DNV·GL

Certificate No:
TAA0000161

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Solenoid Valve

with type designation(s)
HSB

Issued to
Shanghai Rongde Engineering Equipment Co., Ltd.
Shanghai, China

is found to comply with
GL Rules for Classification and Construction VI - Additional Rules and Guidelines Part 7 - Guidelines for the Performance of Type Approvals Chapter 8 - Test Requirements for Components and Systems of Mechanical Engineering and Offshore Technology

Application :

The solenoid valve of type HSB is type approved for remote open and close function in control system and similar applications.
Product approved by this certificate is accepted for installation on all vessels classed by DNV GL.

Temperature	**- 10°C up to + 80°C. Refer to certificate.**
Humidity	**60%**
Vibration	**General vibration strain, Curve 1. Acceleration 0.7g**
EMC	**None**
Enclosure	**IP 56**

Issued at **Hamburg** on **2017-04-11**
This Certificate is valid until **2022-04-10**.
DNV GL local station: **Shanghai**

Approval Engineer: **Hagen Markus**

for **DNV GL**

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.

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Product description
2/2 Way Solenoid Valve

MATERIALS

Component	Material designation
Valve/Pilot Body	304 stainless steel
Piston, Spring	304 stainless steel
Seal	PTFE
Electrical Connection	Nylon 66

Application
The solenoid valve of type HSB is type approved for open and close function in remote control systems and similar applications. The selection of the corresponding application and the right installation are to be in accordance with the requirements of the manufacturer.

Service Media	Air and Fresh water
Operating pressure	1 bar up to 16 bar
Temperature range	- 10°C up to + 80°C (medium) - 5°C up to + 50°C (ambient)
Power supply	24 V, DC

Type Approval documentation

Tests carried out
According to test report C10-299-WT.

Marking of product
RONGDE

Periodical assessment
For retention of the type approval certificate periodical assessments shall be carried out at production places by DNV GL surveyor.
The objective of the periodical assessment is to verify that the design and production conditions for the type approval have not been altered.

Main scope of the assessment:
- verification of the production and quality control system
- review of quality control documentation of recent deliveries
- review of drawings in production to verify any design changes which may have an impact on data specified in the type approval certificate, performance and range of application
- verification of the product marking

Periodical assessment is to be performed after 2 years and after 3.5 years.

A renewal assessment will be performed at renewal of the certificate.

End of certificate