



Size	DNV				GL					NK																																	
	Date/Expiration date	Approval Number	Pressure (bar)	Temp. (C)	Date/Expiration date	Recognition Certificate	Approval Number	Pressure (bar)	Temp. (C)	Date/Expiration date	Approval Number	Pressure (bar)	Temp. (C)																														
PHE-12NI/N	-				2012-09-11 / 2017-12-04	GL-EP 54604-07 HH	54604-07 HH	10	-10/200	waiting for renewal	05EA009AB	10	-10/170																														
PHE-12PI/P	-				2012-09-11 / 2017-12-04	GL-EP 54604-07 HH	54604-07 HH	16	-10/200	waiting for renewal	05EA009AB	16	-10/170																														
PHE/GL-13NI/N	2012-02-25 / 2015-02-31	P-14064	10	-20/200*	2012-09-11 / 2017-12-04	GL-EP 54604-07 HH	54604-07 HH	10	-10/200	waiting for renewal	05EA009AB	10	-10/170																														
PHE/GL-13PI/P	2012-02-25 / 2015-02-31	P-14064	16	-20/200*	2012-09-11 / 2017-12-04	GL-EP 54604-07 HH	54604-07 HH	16	-10/200	waiting for renewal	05EA009AB	16	-10/170																														
PHE/GC-16NI/N	2012-02-25 / 2015-02-31	P-14064	10	-20/200*	2012-09-11 / 2017-12-04	GL-EP 54604-07 HH	54604-07 HH	10	-10/200	waiting for renewal	05EA009AB	10	-10/170																														
PHE/GC-16PI/P	2012-02-25 / 2015-02-31	P-14064	16	-20/200*	2012-09-11 / 2017-12-04	GL-EP 54604-07 HH	54604-07 HH	16	-10/200	waiting for renewal	05EA009AB	16	-10/170																														
PHE-26N/GC-26N OLD	2012-02-25 / 2015-02-31	P-14064	8	-20/200*																																							
PHE-26P/GC-26P OLD	2012-02-25 / 2015-02-31	P-14064	16	-20/200*	2012-09-11 / 2017-12-04	GL-EP 54604-07 HH	54604-07 HH	16	-10/200	waiting for renewal	05EA009AB	16	-10/170																														
PHE-26 Combi	2012-02-25 / 2015-02-31	P-14064	16	-20/200*	-	-	-	-	-	-	-	-	-																														
PHE-42N OLD	2012-02-25 / 2015-02-31	P-14064	8	-20/200*																																							
PHE-42P OLD	2012-02-25 / 2015-02-31	P-14064	16	-20/200*	2012-09-11 / 2017-12-04	GL-EP 54604-07 HH	54604-07 HH	16	-10/200	waiting for renewal	05EA009AB	16	-10/170																														
PHE-42AI	2012-02-25 / 2015-02-31				-	-	-	-	-	-	-	-	-																														
PHE-42 Combi	2012-02-25 / 2015-02-31	P-14064	16	-20/200*	-	-	-	-	-	-	-	-	-																														
PHE-51N	2012-02-25 / 2015-02-31	P-14064	10	-20/200*	2008-07-30 / 2013-07-30	GL-EP 54605-07 HH	08-070655	10	150	waiting for renewal	05EA008AB	10	-10/170																														
PHE/GC-51N	2012-02-25 / 2015-02-31	P-14064	10	-20/200*	2008-07-30 / 2013-07-30	GL-EP 54605-07 HH	08-070655	10	150	waiting for renewal	03EA005AB	10	-10/170																														
PHE-51P	2012-02-25 / 2015-02-31	P-14064	16	-20/200*	2002-12-06 / 2012-12-05	GL-EP 54605-07 HH	02-182021	16	-10/200	waiting for renewal	05EA008AB	16	-10/170																														
PHE/GC-51P	2012-02-25 / 2015-02-31	P-14064	16	-20/200*	2002-12-06 / 2012-12-05	GL-EP 54605-07 HH	02-182021	16	-10/200	waiting for renewal	05EA008AB	16	-10/170																														
PHE/GC-54N	2012-02-25 / 2015-02-31	P-14064	10	-20/200*	2008-07-30 / 2013-07-30	GL-EP 54605-07 HH	08-070655	10	-10/170	-	-	-	-																														
PHE/GC-54P	2012-02-25 / 2015-02-31	P-14064	16	-20/200*	2008-07-30 / 2013-07-30	GL-EP 54605-07 HH	08-070655	16	-10/170	-	-	-	-																														
PHE/GC-54S	2012-02-25 / 2015-02-31				2008-07-30 / 2013-07-30	GL-EP 54605-07 HH	03-055985	25	-10/170	-	-	-	-																														
PHE-64P	2012-02-25 / 2015-02-31	P-14064	16	-20/200*	2002-12-06 / 2012-12-05	GL-EP 54605-07 HH	02-182021	16	-10/200	waiting for renewal	05EA010AB	16	-10/170																														
PHE-91P	2012-02-25 / 2015-02-31	P-14064	16	-20/200*	2002-12-06 / 2012-12-05	GL-EP 54605-07 HH	02-182021	16	-10/200	waiting for renewal	05EA008AB	16	-10/170																														
PHE-60P/GC-60P OLD	2012-02-25 / 2015-02-31	P-14064	16	-20/200*	2002-12-06 / 2012-12-05	GL-EP 54606-07 HH	02-182021	16	-10/200	waiting for renewal	05EA008AB	16	-10/170																														
PHE-100P OLD	2012-02-25 / 2015-02-31	P-14064	16	-20/200*	2002-12-06 / 2012-12-05	GL-EP 54606-07 HH	02-182021	16	-10/200	waiting for renewal	05EA010AB	16	-10/170																														
PHE-140P OLD	2012-02-25 / 2015-02-31	P-14064	16	-20/200*	2002-12-06 / 2012-12-05	GL-EP 54606-07 HH	02-182021	16	-10/200	-	-	-	-																														
PHE-85N OLD	2012-02-25 / 2015-02-31	P-14064	10	-20/200*	2002-12-06 / 2012-12-05	GL-EP 54607-07 HH	02-182021	10	-10/200	waiting for renewal	05EA008AB	10	-10/170																														
PHE-85P OLD	2012-02-25 / 2015-02-31	P-14064	16	-20/200*	-	-	-	-	-	-	-	-	-																														
PHE/GL-85N OLD	2012-02-25 / 2015-02-31	P-14064	10	-20/200*	2008-07-30 / 2013-07-30	GL-EP 54607-07 HH	08-070655	10	-10/170	waiting for renewal	03EA005AB	10	-10/170																														
PHE/GL-85P OLD	2012-02-25 / 2015-02-31	P-14064	16	-20/200*	2008-07-30 / 2013-07-30	GL-EP 54607-07 HH	08-070655	16	-10/170	waiting for renewal	03EA005AB	16	-10/170																														
PHE-145N OLD	2012-02-25 / 2015-02-31	P-14064	10	-20/200*	2002-12-06 / 2012-12-05	GL-EP 54607-07 HH	02-182021	10	-10/200	waiting for renewal	05EA010AB	10	-10/170																														
PHE-145P OLD	2012-02-25 / 2015-02-31	P-14064	16	-20/200*	-	-	-	-	-	-	-	-	-																														
PHE-145T	2012-02-25 / 2015-02-31				-	-	-	-	-	-	-	-	-																														
PHE/GL-145N OLD	2012-02-25 / 2015-02-31	P-14064	10	-20/200*	2008-07-30 / 2013-07-30	GL-EP 54607-07 HH	08-070655	10	-10/170	waiting for renewal	03EA005AB	10	-10/170																														
PHE/GL-145P OLD	2012-02-25 / 2015-02-31	P-14064	16	-20/200*	2008-07-30 / 2013-07-30	GL-EP 54607-07 HH	08-070655	16	-10/170	waiting for renewal	03EA005AB	16	-10/170																														
PHE-205N OLD	2012-02-25 / 2015-02-31				2002-12-06 / 2012-12-05	GL-EP 54607-07 HH	02-182021	10	-10/200	waiting for renewal	05EA008AB	10	-10/170																														
PHE/UX-80					-	-	-	-	-	-	-	-	-																														
PHE/GL-230T	2012-02-25 / 2015-02-31	P-14064	6	-20/200*	-	-	-	-	-	-	-	-	-																														
PHE/GL-230N					2008-07-30 / 2013-07-30	GL-EP 54607-07 HH	08-070655	10	-10/170	-	-	-	-																														
PHE/GL-330T					2007-09-25 / 2012-09-25	GL-EP 54607-07 HH	07-092288	6	-10/170	-	-	-	-																														
UM-20-H-08-US-57	Valid	BOM 20270567	-	-																																							
SM-07	Valid	P-12780	See cert	See cert																																							
SM-22	Valid	P-12780	See cert	See cert																																							
SM-54	Valid	P-12780	See cert	See cert																																							
<b>Test Pressure =</b>	<b>x 1,3 working pressure</b>				<b>x 1,5 working pressure</b>					<b>x 1,5 working pressure</b>																																	
<b>Special requirements =</b>	Threaded tube connections may not be used for lubrication oil in machinery spaces of category A				For fuel oil or flammable media shall material certificates be acc. to EN 10204-3.2 required for main pressurized parts					Material test in presence of NK surveyor (cover and plate mtr)																																	
	Operating media: Fresh water, sea water, steam, alcohol, brine and lubrication oil				Strap iron is not approved for ship operational conditional (ship motion)					Pressure limits are for Stainless Steel, thickness 0,6 mm. For other material see approval.																																	
	Austenitic steel are to be used for temperatures below -20 °C				Material tube connection: only EN 1.4401 and Ti 3.7025 gr.1																																						
	EPDM gasket not to be used for hydrocarbon service				For welding neck ring of Ti the design pressure is 11 bar (not 16)																																						
	Approved temperature for different gasket materials				Tube conn DN25-50 only in non-essential system (sanitary & hot water heating system)																																						
	<table border="1"> <thead> <tr> <th>Type of gasket</th> <th>Minimum temperature (t)</th> <th>Maximum temperature</th> </tr> </thead> <tbody> <tr> <td>NBR (P) (Nitrile)</td> <td>-20 °C</td> <td>110 °C</td> </tr> <tr> <td>NBR (S)</td> <td>-20 °C</td> <td>110 °C</td> </tr> <tr> <td>EPDM (Ethylene-propylene) (2)</td> <td>-30 °C</td> <td>170 °C</td> </tr> <tr> <td>Vitons FPM</td> <td>-10 °C</td> <td>200 °C</td> </tr> <tr> <td>CR (Neoprene)</td> <td>-30 °C</td> <td>110 °C</td> </tr> <tr> <td>Q (Silicone)</td> <td>-45 °C</td> <td>200 °C</td> </tr> <tr> <td>HNBR (Hydrogenated Nitrile)</td> <td>-20 °C</td> <td>170 °C</td> </tr> <tr> <td>IR (Butyl)</td> <td>-30 °C</td> <td>160 °C</td> </tr> <tr> <td>CSM (Inzelex)</td> <td>-10 °C</td> <td>130 °C</td> </tr> </tbody> </table>				Type of gasket	Minimum temperature (t)	Maximum temperature	NBR (P) (Nitrile)	-20 °C	110 °C	NBR (S)	-20 °C	110 °C	EPDM (Ethylene-propylene) (2)	-30 °C	170 °C	Vitons FPM	-10 °C	200 °C	CR (Neoprene)	-30 °C	110 °C	Q (Silicone)	-45 °C	200 °C	HNBR (Hydrogenated Nitrile)	-20 °C	170 °C	IR (Butyl)	-30 °C	160 °C	CSM (Inzelex)	-10 °C	130 °C	In case of saturated steam as fluid, the maximum steam temperature has to comply with the maximum design pressure. Furthermore protected shield has to be fitted around plate pack.								
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NBR (P) (Nitrile)	-20 °C	110 °C																																									
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IR (Butyl)	-30 °C	160 °C																																									
CSM (Inzelex)	-10 °C	130 °C																																									
					When temperature is or above 150 °C or Pressure is or above 16bar, material certificates acc. to EN 10204-3.2 required for main pressurized parts																																						







CHINA CLASS.					RMRS			
Size	Date/ Expiration date	Approval Number	Pressure (bar)	Temp. (C)	Date/ Expiration date	Approval Number	Pressure (bar)	Temp. (C)
PHE-12N	Valid	TJ10A00033	10	-10/170	-	-	-	-
PHE-12NI	Valid	TJ10A00033	10	-10/170	-	-	-	-
PHE-12P	Valid	TJ10A00033	16	-10/170	-	-	-	-
PHE-12PI	Valid	TJ10A00033	16	-10/170	-	-	-	-
PHE/GL-13N	Valid	TJ10A00033	10	-10/170	-	-	-	-
PHE/GL-13NI	Valid	TJ10A00033	10	-10/170	-	-	-	-
PHE/GL-13P	Valid	TJ10A00033	16	-10/170	-	-	-	-
PHE/GL-13PI	Valid	TJ10A00033	16	-10/170	-	-	-	-
PHE/GC-16N	Valid	TJ10A00033	10	-10/170	-	-	-	-
PHE/GC-16NI	Valid	TJ10A00033	10	-10/170	-	-	-	-
PHE/GC-16P	Valid	TJ10A00033	16	-10/170	-	-	-	-
PHE/GC-16PI	Valid	TJ10A00033	16	-10/170	-	-	-	-
PHE-26P OLD	Valid	TJ10A00033	16	-10/170				
GC-26P OLD	Valid	TJ10A00033	16	-10/170	2008 / 2013	262-002-254-671	16	-10/200
PHE-26 Combi	Valid	GBA97110016	16	150				
PHE-42P OLD	Valid	TJ10A00033	16	-10/170	2008 / 2013	262-002-254-671	16	-10/200
PHE-51N	Valid	TJ10A00033	10	-10/170				
GC-51N	Valid	TJ10A00033	10	-10/170				
GC-54N	Valid	TJ10A00033	10	-10/170				
PHE-51P	Valid	TJ10A00033	16	-10/170				
GC-51P	Valid	TJ10A00033	16	-10/170				
GC-54P	Valid	TJ10A00033	16	-10/170				
PHE-64P	Valid	TJ10A00033	16	-10/170				
PHE-091P	Valid	TJ10A00033	16	-10/170				
PHE-60P OLD	Valid	TJ10A00033	16	-10/170				
GC-60P OLD	Valid	TJ10A00033	16	-10/170				
PHE-100P OLD	Valid	TJ10A00033	16	-10/170				
PHE-140P OLD	Valid	TJ10A00033	16	-10/170				
PHE-085N OLD	Valid	TJ10A00033	10	-10/170				
GL-085N OLD	Valid	TJ10A00033	10	-10/170				
PHE-085P OLD	Valid	TJ10A00033	16	-10/170				
GL-085P OLD	Valid	TJ10A00033	16	-10/170				
PHE-145N OLD	Valid	TJ10A00033	10	-10/170				
GL-145N OLD	Valid	TJ10A00033	10	-10/170				
PHE-145P OLD	Valid	TJ10A00033	16	-10/170				
GL-145P OLD	Valid	TJ10A00033	16	-10/170				
PHE-205N OLD	Valid	TJ10A00033	10	-10/170				
GL-205N OLD	Valid	TJ10A00033	10	-10/170				
GL-230T	Valid	TJ10A00033	6	-10/170				
GL-230N	Valid	TJ10A00033	10	-10/170				
<b>Test Pressure =</b>	<i>x 1,5 working pressure</i>				<i>x 1,5 working pressure</i>			
<b>Special requirements =</b>	Application of fluids of group 1 (explosive etc.) is a subject to special consideration by the RMRS in each separate case and have mtrl produced with recognition certificate by RMRS							