


Type Approval Certificate Extension

This is to certify that Certificate No. 03/20034 for the undernoted products is extended and renumbered as shown.

This certificate is issued to:

PRODUCER	PH Industrie-Hydraulik GmbH & Co. KG Stefansbecke 37 45549 Sprockhövel Germany																																				
DESCRIPTION	Stainless steel (material: 1.4571- AISI 316 Ti) cutting ring compression couplings and 24° cone sealing couplings with O- ring.																																				
TYPE	24° Compression Fittings acc. to DIN EN ISO 8434-1/DIN 2353 and Taper Fittings acc. to DIN EN ISO 8434-4 (for detailed types see page 2)																																				
APPLICATION	General use in marine, offshore and industrial piping systems, classed or intended for Classification with Lloyd's Register.																																				
STANDARD	Lloyd's Register Rules and Regulations for the Classification of Ships, 2008, DIN 2353, DIN EN ISO 8434-1 and - 4																																				
RATINGS	<table border="0"> <tr> <td></td> <td>Light Gauge (L)</td> <td></td> <td>Heavy Gauge (S)</td> </tr> <tr> <td></td> <td>Pipe O.D.(mm)</td> <td>M.A.W.P.(bar)</td> <td>Pipe OD(mm) M.A.W.P(bar)</td> </tr> <tr> <td></td> <td>6 - 18</td> <td>315</td> <td>6 - 14 630</td> </tr> <tr> <td></td> <td>22 - 42</td> <td>160</td> <td>16 - 30 400</td> </tr> <tr> <td></td> <td></td> <td></td> <td>38 315</td> </tr> <tr> <td></td> <td colspan="3"><u>Temp. Range</u> : Stainl. Steel : - 55°C to 200°C</td> </tr> <tr> <td></td> <td></td> <td></td> <td>NBR : - 35°C to 100°C</td> </tr> <tr> <td></td> <td></td> <td></td> <td>FPM : - 20°C to 200°C</td> </tr> <tr> <td></td> <td></td> <td></td> <td>PTFE : - 60°C to 200°C</td> </tr> </table>		Light Gauge (L)		Heavy Gauge (S)		Pipe O.D.(mm)	M.A.W.P.(bar)	Pipe OD(mm) M.A.W.P(bar)		6 - 18	315	6 - 14 630		22 - 42	160	16 - 30 400				38 315		<u>Temp. Range</u> : Stainl. Steel : - 55°C to 200°C						NBR : - 35°C to 100°C				FPM : - 20°C to 200°C				PTFE : - 60°C to 200°C
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OPERATIONAL LIMITATIONS	For pressure reductions at elevated temperatures $\geq 50^{\circ}\text{C}$ and for selection and installation of the couplings the manufacturer's instructions are to be adhered to.																																				
PERFORMANCE TESTS	Lloyd's Register Type Approval Scheme, IACS Requirements 2001, P 2.11.																																				
Certificate No.	03/20034 (E1)																																				
Issue Date	26 August 2008																																				
Expiry Date	04 April 2013																																				
Sheet	1 of 2																																				


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 Hamburg Design Support Centre
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Compression Couplings acc. to DIN EN ISO 8434-1

GV-Straight Couplings	WV-Equal Elbows	WHV-Banjo Elbows
GRV-Stud Reducers	TV-Equal Tees	THV-Banjo Tees
TRV-Couplings	KV-Equal Crosses	EVW-Swivel Elbows
GE-Couplings	ESV-Welding Bulkhead Connections	EVT-Swivel Branch Tees
WE-Stud Elbows	ASV/WAS-Welding Bosses/Coupl.	EVL-Swivel Barrel Tees
TE-Stud Branch Tees	EVGE-Stud Standpipe Adaptors	MV-Gauge Couplings
LE-Stud Barrel Tees	GSV-Couplings	WSV-Bulkhead Elbows

MV-Gauge Swivel Couplings	Non-Return Valves	KOR-Tube End reducers
GAI-Female Stud Couplings	GRI-Male/Female Stud Adaptors	XROV-Blanking Plugs
VKA-Coupling Plugs	VST-Socket Head Port Plugs	VSHü-Reinforcing Rings
ÜWS-Internal Coupling Nuts	SR-Double-Bite Cutting Rings	ÜWM-Nuts for Cutting Ring
Connections		
GM-Locknuts		

Taper Fittings acc. to DIN EN ISO 8434-4


GV-DKOL/DKOS Swivel Unions	RED-DKOL/DKOS Reducing Couplings
GVR-DKO Straight Reducers	EGE-DKOL/DKOS Swivel Connectors
EW-DKOL/DKOS Adjustable Elbows	MVE-DKOL/DKOS Gauge Swivel Connectors
ET-DKOL/DKOS Adjustable Stud Branch Tees	EL-DKOL/DKOS Adjustable Stud Barrel Tees
ASV K Welding Nipple Couplings with O-rings	Gaskets

"This Certificate is not valid for equipment, the design, ratings or operating parameters of which have been varied from the specimen tested. The manufacturer should notify Lloyd's Register EMEA of any modification or changes to the equipment in order to obtain a valid certificate."

The attached Design Appraisal Document No. HMD 10234-03, Issue No. 1, dated 26.08.08 and its supplementary Type Approval Terms and Conditions form part of this Certificate.

All other details remain as the previous Certificate No. 03/20034 to which this extension should be attached.

Certificate No.	03/20034 (E1)
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