



Certificate number: 83292/A0 BV

File number: .

Product code: 2104I

This certificate is not valid when presented without the full attached schedule composed of 7 sections. Full certificate is to be requested to the manufacturer

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TYPE APPROVAL CERTIFICATE

This certificate is issued to

Manuli Hydraulics Manufacturing Sp. z o.o.
Myslowice - POLAND

for the type of product

NON-METALLIC HOSES (FLEXIBLE PIPES) ASSEMBLIES
NON-METALLIC HOSES ASSEMBLIES - INFINITY

Requirements:

Bureau Veritas Rules for the Classification of Steel Ships

This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate will expire on: 20 Jul 2031

For Bureau Veritas Marine & Offshore,

At BV KATOWICE, on 20 Jul 2026,

Wojciech Lubojanski

This certificate was created electronically and is valid without signature



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with Bureau Veritas Marine & Offshore. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of Bureau Veritas Marine & Offshore available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against Bureau Veritas Marine & Offshore for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

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BV Mod. Ad.E 530 June 2017

This certificate consists of 4 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION

NON-METALLIC HOSES ASSEMBLIES - INFINITY

1.1 - Ratings

DN (mm)	6	8	10	12	16	19	25
Design Pressure (bar)	450	400	400	360	320	320	225

Temperature range (°C): -40°C to +121°C

Design standards: EN857 2SC, SAE J517 100R16 and ISO 11237 2SC

The design pressure in relation to temperature must be in conformity with manufacturer's specifications.

1.2 - Materials

Part	Material
Tube	Synthetic rubber
Reinforcement	Two wire braids of high tensile wire
Cover	Synthetic rubber
Fittings	carbon steels: 11SMnPb37 / 11SMnPb30 (EN 10277-3) and 11SMn37 / 11SMn30 (EN 10277-3) Stainless steel: X2CrNiMo17-12-2 (EN 10088-3 No.1.4404, AISI 316L) / X5CrNiMo17-12-2 (EN 10088-3 No.1.4401, AISI 316)

When other choices of materials are used per manufacturer's recommendations, the BV agreement is to be obtained.

2. DOCUMENTS AND DRAWINGS

- Data sheet dated 18/02/2022
- Test plan Rev.02 dated 23/06/2026
- Fittings datasheets dated 11/08/2020
- Fittings materials Rev.0 dated 23/06/2026

No departure from the above documents shall be made without the prior consent of the Society. The manufacturer must inform the Society of any modification or changes to these documents and drawings.

3. TEST REPORTS

3.1 - Type tests including burst test at 4 times the design pressure, visual inspection & dimensional check and change in length test.

- Test report N° 032-2026/HMR dated 27/01/2026 for DN6
- Test report N° 033-2026/HMR dated 14/01/2026 for DN12
- Test report N° 034-2026/HMR dated 26/01/2026 for DN25
- Test report N° 032-2026/HT dated 12/02/2026 for DN6
- Test report N° 033-2026/HT dated 12/02/2026 for DN12
- Test report N° 034-2026/HT dated 12/02/2026 for DN25

3.2 - Cover adhesion test reports N° 6801, N° 6800 and N° 6802 dated 12/02/2026

3.3 - Fire resistance test reports:

- N° 124.0IS0110/23 dated 08/03/2023 for DN6
- N° 480.0IS0110/22 dated 05/09/2022 for DN12
- N° 805.0IS0110/22 dated 20/05/2022 for DN25

3.4 - Impulse test report N° LL/026/2026/A dated 13/03/2026

3.5 - Cold flexibility test report N° LL/026/2026/A dated 13/03/2026

3.6 - Ozone resistance test report N° 9484 dated 13/03/2026

3.7 - Fluid resistance test report N° 9484 dated 13/03/2026

3.8 - Vibration test not performed.

3.9 - Vacuum test not performed.

4. APPLICATION / LIMITATION

4.1 - May be used on the following services on board:

- Fuel oil, lubricating oil, hydraulic oil, thermal oil, fresh water, sea water, bilge, ballast water.

4.2 - End fittings as per manufacturer's catalogue. The hoses are to be entirely assembled in the manufacturer's workshop.

4.3 - The hoses assemblies are to be installed according to manufacturer's instructions and Bureau Veritas Rules.

4.4 - Flexible hoses assemblies for essential services or containing either flammable or toxic media are not to exceed 1.5 meters in length.

4.5 - Not to be used as Cargo transfer hose.

4.6 - Not to be used in high pressure fuel oil injection systems in accordance with the relevant requirements stated in *NR 467, Pt C, Ch 1, Sec 10 [2.6.3]*.

4.7 - The use of metallic material is restricted according to Bureau Veritas Rules *NR 467, Pt C, Ch 1, Sec 10, Table 5*.

4.8 - Tapered threaded end fittings are not to be used in engine rooms, nor in any place containing an ignition source unless otherwise suitably screened at the Society's Surveyor satisfaction.

4.9 - Not to be used in case of high level of vibrations where fitted to engines, pumps, compressors and other sources of high vibrations.

4.10 - Not to be used as suction hose.

5. PRODUCTION SURVEY REQUIREMENTS

5.1 - The products are to be supplied by **Manuli Hydraulics Manufacturing Sp. z o.o.** in compliance with the type and the requirements described in this certificate.

5.2 - This type of product certificate is within the category IBV of Bureau Veritas Rule Note *NR 320*.

5.3 - Bureau Veritas product certificate is required.

5.4 - Each flexible hose together with its connections is to undergo a hydrostatic test under a pressure at least equal to 1.5 times the maximum service pressure and provided with the manufacturer's pressure test report and conformity of production.

5.5 - For information, **Manuli Hydraulics Manufacturing Sp. z o.o.** has declared to Bureau Veritas the following production sites:

Production site	Address
Manuli Hydraulics Manufacturing Sp. z o.o.	Przedsiębiorcow 5 97-500 Radomsko POLAND
Manuli Hydraulics (Suzhou) Co.,Ltd	No.85 Xinglin Street, Suzhou Industrial Park, Suzhou, Jiangsu Province, CHINA
Manuli Ryco Hydraulics Sdn. Bhd.	PLOT 207 KUALA KETIL INDUSTRIAL ESTATE KUALA KETIL 09300 KEDAH MALAYSIA
Manuli Hydraulics Polska S.A.	Brzezinska 50 41-404 Myslowice POLAND
Manuli Hydraulics Connectors India PVT Ltd	A 111-112, 3rd Main, 2nd Stage, Peenya Industrial Estate, Bengaluru, Bengaluru (Bengalore) Urban 560058 Karnataka INDIA
FLUICONNECTO SAS	7 CHEMIN DES FONTENELLES 44140 LE BIGNON FRANCE

6. MARKING OF PRODUCT

Each flexible hose assembly shall be permanently marked with at least:

- Manufacturer name or logo
- Date of manufacture (month/year)
- Type designation
- Nominal Diameter
- Pressure rating
- Temperature rating
- Bureau Veritas' Mark

7. OTHERS

It is **Manuli Hydraulics Manufacturing Sp. z o.o.**'s responsibility to inform shipbuilders or their sub-contractors of the proper methods of fitting, use and general maintenance of the approved equipment and the conditions of this approval.

*** END OF CERTIFICATE ***