



CERTIFICATE NUMBER 18-HG1720153-PDA
EFFECTIVE DATE 26 March 2018
EXPIRATION DATE 25 March 2023
ABS TECHNICAL OFFICE
Hamburg Engineering Department

CERTIFICATE OF

Product Design Assessment

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

VOSS FLUID GMBH

located at

**Luedenscheider Str. 52-54
D-51688 Wipperfuerth
Germany**

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 Adjustable Fittings

Model 24° Taper Connections

This Product Design Assessment (PDA) Certificate remains valid until expiration date 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

Dagmar Gramatzki,
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).

VOSS FLUID GMBH

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Web: www.voss.net

Tier: 3 - Type Approved, unit certification not required

Product: Fittings, Adjustable Fittings

Model: 24° Taper Connections

Intended Service:

For use in steel piping systems.

Description:

Tube couplings (bite type) comprise of Union Body made of galvanized and yellow passivated steel or stainless steel with stud-threads and 24 ° taper (DIN 2353); Nut; Cutting Ring; "PEFLEX" ring on stud threads; O-ring on sealing head. Tube coupling normally provided with "NBR" (Perbunan) sealing rings for temperatures of -35° C to 100° C. For higher temperatures other qualities such as "FPM" (Vitron) may be used.

Rating:

Series L (light): 6 to 10 mm OD for 500 bar; 12 to 18 mm OD for 400 bar, 22 to 42 mm OD for 250 bar.

Series S (heavy): 6 to 10 mm OD for 800 bar; 12 to 16 mm OD for 630 bar; 20 to 38 mm OD for 420 bar.

Operating temperatures depending on coupling and sealing materials, as per manufacturer's specification (see also under Comments).

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.

- Couplings are not to be used for toxic and corrosive fluid services and for all services of temperatures exceeding 495°C.

- In Classes I and II piping systems in general, for joining sections of hydraulic pipes and for steering gear, controllable pitch propeller- and propulsion related hydraulic systems their use is limited to the following restrictions: 6 mm to 20 mm OD for 103 bar; 22 mm to 25 mm OD for 82.8 bar; 28 mm to 42 mm OD for 41.4 bar. In other hydraulic oil systems they may be used without pressure limitation only for connection to equipment, such as pumps, valves, cylinders, accumulators, gauges and hoses.

- Straight-thread O-ring type fittings may be used for connections to equipment in hydraulic oil piping, without pressure and service limitation, but are not to be used for joining sections of pipes.

- For operating temperatures at lower than -18°C all materials used are to be certified for their adequate notch toughness properties.

Comments:

- The manufacturer has provided a declaration about the control of, or the lack of asbestos in this product.

- The above maximum working pressures are less than or equal to 1/4 burst pressure. In order to retain this safety factor of four (4), the specified maximum working pressures may be reduced depending on operating temperatures, high pressure surges etc.

- The application and installation of the couplings is to be in accordance with manufacturer's specifications and instructions and is to be approved in conjunction with the relevant piping systems.

Notes/Drawing/Documentation:

Document No. Assembly instruction DKO, Assembly Instruction DKO, Revision: -, Pages: 4

Document No. Burst Vacuum Extraction 2S plus ES-4 VOSSForm BV-10 DK, Test Report of 27 Nov 2006_Voss - Burst Vacuum Extraction 2S plus ES-4 VOSSForm BV-10 DK, Revision: -, Pages: 26.

Document No. Burst_BV-10-DKO_2011031_German, Test Report of 21 Mar 2011_Voss - Burst Pressure, Revision: -, Pages: 12.

Document No. DS DKO, Data sheet 24 degree taper couplings_DKO, Revision: -, Pages: 19.

Document No. Fire ES-4 VOSSForm BV-10_DKO_61070_English, Test Report of 21 Sep 2006_WTD - Fire Resistance, Revision: -, Pages: 8.

Document No. Product information DKO, Product information DKO, Revision: -, Pages: 5.

Document No. Pulsation-Vibration ES-4-VOSSForm-BV-10-DKO_C10106_Englis, Test Report of 7 Dec 2006_IMA - Pulsation Vibration, Revision: -, Pages: 24.

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Document No. TD DKO, Technical Drawings DKO, Revision: -, Pages: 18.

Document No. VOSS Fluid ISO 14001_2015, ISO 14001_2015 Certificate, Revision: -, Pages: 3.

Document No. VOSS Fluid ISO 50001_2011, ISO 50001_2011 Certificate, Revision: -, Pages: 1.

Document No. VOSS Fluid ISO 9001_2015, ISO 9001_2015 Certificate, Revision: -, Pages: 1.

Terms of Validity:

This Product Design Assessment (PDA) Certificate 18-HG1720153-PDA, dated 26/Mar/2018 remains valid until 25/Mar/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:**

2018 ABS Rules for Building and Classing Steel Vessels: 1-1-4/7.7, 1-1-Appendix 3 and 4, 4-6-1/7, 4-6-2/3, 4-6-2/5.5, 4-6-2/5.9.

National:

DIN 2353:2013-01, DIN EN 3852:2004-08, DIN EN.

International:

ISO 8434-1:2007-09.

Government:

NA

EUMED:

NA

OTHERS:

NA