



CERTIFICATE NUMBER	23-2390435-PDA
EFFECTIVE DATE	27-Apr-2023
EXPIRY DATE	26-Apr-2028
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

**LUEDENSCHIEDER 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:** Fittings, Adjustable Fittings  
**Model:** 24° Taper Connections  
**Endorsements:**  
**Tier:** 3 - Type Approved, unit certification not required

This Product Design Assessment (PDA) Certificate remains valid until 26/Apr/2028 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

  
Efstratios Maliatsos, 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**

LUEDENSCHIEDER STR. 52-54

D-51688 WIPPERFUERTH

Germany

Telephone: 49-2267-630

Fax: 49-2267-635621

Email: fluid@voss.net

Web: www.voss.net

**Tier: 3 - Type Approved, unit certification not required**

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**Product:** Fittings, Adjustable Fittings

**Model:** 24° Taper Connections

**Endorsements:**

**Intended Service:**

For use in steel piping systems.

**Description:**

Tube couplings (bite type) comprise of Union Body made of galvanized and VOSS coat 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" sealing rings for temperatures of -35° C to 100° C. For higher temperatures other qualities such as "FKM" 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:**

See attachment

**Terms of Validity:**

This Product Design Assessment (PDA) Certificate remains valid until 26/Apr/2028 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

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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.

**STANDARDS**

**ABS Rules:**

2023 Rules for Conditions of Classification: 1-1-4/7.7, 1-1-A3 and A4, which covers the following:  
2023 Rules for Building and Classing Marine Vessels: 4-6-1/7, 4-6-2/3, 4-6-2/5.5.5, 4-6-2/5.9.

**National:**

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

**International:**

ISO 8434-1: 2018-11

**Government:**

NA

**EUMED:**

NA

**OTHERS:**

NA

23-2390435-PDA

Attached to 23-2390435-PDA  
Company: VOSS FLUID GMBH (WCN: 092651)

**Models:**

24° Taper Connections

**Issuance Date:** 27-Apr-2023

**Expiry Date:** 26-Apr-2028

**Intended Service:**

For use in steel piping systems.

Drawing List

<b>Engineering Office:</b>	Hamburg Engineering Department	
<b>Submitter:</b>	VOSS FLUID GMBH (WCN: 092651)	
<b>Drawing No</b>	<b>Revision No</b>	<b>Drawing Title</b>
Declaration of Conformity VOSS Fluid Products- 18-HG-1720153-PDA	-	Declaration of Conformity VOSS Fluid Products-18-HG-1720153-PDA
PDA Revalidation- 18-HG-1720153-PDA	-	PDA Revalidation- 18-HG-1720153-PDA
Correspondence	-	Manufacturer's confirmation on draft Model-Info

Drawing List as per 18-HG1720153-PDA (26-Mar-2018)

<b>Engineering Office:</b>	Hamburg Engineering Department	
<b>Submitter:</b>	VOSS FLUID GMBH (WCN: 092651)	
<b>Drawing No</b>	<b>Revision No</b>	<b>Drawing Title</b>
Assembly instruction DKO	-	Assembly Instruction DKO
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
Burst_ BV-10- DKO_ 2011031_ German	-	Test Report of 21 Mar 2011_ Voss - Burst Pressure
DS DKO	-	Data sheet 24 degree taper couplings_ DKO
Fire_ ES-4_ VOSSForm_ BV-10_ DKO_ 61070_ English	-	Test Report of 21 Sep 2006_ WTD - Fire Resistance
Product information DKO	-	Product information DKO ▼
Fire_ ES-4_ VOSSForm_ BV-10_ DKO_ 61070_ English	-	Test Report of 7 Dec 2006_ IMA - Pulsation Vibration
TD DKO	-	Technical Drawings DKO
VOSS Fluid ISO 14001_ 2015	-	ISO 14001_ 2015 Certificate
VOSS Fluid ISO 50001_ 2011	-	ISO 50001_ 2011 Certificate

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VOSS Fluid ISO 9001_2015	-	ISO 9001_2015 Certificate
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Drawing List as per 03-HG406042-3-PDA (15-Apr-2013)

<b>Engineering Office:</b>	Hamburg Engineering Department	
<b>Submitter:</b>	VOSS FLUID GMBH (WCN: 092651)	
<b>Drawing No</b>	<b>Revision No</b>	<b>Drawing Title</b>
0004100000	-	nut
0712100000	-	straight
0720100000	-	elbow
0734950000	-	T
0784210000	-	connector-1
1765120000	-	connector-2
AEL214	-	Examination Report
AEL225	-	Examination Report
C101_06	-	Test Report
C130_05	-	Test Report
WTD71	-	Test Report Fire resistant test

Drawing List as per 03-HG406042/2-PDA (30-Oct-2008)

<b>Engineering Office:</b>	Hamburg Engineering Department	
<b>Submitter:</b>	VOSS FLUID GMBH (WCN: 092651)	
<b>Drawing No</b>	<b>Revision No</b>	<b>Drawing Title</b>
61070/105	-	WTD71 Fire Test Report
AEL214/06/1	-	Examination Report
AEL225/05/1	-	Examination Report
C101_06	-	IMA Test Report
C130_05	-	IMA Test Report