



## Confirmation of Product Type Approval

**Company Name:** HY-LOK CORPORATION

**Address:** 97, NOKSANSANDAN 27-ROGANGSEO-GU 46751 Korea, Republic of

**Product:** Cryogenic Valve

**Model(s):** Cryogenic Needle Valves: CRYON-8FA/ 8FA8BWA/ 8FA8N/ 8N/ 8BWA8N/ 8BWB8N/ 8BWA8FA/ 8BWB8FA/ 8BWA, CRYON-16FA/ 16FA16BWA/ 16BWA16FA/ 16BWB16FA/ 16BWA

**Endorsements:**

Certificate Type	Certificate Number	Issue Date	Expiry Date
Product Design Assessment (PDA)	22-2217462-PDA	11-FEB-2022	10-FEB-2027
Manufacturing Assessment (MA)	19-BK3756133	07-NOV-2019	07-JAN-2025
Product Quality Assurance (PQA)	NA	NA	NA

### Tier

5 - Unit Certification Required

### Intended Service

Cryogenic Liquid and Gas Transportation

### Description

Cryogenic Needle Valves - 1/2" & 1" Class 150

### Ratings

Design Pressure: 10 bar, Design Temperature: -196 degree C thru +80 degree C,

Material: Body ASTM A182 Gr. F316, ASTM A351 CF8M, ASTM A351 CF3M

### Service Restrictions

1. Unit certification is required for the products intended to be used at a working temperature below -55 degree C and testing specified in sections 5C-8-5/13.1.1 & 5C-13-16/7.1.1 of the ABS Marine Vessel Rules is to be carried out in the presence of the Surveyor as required.

2. If the manufacturer or purchaser request an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined.

### Comments

1. The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.

2. All valves are to bear permanent identification, such as the manufacturer's name or trademark, standard of compliance, material identify, pressure rating, etc. as required by the standard of compliance and at which the manufacturer guarantees the valve to meet the requirements of the standards. Such markings may be cast or forged integral with, stamped on, or securely affixed by nameplate on the component, and are to serve as a permanent means of identification of the component throughout its service life in accordance with 4-6-2/5.11.4 and 4-6-1/7.1.4 of the Marine Vessels Rules.
3. Material testing of the products intended to be used at a working temperature below -55 degree C is to be witnessed by an ABS Surveyor in accordance with 5C-8-6 & 5C-13-16 of the Marine Vessel Rules.
4. For valves used for isolation of instrumentation in piping not greater than 25 mm, unit production testing need not be witnessed by the Surveyor. Records of testing are to be available for review in accordance with 5C-8-5/13.1.1 b) of Marine Vessels Rules.
5. This certificate is not valid for US flagged vessels.

### **Notes, Drawings and Documentation**

1. DWG. No.: 2006I01H001, Rev.2, 1/2" RF, Class 150
2. DWG. No.: 2006I02H001, Rev.2, 1" RF, Class 150
3. Test report (Pressure, Cryogenic), ATR-16I01-01, CTR-10101-01, Dated 01 September 2016 (ABS)
4. Test report (Burst, Pressure, Cryogenic), Q-F-CVA-01-K01, G-F-CRA-01-K01, Dated 08 November 2001(ABS)
5. Test report (Pressure, Cryogenic), CTR-08E02-01, Dated 02 May 2008 (BV)
6. Test report (Pressure, Cryogenic), CTR-12E22-01, Dated 22 May 2012 (DNV)
7. Flow test report, FC-17C28-01, Dated 27 March 2017(ABS)

### **Term of Validity**

This Product Design Assessment (PDA) Certificate remains valid until 10/Feb/2027 or until the Rules and/or Standards used in the assessment are revised or until there is a design modification warranting design reassessment (whichever occurs first).

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or previous to the effective date of the ABS Rules and standards applied at the time of PDA issuance. Use of the Product for non-ABS units is subject to agreement between the manufacturer and intended client.

### **ABS Rules**

The Rules for Conditions of Classification, 2021 Marine Vessels Rules 1-1-4/7.7, 1-1-A3, 1-1-A4, which covers the following:

2022 Rules for Building and Classing Marine Vessel Rules: 4-6-1/7.1.4, 4-6-2/5.11 & 5.15, 5C-8-5/13.1.1, 5C-8-6/2.2(ABS), 5C-13-7/Table 4, 5C-13-16/1.1, 5C-13-16/7.1

2022 Rules for Conditions of Classification – Offshore Units and Structures: 1-1-4/9.7, 1-1-A2 and A3, which covers the following:

2022 Rules for Building and Classing Mobile Offshore Units 1-1-4/9.7

### **International Standards**

IGC Code (2016 Edition), 5.13.1, 6.2.2, Table 6.4

IGF Code (2016 Edition), 16.7.1, 7.4.1.1, Table 7.4

### **EU-MED Standards**

NA

**National Standards**

BS 6364 (1984 Edition)

**Government Standards**

NA

**Other Standards**

NA



A handwritten signature in dark ink, appearing to read "Joseph W. Wilson".

Corporate ABS Programs  
American Bureau of Shipping  
Print Date and Time: 14-Feb-2022 4:32

ABS has used due diligence in the preparation of this certificate, and it represents the information on the product in the ABS Records as of the date and time the certificate is printed.

If the Rules and/or standards used in the PDA evaluation are revised or if there is a design modification (whichever occurs first), a PDA revalidation may be necessary.

The continued validity of the MA is dependent on completion of satisfactory audits as required by the ABS Rules. The validity of both PDA and MA entitles the product to receive a **Confirmation of Product Type Approval**.

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or prior to the effective date of the ABS Rules and standards applied at the time of PDA issuance. ABS makes no representations regarding Type Approval of the Product for use on vessels, MODUs or facilities built after the date of the ABS Rules used for this evaluation.

Type Approval requires Drawing Assessment, Prototype Testing and assessment of the manufacturer's quality assurance and quality control arrangements. The manufacturer is responsible to maintain compliance with all specifications applicable to the product design assessment. Unless specifically indicated in the description of the product, certification under type approval does not waive requirements for witnessed inspection or additional survey for product use on a vessel, MODU or facility intended to be ABS classed or that is presently in class with ABS.

Due to wide variety of specifications used in the products ABS has evaluated for Type Approval, it is part of our contract that; whether the standard is an ABS Rule or a non-ABS Rule, the Client has full responsibility for continued compliance with the standard.

Questions regarding the validity of ABS Rules or the need for supplemental testing or inspection of such products should, in all cases, be addressed to ABS.