

TYPE APPROVAL CERTIFICATE

DNV·GL

This is to certify that the undernoted product(s) has/have been tested in accordance with the relevant requirements of the DNV GL Type Approval System.

Certificate No. **13 504 - 14 HH**

Company **VOSS Fluid GmbH**
Postfach 15 40
51679 Wipperfürth, GERMANY

Product Description **COMPRESSION COUPLINGS 24° - BITE TYPE - L- and S-Series**

Type **VOSSRingM - Cutting Ring Couplings**
Carbon Steel

Environmental Category **None**

Technical Data /
Range of Application **TECHNICAL DATA**
Materials
Couplings:
Carbon steel acc. to DIN 3859-, Table 1, VOSS WN 7004-8 or equivalent

Recommended tube type and materials:
Seamless, cold drawn, normalised presisson tubes acc. to DIN EN 10305-4
or equivalent.
EN material code 1.0308 (E235), 1.0580 (E355) or equivalent.

Range of Application
Refer to page 2.

Test Standard **GL VI-7-8 Test Requirements for Components and Systems of Mechanical Engineering and Offshore Technology: 2013**

Documents **Refer to page 3**

Remarks **Product(s) approved by this certificate are accepted for installation on all vessels classed by DNV GL**

Valid until **2020-09-24**

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File No. **II.C.05**

Hamburg, 2015-09-25

Type Approval Symbol




Olaf Drews


Hagen Markus

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Range of Application

The compression coupling system *VOSSRing^M* is type approved for application in piping systems as specified in the GL Rules I-1-2 Machinery Installation, Section 11- D, Table 11.14, fire resistant type.

The range of application in gas supply system on board ship is limited to accessory lines and instrumentation lines with external diameters of 25 mm or less. Pipe couplings with metallic sealing shall be used only. Refer to GL Rules VI-3-1 Guidelines for the Use of Gas as Fuel for Ships, Chapter 1-Section 2, para. 2.5.11.3.

Size and pressure range of *VOSSRing^M* tube couplings

Series L (light)

Tube O.D. (mm)	Nom. Pressure PN
6-10	500
12-18	400
22-42	250

Series S (heavy)

Tube O.D. (mm)	Nom. Pressure PN
6-10	800
12-16	630
20-38	420

Remarks

For couplings with pressure rating PN the safety factor is four whereas for couplings with permissible operating pressure PB the safety factor is 2.5.

Temperature range for tube couplings with metallic seal

Carbon steel: -20°C up to +120°C
Lowest ambient temperature: -40°C

Temperature range for carbon steel male stud couplings of type PEFLEX, UN/UNF, ISO 6149 with soft seal

-20°C up to +100°C (NBR)
-20°C up to +200°C (FPM/FKM)

Remarks

For service temperatures above 120°C the pressure reduction factors as specified in the product catalogue are to be observed.

Scope of tube coupling types

This type approval includes coupling types as specified in VOSS Tube coupling technology catalogue (2015) with the exception of the following coupling types:

Male stud couplings

- Straight, Elbow, L, T/metric, imperial / tapered

Adjustable couplings with tube socket

- Stud standpipe adapters / NPT

Banjo and rotary couplings

Female stud and gauge couplings

- Straight female stud couplings / metric, imperial

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LIMITATION

Bulkhead tube couplings

Tube couplings of type BHSLN and BHELN are not approved through tank walls and watertight deck and bulkheads. For this application bulkhead weld union of type WDBHS shall be used.

In addition to tube couplings this type approval includes the following hydraulic valves:

Non-return valves standard

- VNRO, VNROI, VNROPT, VNROTP

Non-return valve plug-in cartridges

- VNRCO

Shuttle valves with ball seats

- VST and with soft seat VSOT

High-pressure valves

- VNROHP, VNROPTHP, VNROTPHP

Internal valve part installation kits

- VNRIO

Marking of product

Nut: Manufacturer – Size – Supplier code – Country origin
VOSS-S16-95/86-DE

Tube coupling: Manufacturer – Material code – Supplier code
VOSS -20 - K

Cutting ring: Manufacturer – Supplier code
VOSS 2

Test scope

- Gas pressure test / Tightness test / Burst test / Vacuum test
- Pull-out test, Combined Vibration and Pressure pulsation test, Fire resistance test acc. to ISO 19921/22,
- Repeated assembly test

Documents

GL Approval Ref. No.: 14-082538, 15051225

Drawings

- Cutting ring 1S and VOSSRingM (MSR4) L/S6, L18, L42, S16, S38
- Tube couplings

Test reports

- Test reports of fire resistance tests issued by Dr. Bäumer test laboratory
- IMA Dresden test report K057/14, Order No.: 304224011
- VOSS Fluid test report 2014_466

Audit report, IMA Dresden 2014-10-28

Product catalogue

- 9177003102/201505/02/03.0/15

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