



Lloyd's
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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 96/20001 (E4) issued on 30.12.2011 which is hereby cancelled.

This certificate is issued to:

PRODUCER	VOLZ-Gruppe GmbH Gartenstrasse 6 78586 Deilingen Germany
DESCRIPTION	Stainless steel (1.4571) and carbon steel (C15, C22, St37-0, St37-2 and 9SMnPb28K) high pressure 24° compression couplings with or without seals sensitive to heat as per Volz Catalogue 04/2015, Pages 18 to 115
TYPE	LL (very light gauge), L (light gauge) and S (heavy gauge)
APPLICATION	For pressure pipes in the marine, offshore and industrial environment. <u>Restrictions</u> - Bulkhead couplings are not to be used on watertight bulkheads, Gastight bulkheads and for "A", "B" fire class divisions. - Couplings with seals sensitive to heat are not acceptable in the following locations : <ol style="list-style-type: none">1. Starting/control air and CO₂ systems.2. Inside machinery spaces of category A or accommodation spaces for main lines of inert gas systems.3. Fire main, water spray and sprinkler systems or similar which are not always filled with water.
Certificate No.	96/20001 (E5)
Issue Date	08 September 2016
Expiry Date	14 January 2021
Sheet	1 of 3



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LR031.1.2015.12

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RATINGS

<u>Stainless steel</u> couplings <u>with</u> seals sensitive to heat	Pipe Outside Diameter (mm)	Nominal Pressure PN at 20 °C (bar)
	L (light gauge)	6 – 15 18 – 22 28 – 42 250 160 100
S (heavy gauge)	6 – 14 16 – 25 30 – 38 630 400 250	
Temperature Range	FPM (Viton) : - 25°C to +200°C PTFE (Teflon) : - 60°C to +200°C	
Pressure reduction as per manufacturers recommendations	Temperature, °C 50 100 200 Reduction, % 4.5 11 20	

<u>Stainless steel and carbon steel</u> couplings <u>without</u> seals sensitive to heat	Pipe Outside Diameter (mm)	Nominal Pressure PN at 20 °C (bar)
	LL (very light gauge) L (light gauge)	4 – 8 6 – 10 12 – 18 22 – 42 100 500 400 250
S (heavy gauge)	6 – 10 12 – 16 20 – 38 800 630 420	
Temperature Range	Carbon steel : -40°C to +120°C Stainless steel : -60°C to +400°C	
Pressure reduction for <u>stainless steel</u> as per manufacturer's recommendations	Temperature, °C 50 100 200 300 400 Reduction, % 4.5 11 20 29 33	

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STANDARD

Lloyd's Register Rules and Regulations for the Classification of Ships, July 2016 and IACS P2.11 including wet fire endurance test for couplings with seals sensitive to heat.

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. HPC/HMD 5139-00, issue no. 5 dated 08.09.2016 and its supplementary Type Approval Terms and Conditions form part of this Certificate.

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