



CERTIFICATE NUMBER

DATE

03-HG416170-3-PDA

15 April 2013

ABS TECHNICAL OFFICE

Gdynia Engineering Department

CERTIFICATE OF DESIGN ASSESSMENT

This is to Certify that a representative of this Bureau did, at the request of
VOSS FLUID GMBH - D-51688 WIPPERFUERTH

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: **Fitting, Flange**

MODEL: **ZAKO**

This Product Design Assessment (PDA) Certificate 03-HG416170-3-PDA, dated 15/Apr/2013 remains valid until 14/Apr/2018 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


Jaroslaw Kondracki
Engineer

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 manufacturing process without approval from ABS will result in this certificate becoming null and void. This certificate is governed by the terms and conditions as contained in 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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MA Certificate No.: 10-HN1778758-X

PRODUCT:
Fitting, Flange

MODEL:
ZAKO

Intended Service:

For flanged connections in steel piping system for non-flammable fluids.

Description:

"VOSS-ZAKO" (SAE/Square) Flanges are specifically designed for use in systems subjected to increased loads and meet extreme demands of safety depending on the applied "ZAKO" 10 degrees flare technology. Made of forged, drawn, cast or stainless steel (1.4571); For higher load applications such as vibrations, pressure impulses or high pressure in tubes of larger dimensions; the flange couplings system comprises of following components: ZAKO-flange; ZAKO-ring (with o-ring groove); 4 x ISO 4762 cylindrical screws (SAE flanges). For tube to tube flanged connection one (1) additional "ZAKO"-flange, "ZAKO" ring (but without O-ring groove) and four (4) nuts - ISO 4032 are to be added. O-rings normally employed in "ZAKO" flanged coupling designs are made of "NBR" (Perbunan) material and are suitable for the flanged couplings normal temperature range of -35° C to 100° C.

Ratings:

Series: Standard, Flanged Type SAE, Nominal Pressure PN-250, Pipe OD: up to 80 mm.
Series: High Pressure, Flanged Type SAE, Nominal Pressure PN-400, Pipe OD: up to 80 mm.
Series: High Pressure, Flanged Type SQUARE, Nominal Pressure PN-400, Pipe OD: up to 88 mm.

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:

The installation of flanged "ZAKO" pipe connections is to be carried out by duly qualified personnel according to the manufacturer's recommended and established procedures.

Notes / Drawings / Documentation:

Drawing Title: ZAKO Flange, Drawing Nos. 0510100000 and 0510570000
Drawing Title: ZAKO Flange - Ring, Drawing Nos. 0036260000 and 0036270000
Test Report No. C101/06 along with Annex 1
Test Report No. C130/05 along with Annex 1
Examination Report: AEL 214/06/01
Examination Report: AEL 225/05/01
WTD71 Fire Test Reports dated 20 September 2006

VOSS FLUID GMBH

Term of Validity:

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STANDARDS

ABS Rules:

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

ABS Rules for Conditions of Classification (2013) 1-1-4/7.7.

ABS Rules for Building and Classing Steel Vessels (2013) 4-6-2/3, 4-6-2/5.5.5, 4-6-2/5.9.

National:

DIN EN ISO 7092

International:

ISO 4032, ISO 4762

Government Authority:

NA

EUMED:

NA

Others:

Manufacturer's Standards.

