



CERTIFICATE NUMBER 18-SG1713078-PDA
EFFECTIVE DATE 15-FEB-2018
EXPIRATION DATE 14-FEB-2023
ABS TECHNICAL OFFICE Singapore Engineering Services

CERTIFICATE OF Product Design Assessment

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

FLUID CONTROLS PVT LTD

located at

**J.V PATEL ITI COMPOUND I B. MADHURKAR MARG, MUMBAI,
INDIA 400013**

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, Manifold

Model 3 FFMNVN-HM1-4DN-DP, 8-2 MNV-PTM1-4DN-DP, 8-3 FMNV-4DN-DP, 8-3 MNVN-RM1, 8-5 FFMNV-HM-4DN-DP(8-5 FFMNV-DM2), 8-5 FMNV-4DN-DP and 8-5 MNV-RM1-4DN-DP

This Product Design Assessment (PDA) Certificate remains valid until 14-FEB-2023 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

Vignesh Chandrabose, 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 ABS Rules 1-1-A3/5.9 Terms and Conditions of the Request for Product Type Approval and Agreement (2010)

FLUID CONTROLS PVT LTD

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MUMBAI

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Email: sophie@fluidcontrols.com

Web: www.fluidcontrols.com

Tier: 2 - PDA Issued

Product: Valve, Manifold
Model: 3 FFMNVN-HM1-4DN-DP
8-2 MNV-PTM1-4DN-DP
8-3 FMNV-4DN-DP
8-3 MNVN-RM1
8-5 FFMNV-HM-4DN-DP(8-5 FFMNV-DM2)
8-5 FMNV-4DN-DP
8-5 MNV-RM1-4DN-DP

Intended Service:

Marine and Offshore Hydraulic/Pneumatic Applications - Tubing/Piping Systems

Description:

3 Valve Manifold Direct Mounting H Type
2 Valve Manifold PTM-1
3 Valve Manifold Direct Mounting T Type
3 Way Manifold RM-1
5 Valve Manifold Direct Mounting H Type
5 Valve Manifold Direct Mounting T Type
5 Valve Manifold Remote Mounting Type 5 RM 1
Connection: 1/2" NPT as per ABSI B1.20.1; Flanged; 1/4" NPT(F) for Drain

Material: ASTM A105, ASTM A 182/ASTM A479 (304, 304L, 316, 316L)

Rating:Pressure Rating 800 Class. 200 kg/cm² @ Room 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.

Comments:

1. The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.
2. Size, Rating, Material, Manufacturer's name or trademark, etc. as required by the standard of compliance or the manufacturer's specification are to be marked.
3. The manufacturer of a valve is to guarantee that the valve is constructed to the standard and conforming to the identifications to which it is marked. The manufacturer is to guarantee also that the valve has 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.

Notes/Drawing/Documentation:

Drawing No. 3 FFMNVN-HM1-4DN-DP, 3 Valve Manifold Direct Mounting H Type, Revision: 0, Pages: 1
Drawing No. 8-2 MNV-PTM1-4DN-DP, 2 Valve Manifold PTM-1, Revision: 0, Pages: 1
Drawing No. 8-3 FMNV-4DN-DP, 3 Valve Manifold Direct Mounting T Type, Revision: 0, Pages: 1
Drawing No. 8-3 MNVN-RM1, 3 Way Manifold RM-1, Revision: 0, Pages: 1
Drawing No. 8-5 FFMNV-HM1-4DN-DP (8-5 FFMNV-DM2), 5 Valve Manifold Direct Mounting H Type, Revision: 1, Pages: 1
Drawing No. 8-5 FMNV-TM1-4DN-DP(8-5 FMNV-4DN-DP), 5 Valve Manifold Direct Mounting T Type, Revision: 1, Pages: 1
Drawing No. 8-5 MNV-4DN-DP (8-5 MNV-RM1-4DN-DP), 5 Valve Manifold Remote Mounting Type 5 RM 1, Revision: 1, Pages: 1
Drawing No. Manifold, Manifold Tensile Strength calculation, Revision: 1, Pages: 1

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Tier: 2 - PDA Issued

Drawing No. Types of manifold, Manifold Categories, Revision: 1, Pages: 1

Fluid Controls Private Limited, Report No. Assy/2017/105 Amnd.I, Hydrostatic Test (ASME B16.34-2017) Report dated 24 Nov 2017, Revision: 1, Pages: 1

Fluid Controls Private Limited, Report No. Assy/2017/111 Amnd.I, Hydrostatic Test (ASME B16.34-2017) dated 21 Nov 2017, Revision: 1, Pages: 1

Fluid Controls Private Limited, Report No. Assy/2017/113 Amnd.I, Hydrostatic Test (ASME B16.34-2017) dated 24 Nov 2017, Revision: 1, Pages: 1

Fluid Controls Private Limited, Report No. Assy/2017/113A Amnd.I, Hydrostatic Test (ASME B16.34-2017) dated 24 Nov 2017, Revision: 1, Pages: 1

Fluid Controls Private Limited, Report No. Assy/2017/116 Amnd.I, Hydrostatic Test (ASME B16.34-2017) dated 24 Nov 2017, Revision: 1, Pages: 1

Fluid Controls Private Limited, Report No. Assy/2017/119 Amnd.I, Hydrostatic Test (ASME B16.34-2017) dated 24 Nov 2017, Revision: 1, Pages: 1

Fluid Controls Private Limited, Report No. Assy/2017/130 Amnd.I, Hydrostatic Test (ASME B16.34-2017) dated 24 Nov 2017, Revision: 1, Pages: 1

Terms of Validity:

This Product Design Assessment (PDA) Certificate 18-SG1713078-PDA, dated 15/Feb/2018 remains valid until 14/Feb/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.

STANDARDS**ABS Rules:**

ABS Rules for Conditions of Classification (2018) 1-1-4/7.7, 1-1-A3 and A4, which covers the following:

2018 Rules for Building and Classing Steel Vessels 4-6-1/7.5.2, 4-6-1/Table 1, 4-6-1/Table 2, 4-6-2/3, 4-6-2/5.11, 4-6-2/5.17;

2018 Rules for Building and Classing Offshore Support Vessels 4-1-1/3.3, 4-6-1/7.1.2, 4-6-2/5.11, 4-6-2/5.17;

2018 Rules for Building and Classing Steel Vessels Under 90 Meters in Length 4-1-1/3.3, 4-4-2/9, 4-4-2/11;

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

2018 Rules for Building and Classing Mobile Offshore Drilling Units 1-1-4/9.7, 1-1-Appendix 2 and 3;

2018 Rules for Building and Classing Facilities on Offshore Installations 1-1-4/9.7, 1-1-Appendix 2 and 3

National:

NA

International:

ASME B16.34-2017 Valves Flanged, Threaded and Welding End (Published on August 2017)

Threading: ANSI B1.20.1-2013 Pipe Threads, General Purpose (Inch) (Published on November 2013)

Testing: MSS SP 99-2016 Instrument Valves (Published on January 2016)

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Tier: 2 - PDA Issued

Government:

NA

EUMED:

NA

OTHERS:

NA