CERTIFICATE NUMBER	23-2388445-PDA
EFFECTIVE DATE	20-Feb-2024
EXPIRY DATE	19-Feb-2029
ABS TECHNICAL OFFICE	Rio de Janeiro Engineering - Machinery

CERTIFICATE OF

Product Design Assessment

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

SOMAS INSTRUMENT AB

located at

P.O. BOX 107, SAFFLE, Sweden, S-66123

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, Butterfly**
Model:	**Type MTV HT, type VSS HT and type SPV**
Endorsements:	
Tier:	**2 - PDA Issued**

This Product Design Assessment (PDA) Certificate remains valid until 19/Feb/2029 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

Ivson Soares, Managing Principal Engineer

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Tier: 2 - PDA Issued

Product: **Valve, Butterfly**
Model: **Type MTV HT, type VSS HT and type SPV**
Endorsements:

Intended Service:
Exhaust gas applications (Waste gate, Air Bypass, Scrubber, SCR, Waste Heat Recovery, Turbo cut out/slow steaming, EGR and EGC)

Description:
Butterfly Valve Type MTV HT:
Body material: stainless steel (CF8M, 1.4408, 1.4552)
Body construction: wafer
Disc material: stainless steel (1.4436, 1.4404, 1.4552)
Seat material: austenitic stainless steel (3-piece 1.4835)

Butterfly Valve Type VSS HT:
Body material: stainless steel (CF8M, 1.4408, 1.4552)
Body construction: wafer
Disc material: stainless steel (CF8M, 1.4552)
Seat material: austenitic stainless steel (3-piece 1.4835)

Butterfly Valve Type SPV:
Body material: 13Cr stainless steel (A217-CA15/A487-CA6NM)
Body construction: wafer
Disc material: 13Cr stainless steel (A217-CA15/A487-CA6NM)
Seat material: stainless steel (3-piece 1.4000)

For more information, please see attached datasheets.

Rating:
Butterfly Valve Type MTV HT:
Nominal diameter: DN80, DN100, DN125, DN150, DN200, DN250, DN300, and DN350
Temperature range: 0°C to +675°C (depending on internal parts)
Operating pressure: max. 25 bar (depending on temperature and rating)

Butterfly Valve Type VSS HT:
Nominal diameter: DN400, DN450, DN500, DN600, DN700, DN800, DN900, DN1000, and DN1200 - DN400, and DN450 not applicable for SCR-systems.
Temperature range: 0°C to +675°C (depending on internal parts)
Operating pressure: max. 25 bar (depending on temperature and rating)

Butterfly Valve Type SPV:
Nominal diameter: DN80, DN100, DN125, DN150, DN200, DN250, DN300, DN350, DN400, DN450, DN500, DN600, DN700, DN800, DN900, DN1000, and DN1200
Temperature range: 20°C to +525°C
Operating pressure: max. 10 bar (depending on temperature)

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.

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Comments:
1. The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.
2. All butterfly valves are to bear permanent identification, such as manufacturer's name or trademark, standard of compliance, material identity, pressure rating, etc., as required by the standard of compliance or the manufacturer's specification. Such markings may be cast or forged integral with, stamped on, or securely affixed by nameplate on the butterfly valve, and are to serve as a permanent means of identification of the butterfly valve throughout its service life as per ABS MVR 4-6-1/7.1.4.
3. The manufacturer is to guarantee that the butterfly valves are constructed to the standard and conforming to the identifications to which they are marked. The manufacturer is to guarantee also that the butterfly valves have been tested before shipment to the pressure required by the pressure rating of the valve. The certificate of test is to be submitted upon request as per ABS MVR 4-6-2/5.11.4.
4. The design approval does not include the valve actuator.
5. The valves located after the scrubber unit are to be constructed of corrosion resistant materials. This is to be satisfactorily verified by our attending surveyors. See Section 6-3-2/11.1.2 (i) of MVR.
6. Isolation and bypass valves used in EGC system exhaust piping systems are to prevent the passage of exhaust gases to other fuel oil combustion units or machinery spaces. Where bypass arrangements for the SOx scrubber unit are provided, the isolation and bypass valves are to be arranged in an interlocked, fail-safe manner, such that free flow of exhaust gases to the atmosphere is possible at all times, either through the scrubber unit or through the bypass. Bypass valves are to be provided with a local position indicator. This is to be satisfactorily verified by our attending surveyors. See Section 6-3-3/11.1.2 (ii) and 6-3-4/11.1.2 (i) of MVR.
7. The valves are to be constructed of corrosion resistant materials. This is to be satisfactorily verified by our attending surveyors. See Section 6-3-3/11.1.2 (ii) of MVR.
8. This certificate may not be used for US Flagged Vessels (USCG have their own specific/ requirements).
9. The leakage of valves may be restricted by statutory requirements of the National Authority of the Country in which the ship is to be registered.

Notes/Drawing/Documentation:
Drawing No. D-4060, Drawing VSS HT-DN700, Revision: 0
Drawing No. D-4064, Drawing VSS HT-DN900, Revision: 0
Drawing No. D-4072, Drawing VSS HT-DN600, Revision: 0
Drawing No. D-4139, Drawing VSS HT-DN1200, Revision: 0
Drawing No. D-4149, Drawing VSS HT-DN1000, Revision: 0
Drawing No. D-4167, Drawing VSS HT-DN800, Revision: 0
Drawing No. D-4172, Drawing MTV HT-DN300, Revision: 0
Drawing No. D-4173, Drawing MTV HT-DN125, Revision: 0
Drawing No. D-4178, Drawing MTV HT-DN80, Revision: 0
Drawing No. D-4182, Drawing MTV HT-DN200, Revision: 0
Drawing No. D-4183, Drawing MTV HT-DN100, Revision: 0
Drawing No. D-4186, Drawing MTV HT-DN250, Revision: 0
Drawing No. D-4189, Drawing VSS HT-DN500, Revision: 0
Drawing No. D-4207, Drawing MTV HT-DN350, Revision: 0
Drawing No. D-4208, Drawing MTV HT-DN150, Revision: 0
Drawing No. D-4210, Drawing VSS HT-DN400, Revision: 0
Drawing No. D-4225, Drawing VSS HT-DN450, Revision: 0
Drawing No. D-4789, Drawing SPV-DN500, Revision: 0
Drawing No. D-4834, Drawing SPV-DN125, Revision: 0
Drawing No. D-4845, Drawing SPV-DN350, Revision: 0
Drawing No. D-4848, Drawing SPV-DN100, Revision: 0
Drawing No. D-4866, Drawing SPV-DN1000, Revision: 0
Drawing No. D-4881, Drawing SPV-DN1200, Revision: 0
Drawing No. D-4944, Drawing SPV-DN80, Revision: 0
Drawing No. D-4945, Drawing SPV-DN150, Revision: 0
Drawing No. D-4946, Drawing SPV-DN200, Revision: 0
Drawing No. D-4947, Drawing SPV-DN250, Revision: 0

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Drawing No. D-4948, Drawing SPV-DN300, Revision: 0
Drawing No. D-4950, Drawing SPV-DN400, Revision: 0
Drawing No. D-4951, Drawing SPV-DN600, Revision: 0
Drawing No. D-4952, Drawing SPV-DN700, Revision: 0
Drawing No. D-4953, Drawing SPV-DN800, Revision: 0
Drawing No. D-4954, Drawing SPV-DN900, Revision: 0
Drawing No. D-4968, Drawing SPV-DN450, Revision: 0
Drawing No. F190924-TSP-001-600, Technical Specification VSS HT-DN600, Revision: 0
Drawing No. F190924-TSP-002-1000, Technical Specification VSS HT-DN1000, Revision: 0
Drawing No. F190924-TSP-003-800, Technical Specification VSS HT-DN800, Revision: 0
Drawing No. F190924-TSP-004-900, Technical Specification VSS HT-DN900, Revision: 0
Drawing No. F190924-TSP-005-700, Technical Specification VSS HT-DN700, Revision: 0
Drawing No. F190924-TSP-006-1200, Technical Specification VSS HT-DN1200, Revision: 0
Drawing No. F190924-TSP-007-500, Technical Specification VSS HT-DN500, Revision: 0
Drawing No. F200130-TSP-016-300, Technical Specification MTV HT-DN300, Revision: 0
Drawing No. F200130-TSP-017-350, Technical Specification MTV HT-DN350, Revision: 0
Drawing No. F200508-TSP-020-100, Technical Specification MTV HT-DN100, Revision: 0
Drawing No. F200508-TSP-021-125, Technical Specification MTV HT-DN125, Revision: 0
Drawing No. F200508-TSP-022-150, Technical Specification MTV HT-DN150, Revision: 0
Drawing No. F200508-TSP-023-200, Technical Specification MTV HT-DN200, Revision: 0
Drawing No. F200508-TSP-024-250, Technical Specification MTV HT-DN250, Revision: 0
Drawing No. F200601-TSP-026-80, Technical Specification MTV HT-DN80, Revision: 0
Drawing No. F200920-TSP-029-500 U20, Technical Specification SPV-DN500, Revision: 0
Drawing No. F200920-TSP-030-600 U20, Technical Specification SPV-DN600, Revision: 0
Drawing No. F200920-TSP-031-700 U20, Technical Specification SPV-DN700, Revision: 0
Drawing No. F200920-TSP-032-800 U20, Technical Specification SPV-DN800, Revision: 0
Drawing No. F200920-TSP-033-900 U20, Technical Specification SPV-DN900, Revision: 0
Drawing No. F200920-TSP-034-1000 U20, Technical Specification SPV-DN1000, Revision: 0
Drawing No. F200920-TSP-035-1200 U20, Technical Specification SPV-DN1200, Revision: 0
Drawing No. F200920-TSP-039-300 U20, Technical Specification SPV-DN300, Revision: 0
Drawing No. F200920-TSP-040-350 U20, Technical Specification SPV-DN350, Revision: 0
Drawing No. F200920-TSP-041-400 U20, Technical Specification SPV-DN400, Revision: 0
Drawing No. F200920-TSP-058-100 U20, Technical Specification SPV-DN100, Revision: 0
Drawing No. F200920-TSP-059-125 U20, Technical Specification SPV-DN125, Revision: 0
Drawing No. F200920-TSP-060-150 U20, Technical Specification SPV-DN150, Revision: 0
Drawing No. F200920-TSP-061-200 U20, Technical Specification SPV-DN200, Revision: 0
Drawing No. F200920-TSP-062-250 U20, Technical Specification SPV-DN250, Revision: 0
Drawing No. F200920-TSP-063-80, Technical Specification SPV-DN80, Revision: 0
Drawing No. F210420-TSP-083-450, Technical Specification SPV-DN450, Revision: 0
Drawing No. Online Application Form, Online Application Form, Revision: -
Drawing No. SOMAS_ISO 9001_ISO 14001_EN, SOMAS_ISO 9001_ISO 14001_EN, Revision: -
Drawing No. Si-207EN, Data Sheet type VSS HT/MTV HT, Revision: 0
Drawing No. Si-217EN, Data Sheet type SPV, Revision: 0

Terms of Validity:
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STANDARDS

ABS Rules:
2024 Rules for Condition of Classification 1A-1-4/7.7, 1A-1-A3, 1A-1-A4, which covers the following:
2024 Marine Vessel Rules (MVR): 4-6-1/7.1.4, 4-6-1/7.5.2, 4-6-2/3, 4-6-2/5.11, 6-3-2/11.1.2. 6-3-3/11.1.2, 6-3-4/11.1.2

2024 Rules for Condition of Classification - Offshore Units and Structures 1B-1-4/9.7, 1B-1-A2, 1B-1-A3, which covers the following:
2024 Mobile Offshore Units Rules: 4-2-2/9, 4-2-2/17, 6-1-6/5.1, 6-1-6/7.3.3

National:
NA

International:
EN 12516-2:2014+A1:2021
ASME B16.34 - 2020
EN 1092-1:2018

Government:
NA

EUMED:
NA

OTHERS:
NA