



EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate No:
MEDB00007RX

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)
Infinity

Issued to

Manuli Hydraulics (Suzhou) Co., Ltd.
Suzhou,, Jiangsu,, China

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

Regulation (EU) 2022/1157,

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 **2028-09-17**.

Issued at **Høvik** on **2023-09-18**

DNV local unit:
Shanghai

Approval Engineer:
Andreas Hansen



Notified Body
No.: **0575**

for **DNV AS**

Sverre Olav Bergli
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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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.



Form code: MED 201.NOR

Revision: 2022-12

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Page 1 of 2

Product description

Non-metallic hose assembly with permanently fitted couplings tested according to:

- 1) ISO 15540:2016 – Fire resistance of non-metallic hose assemblies and non-metallic compensators – Test methods
- 2) ISO 15541:2016 – Fire resistance of non-metallic hose assemblies and non-metallic compensators – Requirements for the test bench

Materials

Tube	:	Oil resistant synthetic rubber
Reinforcement	:	Two high tensile steel braids
Cover	:	Abrasion, and weather resistant synthetic rubber
Coupling	:	Carbon steel 11SMn30/37 – EN 10277-3
	:	Stainless steel 1.4401/1.4404 – EN 10088-3, AISI 316, AISI 316L

Hose manufacturer and assembling location

Manuli Hydraulics (Suzhou) Co., Ltd.
Nr. 85 Xinglin Street, Industrial Park Suzhou
Jiangsu Province, China

Coupling manufacturer

Manuli Hydraulics Polska S.A.
Brzezinska 50
41-404 Myslowice, Poland

Application/Limitation

The hose assembly covered by this certificate is suitable for use with hydraulic fluids, mineral oils, water and water based fluids.

Nominal size, ID			Infinity	
SAE	Inch	DN	Max. working pressure (bar)	Hose end fitting
-4	1/4	6	450	MF+M00120-04
-5	5/16	8	400	MF+M00120-05
-6	3/8	10	400	MF+M00120-06
-8	1/2	12	360	MF+M00120-08
-10	5/8	16	320	MF+M00120-10
-12	3/4	19	320	MF+M00120-12
-16	1	25	225	MF+M00130-16

Type Examination documentation

Tests carried out

Fire tests carried out according to ISO 15540/15541.

Marking of product

As a minimum, the final products are to be marked with at least the following particulars:

- Manufacturer's name or trademark
- Specification or hose name
- Hose size and type designation
- Date of manufacture
- Mark of conformity according to Article 10 of the Council Directive 2014/90/EU

Mark of Conformity may only be affixed to the product when the corresponding certification related to production-control phase module (D,E, or F) is valid.