Certificate No: LR2002680TA
Issue Date: 07/01/2019
Expiry Date: 06/01/2024

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	**Dong A Valve Ind. Co.**
Address	Gangseo-gu,, 93, Noksansandan 289-ro,, KANGSEO-GU,, Busan, 46753, Korea, Republic of
Place of Production	Dong A Valve Ind. Co. Gangseo-gu,, 93, Noksansandan 289-ro,, KANGSEO-GU,, Busan, 46753, Korea, Republic of
Type	Valves - General
Description	Dual Plate check valves for cryogenic services (Body material : A351 CF8M) ANSI 150LB 8”,10”, 12”, 14”, 16”, 18”, 20”, 24” (Flange Type) 2”, 3”, 4”, 6” (Lug Type)
Trade Name	DA-DPC
Application	Marine use for cargo piping systems in ships for carriage of liquefied gases in bulk.
Specified Standard	Lloyd’s Register Rules and Regulations for the Classification of Ships (July, 2018), Part 5, Chapter 12, Sections 6 and 9 Lloyd’s Register Rules for the Manufacture, Testing and Certification of Materials (July, 2018), Chapter 4, Section 8

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Yong-Dae Kong

Senior Specialist to Lloyd's Register Asia
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Lloyd's Register Rules and Regulations for the Construction and Classification of Ships for the Carriage of Liquefied Gases in Bulk (July, 2018), Chapter 5
BS 6364: 1984 "Specification for Valves for Cryogenic Service"
API 594 "Check Valves" Flanged, Lug, Wafer and Butt-welding"
API 598 "Valve inspection and Testing"

Ratings

Nominal sizes (inch) : 2" to 24"
Maximum working pressure 150LB (bar) : 19
Temperature range (˚C) : -196 to + 426

Additional Tests

The following tests carried out on representative samples with satisfactory result

1) Hydrostatic test of valve bodies at a pressure equal to 1.5 times the maximum working pressure
2) Seat leak test at a pressure equal to 1.1 times the maximum working pressure
3) Cryogenic tests consisting of valve operation and leakage verification in accordance with BS6364:1984
4) Flow / Capacity Test

Other Conditions

Where valves are intended to be installed on a ship classed with LR, the following comments are applicable:-

1) The valves are to be made, installed and tested in accordance with the Class I piping system requirements of Part 5, Chapter 12 of the Rules and Regulation for the Classification of Ships and Chapter 5, Paragraph LR 5.13-03 of the LR Rules for Ships for Liquefied Gases, as applicable.

3) The valves are to be installed in accordance with the manufacturer's instructions.
4) 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.

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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 No. LR2002680TA and its supplementary Type Approval Terms and Conditions form part of this Certificate.

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