



Confirmation of Product Type Approval 27/FEB/2012

Please refer to the "Service Restrictions" shown below to determine if Unit Certification is required for this product.

This is to certify that, pursuant to the Rules of the American Bureau of Shipping (ABS), the manufacturer of the below listed product held a valid Manufacturing Assessment (MA) with expiration date of 07/JAN/2015. The continued validity of the Manufacturing Assessment is dependent on completion of satisfactory audits as required by the ABS Rules.

And; a Product Design Assessment (PDA) valid until 21/FEB/2017 subject to continued compliance with the Rules or standards used in the evaluation of the product.

The above entitle the product to be called Product Type Approved.

The Product Design Assessment is valid for products intended for use on ABS classed vessels, MODUs or facilities which are in existence or under contract for construction on the date of the ABS Rules used to evaluate the Product.

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.

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.

HY-LOK CORPORATION

**Model Name(s): CRYON-16FA, CRYON-16FA16BWA, CRYON-16BWA16FA,
CRYON-16BWB16FA, CRYON-16BWA.**

Presented to:

HY-LOK CORPORATION
#1467-1, SONGJEONG-DONG
KANGSEO-KU
PUSAN
Korea, Republic of

Intended Service:	Cryogenic Liquid and Gas Transportation
Description:	Hy-PRO 1" Cryogenic Needle Valves - Class 150
Ratings:	Design Pressure: 10 bar, Design Temperature: -196 degree C ~ 80 degree C, Material: Body (ASTM A182 Gr. F316 is for all model) (ASTM A351 CF8M is for CRYON-16FA) (ASTM A351 CF3M is for CRYON-16BWA16FA, CRYON-16BWA)
Service Restrictions:	Unit Certification is required for this product.
Comments:	1. For body material, impact test may be required subject to the special requirement of the Flag Administration in accordance with 5C-8-6/Table 4 of 2012 Steel Vessel Rules. 2. Material testing is to be witnessed by an ABS Surveyor in accordance with 5C-8-6/1.3 of 2012 Steel Vessel Rules. 3. Where several valves are installed on the vessel, following test is required for a minimum of 10% of the total number of valves at a working temperature below -55 Deg. C. in the presence of the Surveyor ; Each type of valve is to be tested for operation and leakage verification.
Notes / Documentation:	This Product Design Assessment (PDA) is valid only for products intended for use on ABS classed vessels, MODUs or facilities which are in existence or under contract for construction on the date of the ABS Rules used to evaluate the Product.
Term of Validity:	This Product Design Assessment (PDA) Certificate 02-BK305435/2-PDA, dated

22/Feb/2012 remains valid until 21/Feb/2017 or until the Rules or specifications used in the assessment are revised (whichever occurs first). This PDA is intended for a product to be installed on an ABS classed vessel, MODU or facility which is in existence or under contract for construction on the date of the ABS Rules or specifications used to evaluate the Product. Use of the Product on an ABS classed vessel, MODU or facility which is contracted after the validity date of the ABS Rules and specifications used to evaluate the Product, will require re-evaluation of the PDA. Use of the Product for non ABS classed vessels, MODUs or facilities is to be to an agreement between the manufacturer and intended client.

ABS Rules:

2012 Steel Vessel Rules 5C-8-5/3.2.1, 5C-8-6/1.3, 5C-8-6/Table 4 & 4-6-2/5.15

National Standards:**International Standards:**

IGC CODE 5.3.2.1 (Consolidated Edition 2012) & BS6364 (1984 Edition)

Government Authority:**EUMED:****Others:**

Model Certificate	Model Certificate No	Issue Date	Expiry Date
PDA	02-BK305435/2-PDA	22/FEB/2012	21/FEB/2017



ABS Programs

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 was printed. Type Approval requires Drawing Assessment, Prototype Testing and assessment of the manufacturer's quality assurance and quality control arrangements. Limited circumstances may allow only Prototype Testing to satisfy Type Approval. The approvals of Drawings and Products remain valid as long as the ABS Rule, to which they were assessed, remains valid. ABS cautions manufacturers to review and maintain compliance with all other specifications to which the product may have been assessed. Further, unless it is specifically indicated in the description of the product; Type Approval does not necessarily waive witnessed inspection or survey procedures (where otherwise required) for products to be used in a vessel, MODU or facility intended to be ABS classed or that is presently in class with ABS. 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.