



Confirmation of Product Type Approval

Company Name: EMERSON AUTOMATION SOLUTIONS FINAL CONTROL US LP

Address: 4607 NEW WEST DRIVE TX 77507 United States

Product: Valve, Butterfly

Model(s): Figure 310, 312, 360 to 363, 370 to 373, Series 36F and 37F, Series H1 and Series H2

Certificate Type	Certificate Number	Issue Date	Expiry Date
Product Design Assessment (PDA)	17-HS1703826-PDA-DUP	16-JAN-2018	15-JAN-2023
Manufacturing Assessment (MA)	18-HS3498286	08-JUN-2018	07-JUN-2023
Product Quality Assurance (PQA)	NA	NA	NA

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3

Intended Service

Marine & Offshore Applications - Fresh Water, Seawater, Water Ballast, Bilge, Fuel Oil, Lube Oil, Hydraulic Oil and Sanitary Systems.

Description

KEYSTONE High Performance Butterfly Valves:

Series H1 - Sizes 2"-36"; Pressure Rating: ASME 150; Body Type: Wafer; Body Material: Carbon Steel (ASTM A216 Gr WCB), 316 Stainless Steel (ASTM A351 GrCF8M), CF3 (ASTM A351), CF3M (ASTM A351), 2205 Duplex (ASTM A995 Gr 4A CD3MN), 2507 Super Duplex (ASTM A995 Gr 5A CE3MN); Category B;

Series H2 - Sizes 2"-36"; Pressure Rating: ASME 300; Body Type: Wafer; Body Material: Carbon Steel (ASTM A216 Gr WCB), 316 Stainless Steel (ASTM A351 GrCF8M), CF3 (ASTM A351), CF3M (ASTM A351), 2205 Duplex (ASTM A995 Gr 4A CD3MN), 2507 Super Duplex (ASTM A995 Gr 5A CE3MN); Category B;

Fig. 310 - Size: 2"-12"; Pressure Rating: ASME 150; Body Type: Wafer; Body Material: Carbon Steel/Stainless Steel; Shut-Off Rating (USCG): Category A;

Fig. 312 - Size: 2"-12"; Pressure Rating: ASME 150; Body Type: Lugged; Body Material: Carbon Steel/Stainless Steel; Shut-Off Rating (USCG): Category A;

Fig. 360 & 361 - Size: 2"-36"; Pressure Rating: ASME 150; Body Type: Wafer; Body Material: Ductile Iron/Carbon Steel/Stainless Steel/Nickel Aluminum Bronze; Shut-Off Rating (USCG): Positive Shut-Off;

Fig. 362 & 363- Size: 2"-36"; Pressure Rating: ASME 150; Body Type: Lugged; Body Material: Ductile Iron/Carbon Steel/Stainless Steel/Nickel Aluminum Bronze; Shut-Off Rating (USCG): Positive Shut-Off;

Fig. 370 & 371- Size: 2"-36"; Pressure Rating: ASME 300; Body Type: Wafer; Body Material: Ductile Iron/Carbon Steel/Stainless Steel/Nickel Aluminum Bronze; Shut-Off Rating (USCG): Positive Shut-Off;

Fig. 372 & 373- Size: 2"-36"; Pressure Rating: ASME 300; Body Type: Lugged; Body Material: Ductile Iron/Carbon Steel/Stainless Steel/Nickel Aluminum Bronze; Shut-Off Rating (USCG): Positive Shut-Off;

Fig. 36F - Size: 3"-24"; Pressure Rating: ASME 150; Body Type: Double Flanged Style; Body Material: Carbon Steel/Stainless Steel; Shut-Off Rating (USCG): Positive Shut-Off;

Fig. 37F - Size: 3"-24"; Pressure Rating: ASME 300; Body Type: Double Flanged Style; Body Material: Carbon Steel/Stainless Steel; Shut-Off Rating (USCG): Positive Shut-Off;

Ratings

Pressure Rating: Various, depending on model number - See Description;

Temperature range: -40 °C to +160 °C (-40 °F to +320 °F);

Service Restrictions

1. Unit certification is not required for this product. If the manufacturer or purchaser requests an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined.
2. Valves are NOT to be used on the shell of the vessel unless Flanged or Lug Type Wafer Valve and Fire tested and are to be hydrostatically tested in presence of the Surveyor in accordance with Steel Vessels Rules 4-6-2/7.3.2.
3. Cast Iron Valves are to be in accordance with Steel Vessels Rules 4-6-2/3.1.3 and 4-6-2/3.1.4.
4. Category "B" Valves are NOT to be used on Fixed Fire Extinguishing System for ABS or USCG, in Bilge System or as a Ship Shell Valve for USCG.
5. The materials for the Body, Disc, Stem and Seat are to be suitable for the intended service.
6. Resiliently Seated Valves are NOT to be used in Fire Mains unless the Certified Fire Endurance Tests are in compliance with an ABS recognized Standard.
7. All butterfly valves are NOT to be used on oil tanks (including cargo oil tanks) having a static head of flammable oil.
8. Category "A" and "B" Valves are NOT to be used as Fuel Oil Tank Shut-Off Valves which will be subject to a head of oil.

Comments

Duplicate PDA's resides with

- 1) Pentair Valves & Controls - Chennai, INDIA, Emerson Automation Solutions Final Control – Shanghai, CHINA,
- 2) Emerson Automation Solutions Final Control – HARLINGEN, TX,
- 3) Emerson Automation Solutions Final Control Final Control Netherlands B.V. - BREDA,
- 4) Pentair Valves & Controls India PVT LTD - PUNE,

- 5) Emerson Automation Solutions Final Control US LP - PASADENA, TX, and
- 6) Keystone Valve (Korea) LLC- GYEONGGI-DO,
- 7) Emerson Automation Solutions Final Control (Sichuan) Co., Ltd. - CHENGDU.

1. The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.
2. All Valves are to maintain a minimum of 4:1 Burst Test Ratio.
3. All valves are to be subjected, by the manufacturer, to a hydrostatic test at pressure equal to that stipulated by the American National Standards Institute or other recognized standard.
4. All valves are to bear permanent identification, such as the manufacturer's name or trademark, material identification, 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 Steel Vessels Rules.

Notes, Drawings and Documentation

Dwg. No. GA-XXX-H1W-ISO, Rev. 00, General Valve Assembly DN50-900 / NPS 2-36, Series H1W – PN25 ISO;

Dwg. No. GA-XXX-H1L-ISO, Rev. 01, General Valve Assembly DN50-900 / NPS 2-36, Series H1L – PN25 ISO;

Dwg. No. GA-XXX-H2L-ISO, Rev. 01, General Valve Assembly DN50-900 / NPS 2-36, Series H2L – PN40 ISO;

Dwg. No. GA-XXX-H2W-ISO, Rev. 00, General Valve Assembly Series DN50-900 / NPS 2-36, Series H2W – PN40 ISO;

Dwg. No. 203-120-363-000, Rev. 01, Body Machining 12" CL 150 Figure 363 - Lugged Butterfly Valve;

Dwg. No. 203-120-371-000, Rev. 01, Body Machining 12" CL 150/300 Figure 361/371 - Wafer Butterfly Valve;

Dwg. No. 204-120-371-000, Rev. 02, Disc Machining 12" CL 300 Figure 371;

Dwg. No. 214-120-361-000, Rev. 00, T-F-E Seat Retaining Ring 12" CL 150 Figure 361;

Dwg. No. 214-120-363-000, Rev. 00, T-F-E Seat Retaining Ring 12" CL 150 Figure 363;

Dwg. No. 205-XXX-370-016, Rev. 03, K-Lok Upper Stem for 3" - 36" 150 CL;

Dwg. No. 205-XXX-371-001, Rev. 03, K-Lok Lower Stem for 2½" - 36" ANSI 150 & 300;

Dwg. No. 206-XXX-360-000, Rev. -, Seat TFE Figure 360/370 Size 10 - 24;

Dwg. No. 259-XXX-361-000, Rev. 00, Bottom Cover 3 - 36 Fig 361 STD;

Doc. No. 309689, Test Report, dated 2-1-11;

Dwg. No. 203-120-371-000, Rev. 01, Body Machining 12" CL 150/300 Figure 361/371 - Wafer Butterfly Valve;

Dwg. No. 203-120-373-000, Rev. 00, Body Machining 12" CL 300 Fig. 373 - Lugged Butterfly Valve;

Dwg. No. 204-120-371-000, Rev. 02, Disc Machining 12" CL 300 Figure 371, Std;

Dwg. No. 205-XXX-370-016, Rev. 03, K-Lok Upper Stem for 3" - 36" 150 CL;

Dwg. No. 205-XXX-371-001, Rev. 03, K-Lok Lower Stem for 2½" - 36" ANSI 150 & 300;

Dwg. No. 206-XXX-360-000, Rev. -, Seat TFE Figure 360/370 Size 10 - 24;

Dwg. No. 214-120-371-000, Rev. 00, T-F-E Seat Retaining Ring 12" CL 300 Figure 371, SP68;

Dwg. No. 214-120-373-000, Rev. 00, T-F-E Seat Retaining Ring 12" CL 300 Figure 373 SP68;

Brochure Keymc-0743 -US-1007, Keystone High Performance Butterfly Valves Series 36 & 37, 2" to 36";

Fire Test Reports (Project Number: 216221, Stafford, TX), ANSI/API Standard 607, 7th Edition, 2016 - 2" Class 150 Keystone K-Lok Series H High Performance Butterfly Valve, Test Date: September 14, 2016;

Fire Test Reports (Project Number: 217309, Stafford, TX), ANSI/API Standard 607, 7th Edition, 2016 - 4" Class 150 Keystone K-Lok Series H High Performance Butterfly Valve, Test Date: December 20, 2017;

Fire Test Reports (Project Number: 217070, Stafford, TX), ANSI/API Standard 607, 7th Edition, 2016 - 8" Class 150 Keystone K-Lok Series H High Performance Butterfly Valve Preferred Flow Direction, Test Date: February 8, 2017;

Term of Validity

This Product Design Assessment (PDA) Certificate 17-HS1703826-PDA-DUP, dated 16/Jan/2018 remains valid until 15/Jan/2023 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

Rules for Conditions of Classification, Part 1 – 2018 Steel Vessels Rules 1-1-4/7.7, 1-1-A3, 1-1-A4, which covers the following:

2018 Steel Vessels Rules 4-6-2/5.11.1, 4-6-2/5.17, 4-6-2/9.13.2 i) ii), 4-6-4/13.5.3;

Rules for Conditions of Classification, Part 1 – 2018 Offshore Units and Structures 1-1-4/9.7, 1-1-A2, 1-1-A3, which covers the following:

2018 Mobile Offshore Drilling Units Rules 4-2-2/9.1.1, 4-2-2/9.5, 4-2-2/21.3;

International Standards

NA

EU-MED Standards

NA

National Standards

API STD 598 - Valve Inspection and Testing, 10th Ed., 2016;

API STD 607 - Fire Test for Quarter-turn Valves and Valves Equipped with Nonmetallic Seats, 7th Ed., 2016

API STD 609 - Butterfly Valves: Double-flanged, Lug- and Wafer-type, 8th Edition, 2016;

ASME B16.34-2017, Valves—Flanged, Threaded, and Welding End;

ASTM A216-2016, Standard Specification for Steel Castings, Carbon, Suitable for Fusion Welding, for

High-Temperature Service;

MSS SP-68-2017, High Pressure Butterfly Valves with Offset Design;

Government Standards

46 CFR §56.20-15:2016

Other Standards

NA



A handwritten signature in black ink, appearing to read "James J. White".

Corporate ABS Programs
American Bureau of Shipping
Print Date and Time: 13-May-2020 9:39

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 is printed.

If the Rules and/or standards used in the PDA evaluation are revised or if there is a design modification (whichever occurs first), a PDA revalidation may be necessary.

The continued validity of the MA is dependent on completion of satisfactory audits as required by the ABS Rules. The validity of both PDA and MA entitles the product to receive a **Confirmation of Product Type Approval**.

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 prior to the effective date of the ABS Rules and standards applied at the time of PDA issuance. 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.

Type Approval requires Drawing Assessment, Prototype Testing and assessment of the manufacturer's quality assurance and quality control arrangements. The manufacturer is responsible to maintain compliance with all specifications applicable to the product design assessment. Unless specifically indicated in the description of the product, certification under type approval does not waive requirements for witnessed inspection or additional survey for product use on a vessel, MODU or facility intended to be ABS classed or that is presently in class with ABS.

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.

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.