

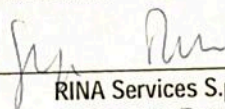


TYPE APPROVAL CERTIFICATE
No. MAC143215XG

This is to certify that the product identified below is in compliance with the regulations herewith specified.

<i>Description</i>	Compression Couplings 24° - Bite Type - L- and S-Series
<i>Type</i>	VOSSRing ^M Cutting Ring Couplings
<i>Applicant</i>	VOSS FLUID GMBH LÜDENSCHIEDERSTR. 52-54 51668 WIPPERFÜRTH GERMANY
<i>Manufacturer</i>	VOSS FLUID GMBH
<i>Place of manufacture</i>	LÜDENSCHIEDERSTR. 52-54 51668 WIPPERFÜRTH GERMANY
<i>Reference standards</i>	Part C, Chapter 1, Section 10 of RINA Rules
<i>Reference documents</i>	RINA Type approval system

Issued in **HAMBURG** on **October 12, 2015**. This Certificate is valid until **October 11, 2020**



RINA Services S.p.A.
Giuseppe Russo

This certificate consists of this page and 1 enclosure

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VOSSRingM Cutting Ring Couplings

Reference documents

- VOSS Catalogue Document no. 9177003102/201505/02/03.0/15
- VOSS Examination Report no. 2014_466/1
- IMA Dresden Test Report no. K057/14
- Dr Bäumer Herford Flame Resistance Test Reports no. IBB 1302, 1304, 1306, 1308, 1310, 1312 according to ISO 19921

Technical characteristics

The compression coupling system VOSSRing^M is made up of standard connecting pieces (DIN 3861 / ISO 8434-1), standard nuts (DIN 3870 / ISO 8434-1), seamless, cold-drawn and normalized precision steel tubes as specified in DIN EN 10305-4, material E235+N, mat. no. 1.0308+N or E355, mat. no. 1.0580 and the cutting ring (DIN 2353 / ISO 8434-1).

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

Series Tube OD	PN	Designation	Nut Designation
L/S 6	500/800	24-VRM-L/S6	24-N-L/S6
L/S 8	500/800	24-VRM-L/S8	24-N-L/S8
L/S 10	500/800	24-VRM-L/S10	24-N-L/S10
L/S 12	400/630	24-VRM-L/S12	24-N-L/S12
L 15	400	24-VRM-L15	24-N-L15
L 18	400	24-VRM-L18	24-N-L18
L 22	250	24-VRM-L22	24-N-L22
L 28	250	24-VRM-L28	24-N-L28
L 35	250	24-VRM-L35	24-N-L35
L 42	250	24-VRM-L42	24-N-L42
S 14	630	24-VRM-S14	24-N-S14
S 16	630	24-VRM-S16	24-N-S16
S 20	420	24-VRM-S20	24-N-S20
S 25	420	24-VRM-S25	24-N-S25
S 30	420	24-VRM-S30	24-N-S30
S 38	420	24-VRM-S38	24-N-S38



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VOSSRingM

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)

Maximum working pressures to be reduced according to manufacturer's recommendations for systems affected by higher temperatures or by pulse pressures.

Couplings materials: carbon steel and stainless steel in accordance with DIN 3859-1 table 2 or higher grades.

Fields of application

The couplings are acceptable for the systems indicated in the Table 16 and par. 2.4.5 of Part C, Chapter 1, Section 10 of RINA Rules where fire resistant ability is required.

Acceptance conditions

The seal material must be resistant to the fluid conveyed in the pipe and also to the surrounding fluid if the coupling is installed inside a tank.

The couplings are to be installed in locations where leakage would not create a hazard by way of damage to electrical systems or otherwise create a hazard to the vessel, equipment or personnel onboard.

The acceptance of the a.m. products on board ship classed with RINA is subject to the satisfactory outcome of testing as per RINA Rules applicable.

The installation on board is to be carried out in accordance with the Manufacturer's instructions.

HAMBURG October 12, 2015

