Confirmation of Product Type Approval

Company Name: EMERSON PROCESS MANAGEMENT-VALVE AUTOMATION

Address: 19200 NW FRWY TX 77065 United States

Product: Actuator, Pneumatic and Hydraulic for Quarter-Turn Valves

Model(s): G, GC, GH & GHC Series

Endorsements:

Certificate Type	Certificate Number	Issue Date	Expiry Date
Product Design Assessment (PDA)	19-HS1903735-PDA	01-OCT-2019	30-SEP-2024
Manufacturing Assessment (MA)	20-HS4114797	10-FEB-2020	12-FEB-2025
Product Quality Assurance (PQA)	NA	NA	NA

Tier
3 - Type Approved, unit certification not required

Intended Service
Marine & Offshore Applications.

Description
- Pneumatic and hydraulic actuators for ball butterfly or plug valves along with louvers, dampers and other 90 degree rotating mechanisms.

- Spring-return (SR) or double-acting (DA) configurations.

- Can operate with either a symmetric or canted yoke.

Ratings
Pneumatic Models:

Operating Pressures: 40 psig to 200 psig;

Operating (Ambient) Temperatures: -20 ºF to +200 ºF;

Degrees of Protection: IP66 and IP67;

Torque Output Range, DA, Start: 7074 lbf-in to 6139796 lbf-in;

Torque Output Range, DA, Min.: 4196 lbf-in to 3240448 lbf-in;

Torque Output Range, DA, End: 6961 lbf-in to 6139796 lbf-in;

Torque Output Range, SR, Start: 4820 lbf-in to 4791173 lbf-in;

Torque Output Range, SR, Min.: 1904 lbf-in to 2224509 lbf-in;

Torque Output Range, SR, End: 2529 lbf-in to 3677393 lbf-in;

Hydraulic Models:

Operating Pressures: 921 psig to 5000 psig;

Operating (Ambient) Temperatures: -20 ºF to +200 ºF;

Degrees of Protection: IP66 and IP67;

Torque Output Range, DA, Start: 6925 lbf-in to 5773266 lbf-in;

Torque Output Range, DA, Min.: 3655 lbf-in to 3047001 lbf-in;

Torque Output Range, DA, End: 6925 lbf-in to 5773266 lbf-in;

Torque Output Range, SR, Start: 8851 lbf-in to 4776955 lbf-in;

Torque Output Range, SR, Min.: 3500 lbf-in to 2216952 lbf-in;

Torque Output Range, SR, End: 4768 lbf-in to 3663174 lbf-in.

Service Restrictions
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.

Comments
1. The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.

2. Covers standard temperature trim range only.

3. In general, each hydraulic actuator is to be hydrostatically tested to 1.5 times the design pressure by the manufacturer and affixed with a permanent nameplate or marking bearing the manufacturer’s name or trademark and the design pressure and temperature. However, hydraulic actuators that do not form part of the vessel's piping systems, machinery or equipment covered in Part 4 of the Marine Vessels Rules or Offshore Support Vessel Rules are exempted from these requirements as per Section 4-6-7/3.5.5(f) of the Marine Vessels Rules or Offshore Support Vessel Rules, as applicable; or, hydraulic actuators that do not form part of the vessel's piping systems, machinery or equipment covered in Part 4 of the Steel Vessels Under 90 Meters Rules are exempted from these requirements as per Section 4-4-6/3.11 of the Steel Vessels Under 90 Meters Rules; or, hydraulic actuators that do not form part of the unit's piping systems covered in Part 4, Chapter 2 and Part 6, Chapter 1 of the Mobile Offshore Units Rules are exempted as per 4-2-2/19.11 of the Mobile Offshore Units Rules.

Notes, Drawings and Documentation
Drawing No. PDA Renewal Declaration of Conformity, PDA Renewal Declaration of Conformity, Revision: -, Pages: -

Previous Review:

Drawing No. DOC, Product Brochure, Revision: -, Pages: 1

Drawing No. Design File #62-1, Design File, Revision: -, Pages: 1

Drawing No. Design File #62-2, Design File, Revision: -, Pages: 1

Drawing No. Design File #62-3, Design File, Revision: -, Pages: 1

Drawing No. ESMA 1421, Material Spec, Revision: BB, Pages: 1

Drawing No. ESMA 1438, Material Spec, Revision: AZ, Pages: 1

Drawing No. FEA Analysis-G-HYD, FEA Analysis, Revision: -, Pages: 1

Drawing No. G-HYD Drawing, G-Series Dwg, Revision: -, Pages: 1

Drawing No. G-HYD Models-Matrix, G-Series Matrix, Revision: -, Pages: 1

Drawing No. G-HYD-Torques, Product Datasheet, Revision: B, Pages: 1

Drawing No. Notes to ABS, Notes, Revision: -, Pages: 1

Drawing No. Shell Test of G-HYD-2, Test Report, Revision: -, Pages: 1

Term of Validity
This Product Design Assessment (PDA) Certificate remains valid until 30/Sep/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.

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 4-6-7/3.5.5, 4-6-7/5.3.3

2019 Steel Vessels Under 90 Meters (295 Feet) in Length Rules 4-4-6/3

2019 Offshore Support Vessels Rules 4-6-6/3.5.5, 4-6-6/5.3.3

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

2019 Mobile Offshore Units Rules 4-2-2/19, 6-1-6/5.9

International Standards
NA

EU-MED Standards
NA

National Standards
NA

Government Standards
NA

Other Standards

NA

Corporate ABS Programs
American Bureau of Shipping
Print Date and Time: 29-Oct-2021 1:58

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.