



Type Approval Certificate

[Cryogenic Needle Valve]

Initial Approval 9 July 2008

Manufacturer HY-LOK CORPORATION

97, Noksansandan 27-ro, Gangseo-gu, Busan, Korea

Product Description Product description ;

A. Model :

1) Size(1/2") ; CRYON-8FA, -8BWA8FA, -8BWA

2) Size(1") ; CRYON-16FA, -16BWA16FA, -16BWA

B. Body Material : F TYPE - ASTM A351 CF8M

B TYPE / BF TYPE - ASTM A351 CF3M

" See Appendix 1 "

Approval Condition " See Appendix 1 "

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.513 of the Rules for Classification of Steel Ships and BS 6364.

This Certificate is valid until 8 July 2028

Issued at Gamcheon, Korea on 3 April 2023



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(ME23013832448) and certificate No.(GCH00551-VV002).



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 : 3 April 2023

1. Product description ;

A. Model :

- 1) Size(1/2") ;
CRYON-8FA, -8BWA8FA, -8BWA
- 2) Size(1") ;
CRYON-16FA, -16BWA16FA, -16BWA

B. Design Pressure : 10 bar at -196°C

C. Minimum Design Temperature : -196°C

D. Material :

- 1) ASTM A351 CF8M ; CRYON-8FA, -16FA
- 2) ASTM A351 CF3M ; CRYON-8BWA8FA, -8BWA, -16BWA16FA, -16BWA

E. Approved Drawing No. :

CRYON-8FA, CRYON-8BWA8FA, CRYON-8BWA, CRYON-16FA, CRYON-16BWA16FA, CRYON-16BWA,
2006I01H002, 2006I01H004, 2006I01H018, 2006I01H102, 2006I01H202, 2006I02H004,
2006I02H016, 2006I11PVA02, 2006I11PVA03, 2006I12PVA02, 2006I12PVA03, 2005L26H006,
2005L26H007, 2005L26H008, 2005L27H002, 2005L27H006, 2005L27H009, 2005L27H102,
2005L27H502, 2001J08D07, 2001J25D03,

2. Approval Conditions ;

- A. This approval is granted on the basis of the approval test report no. ATR-08C04-01, CVTR-08C04-01, CVTR-08C04-02 performed in the presence of the KR surveyor.
- B. The materials for body and bonnet are to be certified by this Society.
- C. The minimum average energy for Charpy V-notch impact test should be complied with the relevant requirements of the Rules, Pt. 7, Ch. 5.
- D. Individual Product Certification is required. < The End >