

CERTIFICATE NUMBER 19-HS1823917-PDA DATE 04 Feb 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

CLA-VAL COMPANY

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: Valve, Deluge

Model: 100G/2100G and 100GS/2100GS

This Product Design Assessment (PDA) Certificate 19-HS1823917-PDA, dated 04/Feb/2019 remains valid until 03/Feb/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 Daniel Hum SON

Hyun Young Son ⁰ 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).

Electronically published by ABS Houston. Reference T1823917, dated 04-FEB-2019.

> CLA-VAL COMPANY 1701 PLACENTIA AVENUE COSTA MESA CA United States 92627 Telephone: 281-741-4198 Fax: 949-548-9900 Email: dalexand@cla-val.com Web: www.cla-val.com Tier: 2 - PDA Issued

Product:Valve, DelugeModel:100G/2100G and 100GS/2100GS

Intended Service:

Marine and offshore Application - used to control water flow to Sprinklers in Deluge, Pre-Action, or Foam-Water Type Systems.

Description:

The model 100G-2100G is a hydraulically-operated, diaphragm-actuated, global or angle pattern Deluge valve. The model 100GS-2100GS are the seawater version. Sizes: 3" to 10". All ferrous parts are internally and externally coated with Fusion Epoxy for Protection against Corrosive Environments.

Rating:

Maximum Allowable Working Pressure: 250 psi (Ductile Iron), 150 Class; 285 psi (Cast Steel), 150 Class; 400 psi, 300 Class

Maximum Temperature: 180°F (water)

Refer to attached Manufacturer's Data Sheet for all Technical Data of Specific Models.

Service Restriction:

Unit Certification is not required for this product. If the manufacturer or purchaser request an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined.

Comments:

 The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.
The subject deluge valves may be constructed from any of the following materials: ASTM A 536 Ductile Iron, ASTM A216 Gr. WCB Cast steel, ASTM B148 Nickel aluminum bronze, ASTM A890 Gr. 5A Super Duplex SST, ASTM B367 Gr. C2 Titanium.

- The deluge valves are installed in a safe area.

Notes/Drawing/Documentation:

Supporting Data: Drawing No. 98218, Revision H, 3" THRU 10" 100G & 2100G DRY PIPE DELUGE VALVES 150/300 LB ANSI FLANGES, Sheet 1, dated 10-29-1986; UL Certificate of Compliance Number 20180815-EX2834 dated 15 August 2018; UL 260 Test Report dated 23 May 1972; UL Test Report with File No. Ex2834, Project No. 75NK2728 dated Nov. 13, 1975; UL Test Report with File No. Ex2834, Project No. 72NK1400 dated May 23, 1975; UL Test Report with File No. Ex2834, Project No. 79NK6456 dated Nov. 17, 1981; Technical Specification Sheet E-100G & 100GS (R-2007), 2 shts;

Terms of Validity:

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STANDARDS

ABS Rules:

Rules for Conditions of Classification, Part 1 – 2019 Rules for Building and Classing Marine Vessels 1-1-4/7.7, 1-1-A3, 1-1-A4, which covers the following: 2019 Marine Vessels Rules 4-6-2/5.11

Rules for Conditions of Classification, Part 1 – 2019 Rules for Building and Classing Mobile Offshore Units 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:

UL 260: Standard for Dry Pipe and Deluge Valves for Fire-Protection Service, Edition 7, March 17, 2004

International: NA

Government: NA

EUMED: NA

OTHERS:

NA