



CERTIFICATE NUMBER	19-HS1926436-PDA
EFFECTIVE DATE	06-Dec-2019
EXPIRY DATE	05-Dec-2024
ABS TECHNICAL OFFICE	Houston ESD - Piping

# CERTIFICATE OF Product Design Assessment

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

**SAMSON AG**

located at

**WEISSMUELLER STR. 3, D-60314 FRANKFURT, Germany**

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 Series 240(Type 3241 & 3244) and 250(Type 3251, 3252 & 3256)**

This Product Design Assessment (PDA) Certificate remains valid until 05/Dec/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
Yongjin Lee,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)

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**Tier: 5 - Unit Certification Required**

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**Product:** Cryogenic Valve**Model:** Series 240(Type 3241 & 3244) and 250(Type 3251, 3252 & 3256)**Intended Service:**

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

**Description:**

Stainless steel flanged or butt welded valves with metal to metal seating.

**Material**

Type 3241, 3244 - Body; A351CF8M, Seat; 1.4404, Plug; 1.4404, Plug seal; 1.4404

Type 3251, 3256 - Body; A351CF8M, Seat; 1.4404, Plug; 1.4404, Plug seal; Stellite 6B

Type 3252 - Body; A182F316L, Seat; 1.4404, Plug; 1.4404, Plug seal; Stellite 6B

Type 3256 - Body; A351CF8M, Seat; 1.4404, Plug; 1.4404, Plug seal; Stellite 6B

**Rating:**

Type 3241 - Size; 2" &amp; 3", PN 16, Design Temperature; -196 deg.C to + 85 deg C

Type 3244 - Size; 6", PN 1, Design Temperature; -50 deg.C to +85 deg C

Type 3251 - Size; 1" &amp; 1.5", Design Pressure 400 bar, Design Temperature; -196 deg.C to +85 deg C

Type 3251 - Size; 2", Design Pressure 400 bar, Design Temperature; -40 deg.C to +85 deg C

Type 3252 - Size; 1", Design Pressure 400 bar, Design Temperature; -196 deg.C to +85 deg C

Type 3256 - Size; 2" &amp; 3", Design Pressure 300 bar, Design Temperature; -196 deg.C to +85 deg C

**Service Restriction:**

1) Unit Certification is required for this product as per section 5C-8-5/13.1.1 (b) of the ABS Marine Vessels Rules or ABS Steel Vessels Rules. All valves are to be tested at the plant of manufacturer in the presence of the Surveyor, as required. Testing is to include hydrostatic test of the valve body at a pressure equal to 1.5 times the design pressure, seat and stem leakage test at a pressure equal to 1.1 times the design pressure in accordance with manufacturer's testing procedure. In addition, cryogenic testing consisting of valve operation and leakage verification for a minimum of 10% of each type and size of valve for valves intended to be used at a working temperature below -55°C.

2) 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 per 5C-8-5/13.1.1(b) of the Marine Vessels Rules or Steel Vessels Rules.

**Comments:**

1. The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.
2. 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-8-5/13.1 of the 2019 Marine Vessels Rules or Steel Vessels Rules.
3. 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 2019 Marine Vessels Rules or Steel Vessel Rules.

**Notes/Drawing/Documentation:**

Task (T1295988):

Drawing No. 1040-0095-SWD, 3241 (1/2" - 6") Standard, Revision: 6, Pages: -

Drawing No. 1040-0121-SWD, 3241 (1/2" - 6") Insulation Section, Revision: 6, Pages: -

Drawing No. 1040-0122-SWD, 3241 (1/2" - 6") Bellows, Revision: 7, Pages: -

Drawing No. 1040-0129-SWD, 3251 Standard, Revision: 3.h, Pages: -

Drawing No. 1040-0130-SWD, 3251 Insulation Section, Revision: 2.d, Pages: -

Drawing No. 1040-0131-SWD, 3251 Bellows, Revision: 1.g, Pages: -

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Drawing No. 1040-0138-SWD, 3256 Standard, Revision: 0.a, Pages: -  
Drawing No. 1040-0139-SWD, 3256 Insulation Section, Revision: 0.a, Pages: -  
Drawing No. 1040-0140-SWD, 3256 Bellows, Revision: 0.a, Pages: -  
Drawing No. 1040-0231-SWD, 3244 (1/2" - 6") Standard, Revision: 2, Pages: -  
Drawing No. 1040-0234-SWD, 3244 (1/2" - 6") Bellows, Revision: 2, Pages: -  
Drawing No. 1040-0235-SWD, 3244 (1/2" - 6") Insulation Section, Revision: 2, Pages: -  
Drawing No. 1120-1133-29 Werkstoffe, Technical Data Type, Revision: 0, Pages: -  
Drawing No. 1139-4133, 3252 (1" Class 2500), Revision: 0, Pages: -  
Drawing No. 1139-4133 Part List, Parts List, Revision: -, Pages: -  
Drawing No. 2105969-28, Type 3244, DN 6" - Test Report, Revision: 1, Pages: -  
Drawing No. BOM\_Series240\_Type3241, Bill of Material 3241, Revision: -, Pages: -  
Drawing No. BOM\_Series240\_Type3244, Bill of Material 3244, Revision: -, Pages: -  
Drawing No. BOM\_Type\_3251, Bill of Material - Type 3251 (Series 250), Revision: -, Pages: -  
Drawing No. BOM\_Type\_3256, Bill of Material - Type 3256 (Series 250), Revision: -, Pages: -  
Drawing No. tge abs-281 I2014073438, Type Test Report, Revision: -, Pages: -  
Drawing No. Type 3241, Information Sheet Part 1, Revision: -, Pages: -  
Drawing No. Type 3244, Information Sheet Part 1, Revision: -, Pages: -  
Drawing No. Type 3251, Information Sheet Part 1, Revision: -, Pages: -  
Drawing No. Type 3252, Information Sheet Part 1, Revision: -, Pages: -  
Drawing No. Type 3256, Information Sheet Part 1, Revision: -, Pages: -  
Drawing No. 1853446 & 1842670\_report cryotest signed by BV, Cryogenic Test Report 3241, Revision: 0, Pages: -  
Drawing No. BV Type Approval, Type Approval Certificate, Revision: 0, Pages: -  
Drawing No. DNV\_Type-Approval, Type Approval Certificate, Revision: 0, Pages: -  
Drawing No. Overview Orders TGE, Overview Orders, Revision: 0, Pages: -  
Drawing No. Protokolle DN 25 50 80 PN 40, Inspection Certificate, Revision: 0, Pages: -  
Drawing No. Protokolle DNV Typenzulassung, Inspection Certificate, Revision: 0, Pages: -  
Drawing No. Q-1067, Cryogenic test procedure acc. to BS 6364, Revision: -, Pages: -  
Drawing No. Q-2022, Testing Instruction, Revision: -, Pages: -  
Drawing No. Q\_2021\_Cryogenic\_Test, Test Procedure Cryogenic Temperatures, Revision: 0, Pages: -  
Drawing No. Specification Kom 2105969, Data Sheets Rasheeda, Revision: 0, Pages: -  
Drawing No. Type 3246, Information Sheet Part 1, Revision: -, Pages: -  
Drawing No. Type 3248, Information Sheet Part 1, Revision: -, Pages: -  
Drawing No. Type 3253, Information Sheet Part 1, Revision: -, Pages: -  
Drawing No. Type 3254, Information Sheet Part 1, Revision: -, Pages: -  
Drawing No. Type 3259, Information Sheet Part 1, Revision: -, Pages: -  
Drawing No. xxx1040-0125-SWD, 3241 (8" - 12") Standard, Revision: 1, Pages: -  
Drawing No. xxx1040-0126-SWD, 3241 (8" - 12") Insulation Section, Revision: 1, Pages: -  
Drawing No. xxx1040-0127-SWD, 3241 (8" - 12") Bellows, Revision: 2, Pages: -

**Terms of Validity:**

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**STANDARDS**

**ABS Rules:**

Rules for Conditions of Classification, Part 1 - 2019, 1-1-4/7.7, 1-1-A3, 1-1-A4, which covers the following:

2019 Marine Vessels Rules 4-6-2/5.11, 4-6-2/5.15, 5C-8-5/12.2, 5C-8-5/13.1.1, 5C-8-6/2.2;

2019 Steel Vessels Rules 4-6-2/5.11, 4-6-2/5.15, 5C-8-5/12.2, 5C-8-5/13.1.1, 5C-8-6/2.2;

Rules for Conditions of Classification, Part 1 - 2019 Offshore Units and Structures, 1-1-4/9.7, 1-1-A2, 1-1-A3, which covers the following:

2019 Mobile Offshore Units Rules 4-2-2/9;

**National:**

NA

**International:**

IGC Code 2016 Edition

**Government:**

NA

**EUMED:**

NA

**OTHERS:**

NA