

# EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate No:  
**MEDB00000RA**  
Revision No:  
**1**

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED), issued as "Forskrift om Skipsutstyr" by the Norwegian Maritime Authority. This Certificate is issued by DNV AS under the authority of the Government of Norway.

## This is to certify:

**That the Materials other than steel for pipes conveying oil or fuel oil: flexible pipe assemblies and compensators**

with type designation(s)

**Flexible hose assemblies of non-metallic material: T1, T2, T3K, RQP1, RQP2, RQP5, T5, T3000, T3600, T4000, T5000, T6000, SR/SRF/SRX, D2B, BT1, DF1E, DF2E, DF1D, DF2D, DK1D, DK2D, TXA2D**

Issued to

**RYCO Hydraulics Pty. Ltd.**  
**Derrimut, VIC, Australia**

is found to comply with the requirements in the following Regulations/Standards:

Regulation **(EU) 2020/1170**,

**item No. MED/3.15c. SOLAS 74 as amended, Regulation II-2/4 & X/3 and 2000 HSC Code 7 & 10 and IMO MSC/Circ.1120**

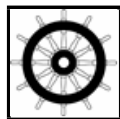
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2023-12-31**.

Issued at **Høvik** on **2021-04-07**

DNV local station:  
**Australia FIS/CMC**

Approval Engineer:  
**Sinisa Sedlan**



Notified Body  
No.: **0575**

for **DNV AS**

.....  
**Roald Vårheim**  
**Head of Notified Body**



The mark of conformity may only be affixed to the above type approved equipment and a Manufacturer's Declaration of Conformity issued when the production-surveillance module (D, E or F) of Annex B of the MED is fully complied with and controlled by a written inspection agreement with a Notified Body. The product liability rests with the manufacturer or his representative in accordance with Directive 2014/90/EU.

This certificate is valid for equipment, which is conform to the approved type. The manufacturer shall inform DNV AS of any changes to the approved equipment. This certificate remains valid unless suspended, withdrawn, recalled or cancelled.

Should the specified regulations or standards be amended during the validity of this certificate, the product is to be re-approved before being placed on board a vessel to which the amended regulations or standards apply.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



## Product description

22 types of hose assemblies :

- 1) T1A/S/D : (Previously named as T1E)  
Oil resistance synthetic rubber tube. One braid of high tensile steel wire reinforcement. Oil and abrasion resistant synthetic rubber cover.  
With T2000 type of couplings
- 2) T1F:  
Oil resistance synthetic rubber tube. One braid of high tensile steel wire reinforcement. Heat, abrasion and oil on resistant synthetic rubber cover.  
With T2000 type of couplings
- 3) T2A/C/D/E/S  
Oil resistance synthetic rubber tube. Two braids of high tensile steel wire reinforcement.  
Type A: Oil and abrasion resistant synthetic rubber cover.  
Type S: Synthetic rubber cover sheathed with a layer of extremely abrasion resistant polyethylene  
Type C: Cold resistant synthetic rubber cover  
With T2000 type of couplings
- 4) T3K A/S/D:  
Oil resistance synthetic rubber tube. One or two braids of high tensile steel wire reinforcement.  
Type A: Oil and abrasion resistant synthetic cover.  
Type D: Oil and extra abrasion resistant synthetic cover.  
Type S: Synthetic rubber cover sheathed with a layer of extremely abrasion resistant  
With T2000 type of couplings
- 5) RQP1:  
Synthetic rubber tube, compounded for temperature resistance and multi fluid resistance. One braid of high tensile steel wire reinforcement. Oil resistance and abrasion resistance synthetic cover rubber  
With T2000 type of couplings
- 6) RQP2:  
Synthetic rubber tube. Two braids of high tensile steel wire reinforcement. Oil and abrasion resistant synthetic rubber cover.  
With T2000 type of couplings (up to size -20) and With T7000 type of couplings (for sizes -24 & -32)
- 7) RQP5/T5:  
Oil resistance synthetic rubber tube. Polyester inner braid covered with one braid of high tensile steel wire reinforcement. Oil and abrasion resistant synthetic rubber cover.  
With flame protection type FS1072  
With V0900 type of couplings
- 8) T3000 A/D/S:  
Oil resistant synthetic rubber tube. One or two braids of high tensile steel wire reinforcement.  
Type A: Oil and abrasion resistant synthetic cover.  
Type D: Oil and extra abrasion resistant synthetic cover.  
Type S: Synthetic rubber cover sheathed with a layer of extremely abrasion resistant polyethylene cover  
With T2000 type of couplings
- 9) T3600A/D/S  
Inner tube of black synthetic rubber reinforced by 1 (sizes -04 and -06) or 2 (sizes -08 to -16) layers of wire braid. Cover of black synthetic rubber.  
with Bitelok non-skive, one-piece series T1000 couplings
- 10) T4000 A/D/S:  
Oil resistant synthetic rubber tube. One or two braids of high tensile steel wire reinforcement.  
Type A: Oil and abrasion resistant synthetic cover.  
Type D: Oil and extra abrasion resistant synthetic cover.  
Type S: Synthetic rubber cover sheathed with a layer of extremely abrasion resistant polyethylene cover  
With T2000 type of couplings
- 11) T5000 A/D/S:  
Oil resistant synthetic rubber tube. Two braids of high tensile steel wire reinforcement.  
Type A: Oil and abrasion resistant synthetic cover.  
Type D: Oil and extra abrasion resistant synthetic cover.  
Type S: Synthetic rubber cover sheathed with a layer of extremely abrasion resistant polyethylene cover  
With T2000 type of couplings
- 12) T6000 A/D/S:  
Oil resistant synthetic rubber tube. Two braids of high tensile steel wire reinforcement.  
Type A: Oil and abrasion resistant synthetic cover.  
Type D: Oil and extra abrasion resistant synthetic cover.  
Type S: Synthetic rubber cover sheathed with a layer of extremely abrasion resistant polyethylene cover  
With T2000 type of couplings
- 13) SR/SRF/SRX:

- Oil resistance synthetic rubber tube. Textile reinforcement with spiral wire to prevent collapsing. Oil and abrasion resistant synthetic cover.  
 With T4000 type of couplings
- 14) D2B:  
 Oil resistance synthetic rubber tube. Two braids of high tensile steel wire reinforcement. Oil and abrasion resistant synthetic rubber cover.  
 With T7000 type of coupling
- 15) BT1:  
 Oil resistance synthetic rubber tube. One braid of high tensile steel wire reinforcement.  
 With T2000 type of couplings
- 16) DF1A (DF1E)  
 Oil resistance synthetic rubber tube. One braid of high tensile steel wire reinforcement. Abrasion and oil on resistant synthetic rubber cover.  
 With T2000 type of couplings
- 17) DF2A (DF2E)  
 Oil resistance synthetic rubber tube. Two braids of high tensile steel wire reinforcement. Oil and abrasion resistant synthetic rubber cover.  
 With T2000 type of couplings
- 18) DF1D  
 Oil resistance synthetic rubber tube. One braid of high tensile steel wire reinforcement. Oil and abrasion resistant synthetic rubber cover.  
 With T2000 type of couplings
- 19) DF2D  
 Oil resistance synthetic rubber tube. Two braids of high tensile steel wire reinforcement. Oil and abrasion resistant synthetic rubber cover.  
 With T2000 type of couplings
- 20) DK1D  
 Oil resistance synthetic rubber tube. One braid of high tensile steel wire reinforcement. Oil and abrasion resistant synthetic rubber cover.  
 With T2000 type of couplings
- 21) DK2D  
 Oil resistance synthetic rubber tube. Two braids of high tensile steel wire reinforcement. Oil and abrasion resistant synthetic rubber cover.  
 With T2000 type of couplings
- 22) TXA2D  
 Oil resistance synthetic rubber tube. Two braids of high tensile steel wire reinforcement. Oil and abrasion resistant synthetic rubber cover.  
 With T2000 type of couplings

### Application/Limitation

Hose assemblies covered by this certificate are tested according to:

- 1) NS-EN ISO 15540: Fire resistance of hose assemblies - Test methods
- 2) NS-EN ISO 15541: Fire resistance of hose assemblies - Requirements for the test bench

Size			Maximum working pressures (bar)							
In	DN	DASH	T1	T2	T3K	RQP1	RQP2	RQP5/T5	T3000	T4000
1/4"	6	-04	225	420	210	225	400	207	245	280
5/16"	8	-05	215	350	210	215	350	207	245	280
3/8"	10	-06	180	350	210	180	350	155	215	280
1/2"	12	-08	160	350	210	160	300	138	215	280
5/8"	16	-10	130	250	210	130	250	121	215	280
3/4"	19	-12	105	215	210	120	215	103	215	280
1"	25	-16	90	175	-	90	167	55	-	280
1 1/4"	31	-20	65	140	-	-	150	43	-	-
1 1/2"	38	-24	50	100	-	-	100	35	-	-
2"	51	-32	40	90	-	-	90	-	-	-

Size			Maximum working pressures (bar)							
In	DN	DASH	T5000	T6000	SR	SRF	SRX	D2B	BT1	T3600
1/4"	6	-04	-	-	-	-	-	-	50	-
5/16"	8	-05	-	-	-	-	-	-	50	-
3/8"	10	-06	350	420	-	-	-	-	50	-
1/2"	12	-08	350	420	-	-	-	-	50	-
5/8"	16	-10	-	-	-	-	-	-	50	-

3/4"	<b>19</b>	<b>-12</b>	-	-	21	21	21	-	50	250
<b>1"</b>	<b>25</b>	<b>-16</b>	-	-	17	17	17	-	50	-
<b>1 1/4"</b>	<b>31</b>	<b>-20</b>	-	-	-	14	14	-	-	-
<b>1 1/2"</b>	<b>38</b>	<b>-24</b>	-	-	-	10	10	100	-	-
<b>2"</b>	<b>51</b>	<b>-32</b>	-	-	-	7	7	-	-	-

Size			Maximum working pressures (bar)						
In	DN	DASH	DF1A	DF2A	DF1D	DF2D	DK1D	DK2D	TXA2D
1/4"	<b>6</b>	<b>-04</b>	225	420	225	420	295	450	-
<b>5/16"</b>	<b>8</b>	<b>-05</b>	215	350	215	350	250	420	-
<b>3/8"</b>	<b>10</b>	<b>-06</b>	180	350	180	350	230	385	-
1/2"	<b>12</b>	<b>-08</b>	160	295	160	295	200	345	375
<b>5/8"</b>	<b>16</b>	<b>-10</b>	130	250	130	250	150	290	345
3/4"	<b>19</b>	<b>-12</b>	105	215	105	215	125	280	313
<b>1"</b>	<b>25</b>	<b>-16</b>	88	-	88	170	110	200	225
<b>1 1/4"</b>	<b>31</b>	<b>-20</b>	-	-	-	-	100	175	-

### Type Examination documentation

#### Tests carried out

Fire testing according to ISO 15540 and ISO 15541.

#### Marking of product

For traceability to this Type Approval, each hose is marked with:

- Manufacturer's name/trade mark
- Type designation
- Nominal size
- Working pressure