



CERTIFICATE NUMBER	19-2439969-3-PDA
EFFECTIVE DATE	11-Oct-2023
EXPIRY DATE	14-Jul-2024
ABS TECHNICAL OFFICE	Genoa Engineering Department

CERTIFICATE OF Product Design Assessment

This is to certify that a representative of this Bureau did, at the request of

SAMSON REGULATION SAS

located at

1 - 3 RUE JEAN CORONA, , 69120 VAULX EN VELIN, France

assess design plans and data for the below listed product. This assessment is a representation by the Bureau as to the degree of compliance the design exhibits with applicable sections of the Rules. This assessment does not waive unit certification or classification procedures required by ABS Rules for products to be installed in ABS classed vessels or facilities. This certificate, by itself, does not reflect that the product is Type Approved. The scope and limitations of this assessment are detailed on the pages attached to this certificate.

Product: Cryogenic Valve
Model: 3241
Endorsements:
Tier: 5 - Unit Certification Required

This Product Design Assessment (PDA) Certificate remains valid until 14/Jul/2024 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.

American Bureau Of Shipping

Cristina Generale,Engineer/Consultant

NOTE: This certificate evidences compliance with one or more of the Rules, Guides, standards or other criteria of ABS or a statutory, industrial or manufacturer's standards. It is issued solely for the use of ABS, its committees, its clients or other authorized entities. Any significant changes to the aforementioned product without approval from ABS will result in this certificate becoming null and void. This certificate is governed by ABS Rules 1-1-A3/5.9 Terms and Conditions of the Request for Product Type Approval and Agreement (2010)

SAMSON REGULATION SAS

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Tier: 5 - Unit Certification Required

Product: Cryogenic Valve
Model: 3241
Endorsements:

Intended Service:

Cryogenic valve intended to be used as control valves in cargo handling systems of liquid gas tankers and liquid gas terminals.

Description:

Globe valves with flanged, threaded and welded connection consisting of stainless-steel body (1.4408 - A351 CF8M or 1.4409 - A351 CF3M) and metal to metal sealing.

Rating:

Pressure Rating: Class 150 to 300
Temperature Range: -196 to 425° C

1" Class 150
1.5" Class 150
2.5" Class 150

1" Class 300
1.5" Class 300
2" Class 300
3" Class 300
4" Class 150
4" Class 300

Consult with the manufacturer for the maximum permissible leakage rate in association with service pressure.

Service Restriction:

- 1) Unit Certification is required for this product as per section 5C-8-5/13.1.1(b) of the Marine Vessel Rules. Testing is to include hydrostatic test of the valve body at a pressure equal to 1.5 times the design pressure; seat & stem leakage test at a pressure equal to 1.1 times the design pressure in accordance with manufacture's testing procedure. In addition, cryogenic testing consisting of valve operation & leakage verification for a minimum of 10% of each type and size of valve for valves other than safety valves intended to be used at a working temperature below -55°C.
- 2) The manufacture is to guarantee that the valves have been tested to the pressure required by the pressure rating of the valves before shipment.
- 3) Not to be use for emergency shut-down systems and shut-off valves or means to prevent back-flow of cargo.

Comments:

1. The Manufacture has provided a declaration about the control of, or the lack of Asbestos in this product.
2. All valves are to be tested at the plant of the manufacturer in the presence of the Surveyor, as required.
3. Copies of the certificate material test reports are to be made available to the attending Surveyor and are to be traceable to the material.
4. All valves are to bear permanent identification, such as the manufacturer's name or trademark, material identify, pressure rating, etc. at which the manufacturer guarantees the valves to meet the requirements of the manufacturer's 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 4-6-1/7.1.3 and 4-6-1/7.1.4 of Marine Vessels Rules.
5. Installation, welding, and joining procedures are to be to the satisfaction of the attending Surveyor.

Notes/Drawing/Documentation:

Drawing No. Q-1066,Q1066-Cryogenic test pressure Revision: 02, Pages: 4

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Drawing No. 004, He1355 Manufacturer Declaration about Cryogenic Test

Drawing No. 1129-0666, Drawings-Casted - Cross + BOM, Rev.03 Page 1

Drawing No. 1010-5745-SWD, Drawings- Casted- Min Wall Thickness, Page 1

Drawing No. 1129-0665, Drawings- Bar stock - Cross + BOM, Page 1

Drawing No. 1000100062, Drawings- Bar stock - Min Wall Thickness, Page 1

Drawing No. 009, He1211 Manufacturer Declaration about min wall thickness, Page 2

Drawing No. 010, SAMSON France ISO 9001 Certificate

Drawing No. 011, T80120 3241 Technical Datasheet

Drawing No. 012, T8004 - Permissible differential pressure for valves

Drawing No. 013, T8002 - Materials & Pressure temperature diagrams

Drawing No. 014, E80120 - 3241 IOM

Test Report No. 201900190-R002 - 1,5inch CLASS150

Testing Facility : ITIS B.V., Columbusweg 64, NL-4462 HB Goes; Test Date: April 24, 2019

Test Report No. 201900190-R001 - 1inch CLASS150

Testing Facility : ITIS B.V., Columbusweg 64, NL-4462 HB Goes; Test Date: April 24, 2019

Test Report No. 201900190-R003- 2,5inch CLASS150

Testing Facility : ITIS B.V., Columbusweg 64, NL-4462 HB Goes; Test Date: April 24, 2019

Test Report No. 201800426-R004 - 1inch CLASS300

Testing Facility : ITIS B.V., Columbusweg 64, NL-4462 HB Goes; Test Date: May 12, 2018

Test Report No. 201800426-R011- 2inch CLASS300

Testing Facility : ITIS B.V., Columbusweg 64, NL-4462 HB Goes; Test Date: Jan 3, 2019

Test Report No. 201800426-R018- 3inch CLASS300

Testing Facility : ITIS B.V., Columbusweg 64, NL-4462 HB Goes; Test Date: Feb 13, 2019

Test Report No. 201800426-R020 - 4inch CLASS300

Testing Facility : ITIS B.V., Columbusweg 64, NL-4462 HB Goes; Test Date: Feb 13, 2019

Test Report No. 20E002-CR003 - 1,5inch CLASS300

Testing Facility : CRM Group-Hydraulic laboratory; Test Date: Jan 09, 2020

Tests Report no. CCD202200240-2, 4" CLASS150 at Centre De Recherches metallurgiques, Liege, dated 3th October 2023

Test Report no. OF170626, Hydrostatic pressure test on 4" CLASS150, Dated Aug. 24 2023

Calculation of valve 4" Class 150 Body Material A351 CF3M.

Calculation of valve 4" Class 150 Body Material A351 CF8M.

Terms of Validity:

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STANDARDS

ABS Rules:

- Rules for Condition of Classification (2023): 1-1-4/7.7, 1-1-A3, 1-1-A4, which covers the following:

Rules for Building and Classing Marine Vessels (2023): 4-6-1/7.1, 4-6-2/5.11, 5C-8-5/11.6.1, 5C-8-5/13.1.1, 5C-8-6/2.2, 5C-13-7/3.6.1 and 5C-13-16/7.1;

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- Rules for Conditions of Classifications – Offshore Units and Structures (2023): 1.1.4/9.7, 1-1-A2, 1-1-A3, which covers the following:

Rules for Building and Classing Mobile Offshore Units (2023): 4-2-2/9.

National:

NA

International:

IGC Code - International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk, 2016 Edition

Government:

NA

EUMED:

NA

OTHERS:

NA