

Type Approval Certificate Extension

This is to certify that Certificate No. 09/10014(E1) for the undernoted products is extended and renumbered as shown.

This certificate is issued to:

PRODUCER

Hy-Lok Corporation

**PLACE OF
PRODUCTION**

97, Noksansandan 27-ro, Gangseo-gu, Busan, Korea, Republic of.

DESCRIPTION

Cryogenic needle valve, extended bonnet

TYPE

VCRYON series

APPLICATION

Marine use for cargo tanks and cargo piping systems in ships for carriage of liquefied gasses in bulk

**DESIGN CODE
STANDARD**

Chapter 5 of Lloyd's Register (LR) Rules and Regulations for the Construction and Classification of Ships for the Carriage of Liquefied Gases in Bulk (July 2018)

Chapter 12 of Lloyd's Register (LR) Rules and Regulations for the Classification of Ships (July 2018)

RATINGS

Nominal sizes (mm) : 15 & 25

Nominal pressure rating (MPa) : 1.0

Minimum service temperature (°C) : -196

PERFORMANCE TEST

The following tests were carried out on representative samples of 15 and 25mm sizes in accordance with BS6364:1984 and ANSI/ISA-75.02.01 with satisfactory results:-

- 1) Operating torque test
- 2) Shell tightness test

Certificate No.

19/40021(E2)

Issue Date

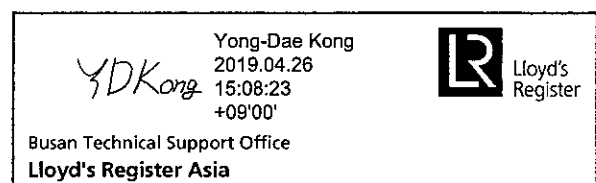
18 February 2019

Expiry Date

17 February 2024

Sheet

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LR031.1.2016.06

Y. D. Kong

Busan Technical Support Office
Lloyd's Register Marine & Offshore

Lloyd's Register Asia,
119, Daegyo-ro, Jung-gu, Busan, Republic of Korea

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- 3) Seat tightness test
- 4) Flow capacity test

OTHER CONDITIONS

Where the valves are intended to be installed on a ship classed with Lloyd's Register (LR), the following comments are applicable:-

- 1) The valves are to be made, installed and tested in accordance with the Class I or II piping system requirements of Part 5, Chapter 12, Section 9 of the Rules and Regulations for the Classification of Ships.
- 2) The valves are to be tested at manufacturer's works to the satisfaction of the LR Surveyor in accordance with Chapter 5, LR 5.13-03 of the Rules and Regulations for the Construction and Classification of Ships for the Carriage of Liquefied Gases in Bulk
- 3) 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.

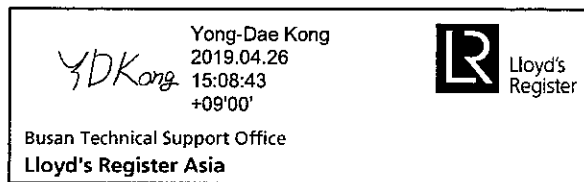
LIMITATION

- 1) Type Approval does not eliminate the need for normal inspection survey procedures required by the Rules and Regulation.
- 2) If the specified standards are amended during the validity of this certificate, the product is to be re-approved prior to it being supplied to vessels to which the amended standards apply.
- 3) (in case of applications other than Marine) The application of this Type Approval Certificate will be limited to the relevant scope of the Specified standards and acceptance thereof by the local authorities.

"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 of any modification or changes to the equipment in order to obtain a valid certificate."

The attached Design Appraisal Document No. 19/40021(E2) and its supplementary Type Approval Terms and Conditions form part of this Certificate.

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Issue Date 18 February 2019
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All other details remain as the previous Certificate No. 09/10014(E1) and associated Design Appraisal Documents to which this extension should be attached.

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