



# Type Approval Certificate

[ Cryogenic Valves ]

**Initial Approval** 7 March 2018  
**Manufacturer** HY-LOK CORPORATION  
 97, Noksansandan 27-ro, Gangseo-gu, Busan, Korea

**Product Description** Kind : Ball Valve & Needle Valve

- Design Temperature : -196°C to +80°C
- Intended for : LNG, N2
- Body Material : ASTM A351 CF8M(RF Flanged Type)  
 ASTM A351 CF3M(Butt Welding Type)

" See Appendix 1 "

**Approval Condition** " See Appendix 1 & 2 "

**THIS IS TO CERTIFY** that the above-mentioned product has been approved in accordance with the relevant requirement of this Society's Rules and / or of the recognized standards as follows.

Pt 7, Ch 5, Art 503 of the Rules for Classification, Steel Ships. and BS 6364, ASME B16.34, ASME B16.5.

This Certificate is valid until 6 March 2028

Issued at Gamcheon, Korea on 29 November 2022



This certificate is signed electronically in accordance with IMO FAL.5/Circ.39/Rev.2. Validation and authentication of the certificate can be confirmed from "<http://e-cert.krs.co.kr>" by using the tracking No(ME22035657376) and certificate No.(GCH00551-VV003).



**KOREAN REGISTER**

*General Manager of  
Gamcheon Branch Office*

**Note :** 1. This certificate will be valid subject to complying with the approval conditions described on the certificate and/or on the Rules of this Society.  
 2. This certificate will be invalid from the expiry date aforementioned unless the extension or renewal has been granted to the applicant or the manufacturer.  
 3. Any significant modifications or changes in design or construction to the above product without approval from this Society will render this certificate invalid.  
 4. Should the specified rules, regulations or standards be amended during the validity of this certificate, the product is to be re-approved by this Society in accordance with the requirements as amended.

## Product Description and/or Approval Condition

Date of Issue : 29 November 2022

### A. Product Description

#### 1. Product Specification

Kind	Model	Size	Rating	Design Press.	End Connection
Ball Valve	CRYOTA-32F-R	2"	Class 150	11.5 bar	RF
	CRYOTA-32BWY-R	2"	Class 150	11.5 bar	BW
	CRYOTA-192F	12"	Class 150	11.5 bar	RF
	CRYOTA-192BWY	12"	Class 150	11.5 bar	BW
Needle Valve	CRYONC-8GA	1/2"	Class 300	25.0 bar	RF
	CRYONC-8BWY	1/2"	Class 300	25.0 bar	BW

- \* "BW" stands for Butt Welding End Type  
 \* "RF" stands for Raised Face Flanged Type

#### 2. Approved Drawings and Documents

- Ball Valve (2" Size)  
 2015F20M05, 2012L24M18, 2012L24M13, 2012L24M20, 2013G02M05, 2012L24M08,  
 2012L24M04, 2012L24M01, 2012L24M06, 2012L24M12, 2012L24M15, 2012L24M14,  
 2013G02M06
- Ball Valve (12" Size)  
 2016L28M01, 2016L27M02, 2016L27M07, 2016L27M10, 2016L27M06, 2016L27M09,  
 2016L27M01, 2016L27M13, 2016L27M15, 2016L27M14, 2016L27M04, 2016L27M05,  
 2016L27M08, 2016L27M03, 2016L27M01, 2016L27M12
- Needle Valve (1/2" Size)  
 2015F20M05, 2005L26H00, 2006I01H004, 2006I01H202, 2015F20M03, 2005H26H008,  
 2001J08D09, 2007C19PVA01, 2007C19PVA03, 2006I11PVA02, 2006I11PVA03

#### 3. Test Reports, etc.

- Test Report No. : ATR-18B06-01, 02 and CTR-18B06-01, 02 dated on 09 Feb., 2018.

### B. Approval Condition

#### 1. Application & Limitation

- The materials used for valve body & etc. as appropriately are to be certified by this Society or to be satisfactory to the Surveyor.
- Gaskets and packings are to be suitable for the condition of use and to have a construction specified in Korean Industrial Standards or equivalent construction thereto.

#### 2. Individual Product Cert. and Drawing Approval Requirement

- Individual Product Certification is required.
- The minimum average energy for Charpy V-notch impact test should be complied with the relevant requirements of the Rules, Pt. 7, Ch. 5.
- The following tests are to be applicable for each size of the valves as individual product certification.
  - Hydrostatic test of the valve body at a pressure equal to 1.5 times the design pressure
  - Cryogenic testing consisting of valve operation and leakage verification for a minimum of 10% of each type and size of valve for valves
  - Proving testing at ambient temperature consisting of leakage test at a pressure equal to 1.1 times the design pressure

#### 3. Marking

- The product is to be permanently marked with manufacturer name and type designation on a suitable position.

#### 4. Others

## Product Description and/or Approval Condition

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N. A.

