



Confirmation of Product Type Approval

Company Name: MAX-AIR TECHNOLOGY INC.

Address: 114 RESOURCE DRIVE, WENTZVILLE, MO, United States, 63385

Product: Valve, Butterfly

Model(s): DELTA T Product Series 050/051/052/650/651 AND DELTA TAU Series 050D/051D/052D

Endorsements:

Certificate Type	Certificate Number	Issue Date	Expiry Date
Product Design Assessment (PDA)	21-2104936-PDA	28-APR-2021	27-APR-2026
Manufacturing Assessment (MA)	21-4830948	13-JUL-2021	12-JUL-2026
Product Quality Assurance (PQA)	NA	NA	NA

Tier

3 - Type Approved, unit certification not required

Intended Service

Marine and Offshore Application - General Services including Bilge, Ballast, Fresh Water, Sea Water, Air, Inert Gas, Fuel Oil, and Lube Oil Systems

Description

Wafer and Lug Types Butterfly Valves

Valves sizes:

Delta T (ANSI) 2" to 12" (Delta Tau (DN) 40 TO 300)

Delta T (ANSI) 14" to 24" (Delta Tau (DN) 350 TO 600)

Ratings

Valves sizes:

Delta T (ANSI) 2" to 12" / (Delta Tau (DN) 40 TO 300)

Pressure rating: 200 psi (PTFE 150 psi) / Pressure rating: 232 psi (PTFE 145 psi)

Delta T (ANSI) 14" to 24" / (Delta Tau (DN) 350 TO 600)

Pressure rating: 150 psi / Pressure rating: 145 psi

Temperature rating is limited by seat material, see attached table.

Service Restrictions

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.

Other Service Restrictions are:

- 1) Valves of Ductile Iron are not to be used for temperatures 350 Deg.C and above as per MVR 4-6-2/3.1.5;
- 2) Ductile Iron may be used for Class II piping systems and for valves listed in MVR 4-6-2/3.1.5 provided it has an elongation of not less than 12% in 50 mm;
- 3) Materials rendered ineffective by heat are not to be used as shell valves in MVR 4-6-2/9.13.1;
- 4) Wafer type valves are not to be used in any connection to a vessel's shell. Butterfly valves with lugs, however, may be accepted in MVR 4-6-2/9.13.2;
- 5) EPDM seated valves are not to be used for oil & hydrocarbon services;
- 6) Valves are not to be used for applications where materials readily rendered ineffective by heat are not acceptable such as fire mains, unless the fire test report conforming to the latest edition of a recognized standard acceptable to ABS are submitted. (MVR 4-6-2/5.11.3 (c) & 4-7-3/1.11.1);
- 7) The subject valves may also be used and installed onboard USCG units after review and approval of system requirements for each installation.
- 8) The Product is valid until new API Std 609 9th Edition becomes effective in October 2021.

Comments

1. The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.
2. Valves connected to the shell of the vessel are to be hydro statically tested, before installation, to a pressure of at least 5 bars, in the presence of the ABS Surveyor in MVR 4-6-2/7.3.2.
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 4-6-1/7.1.4 and 4-6-2/5.11.4 of Marine Vessel Rules

Notes, Drawings and Documentation

Drawing No. X5X 010-120 ABS/DNV, 050_051_052_650_651 2-12in ABS_DNV Spec Drawing, Revision: 0, Pages:6

Drawing No. X5X 140-240 ABS/DNV, 050_051_052_650_651 14-24in ABS_DNV Spec Drawing, Revision: 0, Pages:6

Drawing No. Delta T_Delta Tau Butterfly Valves_rev2, Delta T chart

Drawing No. Procedure for BFV testing and inspection, procedure for BFV testing and inspection

Drawing No. Material_Test_Reports, HYDROSTATIC SHEEL AND SEAT TEST

Drawing No. Certificate ISO-3273_20200724102531, ISO 9001

Drawing No. Declaration of Conformance_ABS_2020R1, Declaration of Conformance

Drawing No. ISO 9001, ISO Certificate

Term of Validity

This Product Design Assessment (PDA) Certificate remains valid until 27/Apr/2026 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 – 2021 Rules for Building and Classing Marine Vessels 1-1-4/7.7, 1-1-A3, 1-1-A4, which covers the following:

2021 Marine Vessel Rules 4-6-2/5.11

Rules for Conditions of Classification, Part 1 – 2021 Rules for Building and Classing Mobile Offshore Units 1-1-4/9.7, 1-1-A2, 1-1-A3, which covers the following:

2021 Mobile Offshore Units Rules 4-2-2/9

International Standards

ISO 5211 (2017)

EU-MED Standards

NA

National Standards

API Std 598 (2016)

API Std 609 (2017)

Government Standards

NA

Other Standards

MSS-SP-67 (2017), MSS-SP-25 (2018)



Corporate ABS Programs
American Bureau of Shipping
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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.