



Lloyd's
Register

Type Approval Certificate

This is to certify that the undernoted product(s) has/have been tested with satisfactory results in accordance with the relevant requirements of the Lloyd's Register Type Approval System.

This certificate supersedes certificate number 93/20052(E4) issued on 04.12.2013 which is hereby cancelled.

This certificate is issued to:

PRODUCER	VOSS Fluid GmbH Lüdenscheider Straße 52-54 51688 Wipperfürth Germany
DESCRIPTION	ZAKO-flange coupling system consists of: - ZAKO-flange - ZAKO-ring (with O-ring groove) - O-ring - 4 cylindr. screws DIN 912-10.9 Sealing on the pipe side by high specific surface pressure between the ZAKO-ring and the internal surface of the pipe. Sealing on the flange side by an O-ring.
TYPE	VOSS ZAKO Flange Couplings
APPLICATION	General use in marine, offshore and industrial piping systems. <u>Restrictions:</u> 1. starting/control air and CO2 systems. 2. inside machinery spaces of category A or accommodation spaces for inert gas main lines 3. fire extinguishing systems which are not always filled with water
STANDARD	LR Rules and Regulations for the Classification of Ships, July 2018
Certificate No.	93/20052 (E5)
Issue Date	26 February 2019
Expiry Date	31 July 2023
Sheet	1 of 2



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LR031-1.2016.06

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RATINGS	Series	Flange type	Flange size	Pipe outside (mm)	Nom. pressure (bar)
	Normal	SAE	1/2 to 3"	16 to 18	250
	High press.	SAE	1/2 to 2"	16 to 65 *	400
	High press.	Square	DN11 to DN49	16 to 65 *	400

*) only up to OD 60.3 mm if intended for Class I and II - piping systems

PERFORMANCE TESTS Repeated assembly, leakage, burst pressure, hydraulic impulse and vibration, flame resistance.

OTHER CONDITIONS Trade mark "VOSS" to be shown on each coupling. The pipe couplings to be selected and installed as per producer's recommendations and instructions.

The Type Approval does not eliminate the need for normal inspection and survey procedures required by the Rules and Regulations.

If the specified standards are amended during the validity of this certificate, the product is to be re-approved prior to it being supplied to vessels to which the amended standards apply.

The Design Appraisal Document No. HMD 13340-04, Issue No. 3, dated 26.02.2019 and its supplementary Type Approval Terms and Conditions form part of this Certificate.

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