



## 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.

<b>Manufacturer</b>	<b>MANULI RYCO Hydraulics Sdn. Bhd.</b>
<b>Address</b>	Plot 207, Kuala Ketil Industrial Estate, Kuala Ketil, Kedah, 09300, Malaysia
<b>Place of Production</b>	MANULI RYCO Hydraulics Sdn. Bhd. Plot 207, Kuala Ketil Industrial Estate, Kuala Ketil, Kedah, 09300, Malaysia
<b>Place of Production</b>	Manuli Ryco Hydraulics (Dalian) Co., Ltd. 38 Ying Ri Road, Ying Cheng Zi Industrial Zone, Gan Jing Zi District, Dalian, Liaoning, 116036, China
<b>Place of Production</b>	Manuli Hydraulics (Suzhou) Co., Ltd. No. 85, Xinglin Street, Suzhou Industrial Park, Suzhou, Jiangsu, 215021, China
<b>Type</b>	Flexible Pipe Couplings And Hoses
<b>Description</b>	Flexible Hoses of Non-Metallic Material with Permanently Fitted Couplings Designations: C6000, H3000, H4000, H5000, H6000, T3000, T3600, T4000, T5000, T6000
<b>Trade Name</b>	Isobaric Hose
<b>Application</b>	For use on ships and offshore installations classed with Lloyd's Register, as short lengths in systems of hydraulic oil.

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**Specified Standard** Part 5, Chapter 12 of Lloyd's Register's Rules and Regulations for the Classification of Ships (July, 2013)  
Part 5, Chapter 10 of Lloyd's Register's Rules and Regulations for the Classification of Mobile Offshore Units (September 1996 plus Notices Nos. 1, 2, 3, 4, 5 & 6 as applicable)  
Fire Resistant Testing according to ISO 15540/15541

**Ratings** Sizes: DN 6 to DN 51  
Maximum Working Pressure: 215 to 420 bar (refer to appendix)  
Service Temperature: -40°C to +121°C (refer to appendix)  
Coupling Material: Carbon Steel AISI / Stainless Steel (Option)  
Electroplated Fe/Zn 12c acc. to AS1789

**Other Conditions** Where synthetic rubber hoses are used for oil fuel supply to burners, the hoses are to have external wire braid protection in addition to the integral wire braid. Carbon steel couplings are to be normalized for temperatures below -10°C. In all cases the hoses are to be installed in accordance with the manufacturer's instructions and tested to the satisfaction of the attending surveyor.

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 Singapore Pte Ltd of any modification or changes to the equipment in order to obtain a valid Certificate.

The Design Appraisal Document SEATASS236 and its supplementary Type Approval Terms and Conditions form part of this Certificate.



## Appendix

### RATINGS

C6000	DN (mm)	Max. Pressure (bar)
C6012D/S	19	420
C6016D/S	25	420
Temperature Range: -40°C to +121°C		

H3000	DN (mm)	Max. Pressure (bar)
H3020D/S	31	215
H3024D/S	38	215
H3032D/S	51	215
Temperature Range: -40°C to +121°C		

H4000	DN (mm)	Max. Pressure (bar)
H4006D/S/C	10	280
H4008D/S/C	12	280
H4010D/S/C	16	280
H4012D/S/C	19	280
H4016D/S/C	25	280
H4020D/S/C	31	280
H4024D/S/C	38	280
H4032D/S/C	51	280
Temperature Range: -40°C to +121°C		

H5000	DN (mm)	Max. Pressure (bar)
H5006D/S/C	10	350
H5008D/S/C	12	350
H5010D/S/C	16	350
H5012D/S/C	19	350
H5016D/S/C	25	350
H5020D/S/C	31	350
H5024D/S/C	38	350
H5032D/S/C	51	350
Temperature Range: -40°C to +121°C		



H6000	DN (mm)	Max. Pressure (bar)
H6006D/S/C	10	420
H6008D/S/C	12	420
H6010D/S/C	16	420
H6012D/S/C	19	420
H6016D/S/C	25	420
H6020D/S/C	31	420
H6024D/S/C	38	420
H6032D/S/C	51	420
Temperature Range: -40°C to +121°C		

T3000	DN (mm)	Max. Pressure (bar)
T3004D/S/C	6	245
T3005D/S/C	8	245
T3006D/S/C	10	215
T3008D/S/C	12	215
T3010D/S/C	16	215
T3012D/S/C	19	215
T3016D/S/C	25	215
Temperature Range: -40°C to +100°C		

T3600	DN (mm)	Max. Pressure (bar)
T3604D/S/C	6	250
T3605D/S/C	8	250
T3606D/S/C	10	250
T3608D/S/C	12	250
T3610D/S/C	16	250
T3612D/S/C	19	250
T3616D/S/C	25	250
Temperature Range: -40°C to +100°C		

T4000	DN (mm)	Max. Pressure (bar)
T4004D/S/C	6	280
T4005D/S/C	8	280
T4006D/S/C	10	280
T4008D/S/C	12	280
T4010D/S/C	16	280
T4012D/S/C	19	280
T4016D/S/C	25	280
Temperature Range: -40°C to +100°C		

T5000	DN (mm)	Max. Pressure (bar)
T5004D/S/C	6	350
T5005D/S/C	8	350
T5006D/S/C	10	350
T5008D/S/C	12	350
Temperature Range: -40°C to +100°C		

T6000	DN (mm)	Max. Pressure (bar)
T6004D/S/C	6	420
T6005D/S/C	8	420
T6006D/S/C	10	420
Temperature Range: -40°C to +100°C		



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