



## LR 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 LR Type Approval System.

This certificate is issued to:

*Producer*

GEORG FISCHER WAGA N.V.  
Lange Veentweg 19  
P.O. Box 290  
8160 AG Epe  
Nederland

*Place of Production*

Gewerbepark Gerbershausen  
Hohengänder Straße  
D- 37318 Gerberhausen  
Federal Republic of Germany

*Description*

Non-locking joint coupling for metal and plastic pipes consisting of a stainless steel housing, two-lip sealing of either EPDM or NBR, st. st. conical grip ring and inlay and heavy duty locking trunnions.

*Type*

WAGA 500

*Certificate No.*

98/20064

*Issue Date*

20 September 1998

*Expiry Date*

30 June 2002


*Sheet*

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Continuation Sheet 2 of 4

*Application*

As pipe couplings, which have always to be accessible, on ships and offshore installations classed or intended for Classification with Lloyd's Register in the following systems:

1. Sea and Fresh Water Service
2. Ballast Lines
3. Bilge Lines
4. Deck Wash Lines
5. Sanitary Service (see also point 11)
6. Cargo Oil Filling and Transfer Lines
7. Fuel Oil Transfer
8. Compressed Air Lines (not starting air)
9. Fire Main and Foam Lines
10. Water Spray and Sprinkler Systems
11. Sanitary Scupper, Drain and Supply
12. Air Conditioning System Service
13. Tank Filling and Sounding Pipes
14. Inert Gas Systems
15. Sea and Fresh Water Cooling Lines
16. Air Pipes from Tanks
17. Steam Return and Exhaust Gas Lines
18. Fuel Oil Transfer on open Deck

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Continuation Sheet 3 of 4

*Application  
continued*

19. Hydraulic driven Cargo Pump Systems
20. Lub Oil Systems
21. Ballast and Bilge Lines in Double Bottoms, provided the Couplings are always accessible.
22. Fire Fighting Mains and Distributing
23. Fuel Lines in Engine Room

*Ratings*

Type : WAGA 500-...  
Sizes o. D. : 30 mm to 168,3 mm  
Nom. Pressure : PN 16 bar

Type	500A2	500B2	500C2	500D2
Size o.D.	MAWP	MAWP	MAWP	MAWP
219,1 mm	9,2 bar	13,7 bar	18,5 bar	23,5 bar
273,0 mm	7,0 bar	12,0 bar	13,5 bar	18,5 bar
323,9 mm	5,0 bar	9,0 bar	10,5 bar	15,0 bar
355,6 mm	5,2 bar	9,0 bar	10,5 bar	13,2 bar
406,4 mm	5,2 bar	7,5 bar	10,2 bar	12,3 bar
508,0 mm	3,2 bar	5,5 bar	6,5 bar	7,5 bar
609,6 mm	4,5 bar	5,5 bar	6,2 bar	--
711,2 mm	4,0 bar	4,5 bar	5,0 bar	--
812,2 mm	3,2 bar	3,5 bar	4,5 bar	--
1200,0 mm	2,0 bar	2,3 bar	3,3 bar	--

Temp. Range : -20°C to 80 °C (EPDM, NBR)

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**Ratings  
continued**

Material combination	W2		W4		W5	
	DIN	AISI	DIN	AISI	DIN	AISI
housing	1.4301	304	1.4301	304	1.4435	316 L
bolts	1.7220	4140 H	1.4404	316 L	1.4404	316 L
bars	1.0737	12 L 14	1.4301	304	1.4401	316
grip ring	1.4310	301	1.4310	301	1.4568	316
steel band inlay	1.4435	316 L	1.4435	316 L	1.4435	316 L


**Specified  
Standards**

DIN 86128  
Lloyd's Register Rules and Regulations for the Classification of Ships, 1997.

**Other  
Conditions**

For materials combinations for the corresponding media the producer's recommendations and instructions to be sought.  
Marking of the products to show:  
Producer's name or trade mark, type designation, material combination, size, gasket material, torque and max. working pressure or press. class.

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