



CERTIFICATE NUMBER
19-HS1880755-PDA

DATE
16 Aug 2019

ABS TECHNICAL OFFICE
Houston ESD - Piping

CERTIFICATE OF DESIGN ASSESSMENT

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

SAMSON REGULATION SAS

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: **Valve type 3331 - 3241**

3331: 4" Class 150 / 8" Class 150 / 12 "Class 150

3241: 1" Class 150 / 1 ½ "Class 150 / 2 "Class 150 / 3" Class 150

This Product Design Assessment (PDA) Certificate 19-HS1880755-PDA, dated 16/Aug/2019 remains valid until 15/Aug/2024 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.

AMERICAN BUREAU OF SHIPPING

Lucio Trevisan
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 the terms and conditions as contained in ABS Rules 1-1-A3/5.9 Terms and Conditions of the Request for Product Type Approval and Agreement (2010).

SAMSON REGULATION SAS

1 - 3 RUE JEAN CORONA

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Tier: 5 - Unit Certification Required

Product: Cryogenic Valve

Model: Valve type 3331 - 3241

3331: 4" Class 150 / 8" Class 150 / 12 "Class 150

3241: 1" Class 150 / 1 ½ "Class 150 / 2 "Class 150 / 3" Class 150

Intended Service:

Cryogenic Butterfly Valves and Globe Valves intended to be used as control valves in cargo handling systems of liquified gas tankers and liquified gas terminals.

These valves are intended for flow control purposes and cannot be considered as isolating valves or used for shutdown service.

Description:

3331 - Butterfly valves for increased industrial requirements in process engineering and in industrial applications.

3241 - Control valve for process engineering and industrial applications.

Rating:

3331: Pressure Rating: Class 150 & 300 and Temperature Range: -325 to 428° F (-196 to 220° C)

3241: Pressure Rating: Class 150 and Temperature Range: -325 to + 842° F (-196 to 450° C)

Service Restriction:

1) Butterfly valves are tested in open position. No seat leakage test is done.

2) Butterfly valves for Class 150 & 300 are for metal seated vales only. Use of non-metallic seat will be subject to a separate review of the fire test report and is not included in this assessment.

3) Unit Certification is required for this product as per section 5C-8-5/13.1.1(b) of the Marine Vessels 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.

4) Only metal to metal seat type valves are to be used for cryogenic cargo valve.

5) The manufacture is to guarantee that the valves have been tested to the pressure required by the pressure rating of the valves before shipment.

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. 003, Q1066-Cryogenic test procedure

Drawing No. 004, He1355 Manufacturer Declaration about Cryogenic Test

Drawing No. 005, Drawings - Casted - Cross + BOM_Type 3241

Drawing No. 006, Drawings - Casted - Min Wall Thickness_Type 3241

Drawing No. 007, He1211 Manufacturer declaration about min wall thickness

Drawing No. 008, Drawings - Casted - General Drawing_Type 3331

Drawing No. 009, Drawings - Casted - Min Wall Thickness_Type 3331

Drawing No. 010, Drawings - Casted - Cross Sectional Drawing + BOM_Type 3331

Drawing No. 011, SAMSON France ISO 9001 Certificate

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Tier: 5 - Unit Certification Required

Drawing No. 012, T80120 - 3241 Technical Datasheet

Drawing No. 013, T8004 - Permissible differential pressure for valves

Drawing No. 014, T8002 - Materials & Pressure temperature diagrams

Drawing No. 015, T82270 - 3331 Technical Datasheet

Drawing No. 016, T82270 - 3331 Technical Datasheet - Appendix

Drawing No. 017, E80120 - 3241 IOM

Drawing No. 018, E82270 - 3331 IOM

Drawing No. 019, Cryogenic Test Reports

Terms of Validity:

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STANDARDS

ABS Rules:

2019 Marine Vessel Rules 1-1-4/7.7, 1-1-A3, 1-1-A4, 4-6-1/7.1, 4-6-2/5.11.4, 5C-8-5/12.2, 5C-8-5/13.1, 5C-8-6/Table4, & 4-6-2/5.15.

2019 Rules for Conditions of Classification - Offshore Units and Structures 1-1-4/9.7, 1-1-A2, 1-1-A3.

National:

NA

International:

IGC Code (2016 Edition)

Government:

NA

EUMED:

NA

OTHERS:

NA