered since the Type Approval Certificate was issued. The main scope of the Periodical Assessment will normally include:

- Verification of the Type Approval applicant's production and quality system w.r.t. ensuring continued consistent production of the Type Approved products at the Type Approval applicant's own premises and at other companies that are given the responsibility for manufacturing of the products.
- Review of the Type Approval documentation and that this is still used as basis for the production
- Review of possible changes to the design, the material and the performance of the product
- Verification of the product marking.

END OF CERTIFICATE