



CERTIFICATE NUMBER
15-HS1371427-1-PDA

DATE
27 Jun 2016

ABS TECHNICAL OFFICE
Houston SED Machinery - Piping
& Electrical Sys.

CERTIFICATE OF DESIGN ASSESSMENT

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

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, Ball**

Model: **AN Series 6 & TN Series 6 (1/2" to 12")**

This Product Design Assessment (PDA) Certificate 15-HS1371427-1-PDA, dated 27/Jun/2016 remains valid until 08/Jul/2020 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.

AMERICAN BUREAU OF SHIPPING


Tim Kimble
Engineer/Consultant

NOTE: This certificate evidences compliance with one or more of the Rules, Guides, standards or other criteria of ABS or a statutory, industry or manufacturer's standard. 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 the terms and conditions contained in ABS Rules 1-1 A3/3.9 Terms and Conditions of the Request for Product Type Approval and Agreement (2010).

PBM

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Tier: 2 - PDA Issued

Product: Valve, Ball

Model: AN Series 6 & TN Series 6 (1/2" to 12")

Intended Service:

Marine & Offshore Applications - Industrial Flanged Ball Valves.

Description:

ANSI Flanged ball valves with bidirectional sealing (2-way ball valves), Fire safe (API-607).
Materials for these valves are as per ASME B16.34.

Rating:

Sizes (AN Series 6): 1/2", 3/4", 1", 1-1/2", 2", 2-1/2", 3", 4", 6", 8", 10" & 12", Class 150 flanged connections in accordance with ASME B16.5.

Sizes (TN Series 6): 1/2", 3/4", 1", 1-1/2", 2", 2-1/2", 3", 4", 6", 8", 10" & 12", Class 150 flanged connections in accordance with ASME B16.5.

Pressure and temperature ratings are as listed in ASME B16.34.

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.

1) Valve end connections are also to be in accordance with 4-6-2/5.5.4 of the Steel Vessel Rules.

2) Valves with taper-threaded joints refer to the sizes and pressure limitations in Steel Vessel Rules. Please refer to 4-6-2/5.5.5.

Comments:

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

2) All valves intended for installation on the side shell at or below the deepest load waterline, including those at the sea chests, are to be hydrostatically tested in the presence of the Surveyor, before installation, to a pressure of at least 5 bar (72.5 psi) in accordance with 4-6-2/7.3.2 of the Rules.

3) Valves are designed, constructed in accordance with ASME B16.34.

4) Marking on the valves are to be in accordance with ASME B16.34..

5) Valves with virgin PTFE seats (TFM) are tested in accordance with API 607 (Fourth Edition, May 1993) which qualifies valves with filled PTFE components.

Notes/Drawing/Documentation:

Supporting Documents:

Fire test reports:

Document No. 6th Ed - 2.0 inch - Class 150 - 316 SS - TFM - ANH-H6L-G-P052, Fire Test Report ANSI/API Standard 607, 6th Edition, 2010 ISO 10497: 2010, Date: 3/30/2016, Pages: 16

Document No. 6th Ed - 2.0 inch - Class 150 - C276 HAST - TFM - ANC-H6L-G-P052, Fire Test Report ANSI/API Standard 607, 6th Edition, 2010 ISO 10497: 2010, Date: 1/07/2016, Pages: 16

Document No. 6th Ed - 2.0 inch - Class 150 - WCB CS - FM - ANE-H6L-G-P052, Fire Test Report ANSI/API Standard 607, 6th Edition, 2010 ISO 10497: 2010, Date: 9/02/2015, Pages: 16

Document No. 4th Ed - 8.0 inch - Class 150 - WCB CS - TFM -TNE-N6L-G-02-J376, API 607 Rev. 4 Fire Test Report, 4th Edition, 1993, Date: 6/18/2009, Pages: 15

Drawings List:

AN--D503L--I, 3/4" AN-D5 VALVE END FITTING, Rev. 2

AN--C503L--I, 1/2" AN-C5 VALVE END FITTING, Rev. 2

AN--C501L--I, 1/2" AN-C5 VALVE BODY, Rev. 3

AN--E501L-RI, 1" AN SERIES 5, 150# BODY CASTING, Rev. 4

AN--D501L--I, 3/4" AN-D5 VALVE BODY, Rev. 1

AN--G503L-RI, 1-1/2" AN SERIES 5, 150# END FITTING CASTING, Rev. 3

AN--G501L-RI, 1-1/2" AN SERIES 5, 150# BODY CASTING, Rev. 4

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Tier: 2 - PDA Issued

AN--H503L-RI, 2" AN SERIES 5, 150# END FITTING CASTING, Rev. 3
AN--H501L-RI, 2" AN SERIES 5, 150# BODY CASTING, Rev. 4
AN--K501L-RI, 3" AN SERIES 5, 150# BODY CASTING, Rev. 3
AN--L501L-RI, 4" AN SERIES 5, 150# BODY CASTING, Rev. 2
AN--K503L-RI, 3" AN SERIES 5, 150# END FITTING CASTING, Rev. 2
AN--M501L-RI, 6" AN SERIES 5, 150# BODY CASTING, Rev. 4
AN--L503L-RI, 4" AN SERIES 5, 150# END FITTING CASTING, Rev. 3
AN--M503L-RI, 6" AN SERIES 5, 150# END FITTING CASTING, Rev. 2
AN--E501L--I, 1" AN-E5 150# R.F. FLANGE BODY, Rev. 2
AN--G501L--I, 1-1/2" AN-G5 150# R.F. FLANGED BODY, Rev. 3
AN--E503L-RI, 1" AN SERIES 5, 150# END FITTING CASTING, Rev. 4
AN--M501L--I, 6" AN-M5 BODY, Rev. 1
AN--E503L--I, 1" AN-E5 150# R.F. FLANGE END FITTING, Rev. 3
AN--M503L--I, 6" AN-M5 END FITTING, Rev. 1
AN--L503L--I, 4" AN-L5 150# FLANGE END FITTING, Rev. 4
AN--L501L--I, 4" AN-L5 150# R.F. FLANGED BODY, Rev. 4
AN--K501L--I, 3" AN-K5 BODY, Rev. 3
AN--K503L--I, 3" AN 150# END FITTING, Rev. 4
AN--J501L9-B, 2-1/2" AN-J5 150# FLANGED BODY, Rev. 0
AN--J503L9-B, 2-1/2" AN-J5 END FITTING, Rev. 0
AN--G503L--I, 1-1/2" AN-G5 150# F.F. FLANGE END FITTING, Rev. 2
AN--H503L--I, 2" AN-H5 150# R.F. FLANGE END FITTING, Rev. 2
AN--H501L--I, 2" AN-H5 150# R.F. FLANGED BODY, Rev. 5
AN--M501L--RI, 6" AN SERIES 5, 150# BODY CASTING, Rev. 3
AN--M503L--RI, 6" AN SERIES 5, 150# END FITTING CASTING, Rev. 2
TN--N501L--RS, 8" TN-N5 BODY WITH 150# R.F. FLANGED CONNECTION, Rev. 1
TN--N503L--RS, 8" TN-N5 END FITTING WITH 150# R.F. FLANGED CONNECTION, Rev. 1
AN--M501L--I, 6" AN-M5 BODY WITH 150# R.F. FLANGE CONNECTION, Rev. 1
AN--M503L--I, 6" AN-M5 END FITTING WITH 150# R.F. FLANGE CONNECTION, Rev. 1
TN--N501L--M, 8" TN-N5 FULL PORT VALVE BODY WITH 150# FLANGE CONNECTION, Rev. 0
TN--N503L--M, 8" TN-N5 END FITTING, 150# R.F. FLANGE, FULL PORT, Rev. 0

Terms of Validity:

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STANDARDS

ABS Rules:

Rules for Conditions of Classification, Part 1 2016 Steel Vessels Rules 1-1-4/7.7, 1-1-A3, 1-1-A4, which covers the following:

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2016 Steel Vessels Rules 4-6-2/5.11;

2016 Steel Vessels Under 90 Meters (295 feet) in Length Rules 4-4-2/11;

2016 Offshore Support Vessels Rules 4-6-2/5.11;

Rules for Conditions of Classification, Part 1 - 2016 Offshore Units and Structures 1-1-4/9.7, 1-1-A2, 1-1-A3, which covers the following:

2016 Mobile Offshore Drilling Unit Rules 1-1-4/9.7, 1-1-A2, 1-1-A3, 4-2-2/9, 4-2-2/17;

National:

ASME B16.34(2013),

API 607 (Sixth Edition, Sep 2010) for up to 4",

API 607 (Fourth Edition, May 1993) for from 6" to 12"

International:

NA

Government:

NA

EUMED:

NA

OTHERS:

NA