Certificate No: LR2108568TA
Issue Date: 11/12/2020
Expiry Date: 10/12/2025

Type Approval Certificate

This is to certify that the undernoted product(s) has/have been tested with satisfactory results in accordance with the relevant requirements of the Lloyd's Register Type Approval System.

Manufacturer	**PK Valve Co., Ltd.**
Address	80, Gongdan-ro, Seongsan-gu, Changwon-si, Gyeongnam, 51567, Korea, Republic of
Place of Production	PK Valve Co., Ltd. 80, Gongdan-ro, Seongsan-gu, Changwon-si, Gyeongnam, 51567, Korea, Republic of
Type	Ball Valves
Description	Cryogenic Ball Valve, Top Entry
Trade Name	PK-BALL-CRV
Application	Marine use for cargo piping systems in ships for carriage of liquefied gases in bulk Marine use for fuel piping systems in ships using Gases as Fuel
Specified Standard	Lloyd's Register Rules and Regulations for Classification of Ships, Part 5, Chapter 12, Section 5, July 2020 Chapter 5 of Lloyd's Register's Rules and Regulations for the Construction and Classification of Ships for the Carriage of Liquefied Gasses of Ships (July 2020) Part B-1, Section 16 of Lloyd's Register's Rules and Regulations for Classification of Ships

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Yong-Dae Kong

Senior Specialist to Lloyd's Register Asia
A member of the Lloyd's Register group

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using Gases or other Low-flashpoint Fuels (July 2020)

Ratings **Refer to Appendix**

Additional Tests The following tests were carried out in accordance with BS 6364:1984, KS B 2101:2003 as applicable with satisfactory results:-
1) Burst test
2) Shell test
3) Cryogenic service test
4) Seat leakage test
5) Flow / Capacity test

Other Conditions
1) Where the valves are intended to be installed on a ship classed with LR, the valves are to be made, installed and tested in accordance with the Class I piping systems requirements of Part 5, Chapter 12 of the Rules Regulations for the Classification of ships.
2) The requirements for design temperatures below -165 °C shall be specially agreed with the Flag Administration in accordance with Chapter 6, Table 6.4 of the IGC Code & Part A-1, Table 7.4 of the IGF Code.
3) If the valves are installed as emergency shutdown valves, with materials having melting temperatures lower than 925°C, a fire test is to be performed to a standard acceptable to the Administration.

This certificate is not valid for equipment, the design, ratings or operating parameters of which have been varied from the specimen tested. The manufacturer should notify Lloyd's Register Asia of any modification or changes to the equipment in order to obtain a valid Certificate.

The Design Appraisal Document LR2108568TA and its supplementary Type Approval Terms and Conditions form part of this Certificate.

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