



Marine & Offshore

Certificate number: 13290/D0 BV

File number: ACM 135/1939/004

Product code: 2104I

This certificate is not valid when presented without the full attached schedule composed of 7 sections

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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
ROCKMASTER/12 Hose

Requirements:

- BUREAU VERITAS Rules for the Classification of Steel Ships
- BUREAU VERITAS Rules for the Classification of Offshore Units

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: 12 Jul 2024

For Bureau Veritas Marine & Offshore,

At BV KATOWICE, on 12 Jul 2019,

Wojciech Lubojanski



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 3 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION

ROCKMASTER/12 Hose

1.1 Hose type ROCKMASTER/12 according to Exceed EN 856 R12 - SAE 100 R12 - ISO 3862 R12

DN	10	12	16	19	25	31	38	51
Size (inch)	3/8"	1/2"	5/8"	3/4"	1"	1-1/4"	1-1/2"	2"
Maximum working pressure (bar)	280	280	280	280	280	210	175	175

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

The maximum working pressure is not to exceed one quarter of the burst pressure at the service temperature.

1.2 Material specification

Tube	Oil resistant synthetic rubber. NBR base compound
Reinforcement	Four high tensile steel spirals
Cover	Synthetic rubber with high ozone, weather and heat resistance. CR base compound
Fittings	Carbon steel / Stainless steel

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

2. DOCUMENTS AND DRAWINGS

- Brochure ROCKMASTER/12 ver. 0001.

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 Tests carried out: Dimension check, burst test, pressure test, impulse test, oil resistance test, ozone resistance test, cold flexibility test and fire resistance test.

3.2 Tests reports N° 1279/2000 to 1288/2000 dated 28/09/2000 & N° 3604/223/1999 dated 03/02/2001.

3.3 Test reports N° 088-2017/HT, 089-2017/HT, 090-2017/HT & 091-2017/HT dated 16/05/2017 witnessed by a BV Surveyor.

3.4 Fire resistance test N° 20168171 dated 18/10/2016.

4. APPLICATION / LIMITATION

4.1 May be used on the following services: Sea water and fresh water, lubricating and hydraulic oil, water spraying fire system

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

4.3 The installation of hose assemblies is to be in accordance with the manufacturer's instructions and the Society's Rules requirements to take into consideration forces due to vibration. The hoses are not to be used on services when vibration test is required in Bureau Veritas Rules.

4.4 The hoses are to be limited to a length necessary to provide for relative movement between fixed and flexibly mounted items of machine/equipment or systems and are only to be used in lengths up to 2 m. The hoses are to be installed in clearly visible and readily accessible locations at all times.

4.5 Taper threaded end connections are not to be used for oil circuits in engine rooms nor any place containing an ignition source unless otherwise suitably screened at the Society's Surveyor satisfaction.

5. PRODUCTION SURVEY REQUIREMENTS

5.1 The products are to be supplied by **MANULI HYDRAULICS MANUFACTURINGS Sp. z o.o's** in compliance with the type and the requirements described in this certificate.

5.2 This type of product is within the category IBV of Bureau Veritas Rule Note NR320.

5.3 BV product certificate is required.

5.4 This certificate is also valid for other companies authorised by MANULI when same specifications, tolerances, equipment and quality control procedures are used. In such case, the BV agreement is to be obtained.

5.5 Each hose with end fittings is to be hydraulically pressure tested to twice the maximum working pressure and provided with the manufacturer's pressure test report and conformity of production.

For information, **MANULI HYDRAULICS MANUFACTURINGS Sp. z o.o** has declared to Bureau Veritas the following production sites:

- Hoses : **MANULI HYDRAULICS MANUFACTURINGS Sp. z o.o: Przedsiębiorcow 5, 97-500 Radomsko, Poland (DN 19, 25, 31, 38, 51).**
- Hoses : **MANULI HYDRAULICS SUZHOU Co., Ltd - China (DN 10 to 51).**
- Fittings : **Manuli Hydraulics Polska S.A., ul. Brzezinska 50, 41-404 Myslowice, Poland.**

6. MARKING OF PRODUCT

Each hose shall be marked with at least:

- Manufacturer name or logo
- Type designation
- Date of manufacture
- Nominal diameter
- Pressure rating
- Temperature rating
- Society's brand as relevant

7. OTHERS

It is **MANULI HYDRAULICS MANUFACTURINGS 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.

This certificate supersedes the Type Approval Certificate N°13290/CI BV issued by the Society.

*** END OF CERTIFICATE ***



Marine & Offshore

Certificate number: SMS.W.II./62261/02/B.0

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RECOGNITION FOR BV MODE II SCHEME

Manuli Hydraulics (Suzhou) Co., Ltd.
Suzhou, Jiangsu Province - CHINA

Summary of the range of the recognition which is detailed in the subsequent page(s):

HOSE / PIPE (NON-METALLIC) - G0485
Non-Metallic Hoses (Flexible Pipes) and Assemblies

This certificate is issued to attest that Bureau Veritas Marine & Offshore has performed, at the above company's request and in compliance with the requirements of NR320, a satisfactory assessment of the manufacturing facilities and associated quality procedures related to the range of the recognition.

This certificate will expire on: 21 Mar 2024

For BUREAU VERITAS,
At BV SHANGHAI, on 22 May 2020,
George Qiao



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The electronic version is available at: <http://www.veristarm.com/veristarnb/jsp/viewPublicPdfRecognition.jsp?id=ydjemclpx>

THE SCHEDULE OF RECOGNITION

1. RANGE OF THE RECOGNITION

The products listed in the table below are to be certified individually or per batch by Bureau Veritas Marine & Offshore in compliance with the applicable requirements (IBV products as defined in NR320).

App. number	Validity date	Item designation	Trade name
12945/D0 BV	02 Aug 2024	NON-METALLIC HOSES (FLEXIBLE PIPES) ASSEMBLIES - 2104I	EQUATOR/1 (Blue) and EQUATOR/2 (Blue) Hoses
13290/D0 BV	12 Jul 2024	NON-METALLIC HOSES (FLEXIBLE PIPES) ASSEMBLIES - 2104I	ROCKMASTER/12 Hose
13361/D0 BV	02 Aug 2024	NON-METALLIC HOSES (FLEXIBLE PIPES) ASSEMBLIES - 2104I	ROCKMASTER/15 Hose
13389/D0 BV	02 Aug 2024	NON-METALLIC HOSES (FLEXIBLE PIPES) ASSEMBLIES - 2104I	ROCKMASTER/13 Hose
19357/C3 BV	30 May 2022	NON-METALLIC HOSES (FLEXIBLE PIPES) ASSEMBLIES - 2104I	TRACTOR/1SN & TRACTOR/2SN ROCKMASTER/1SN, ROCKMASTER/2SN, ROCKMASTER/2ST & ROCKMASTER/2PLUS
22091/B2 BV	16 Sep 2020	NON-METALLIC HOSES (FLEXIBLE PIPES) ASSEMBLIES - 2104I	ROCKMASTER wire spiralled reinforced hoses type 4SP and 4SH
27640/B0 BV	14 Jul 2022	NON-METALLIC HOSES (FLEXIBLE PIPES) ASSEMBLIES - 2104I	ROCKMASTER/2SC
52166/A0 BV	19 Apr 2023	NON-METALLIC HOSES (FLEXIBLE PIPES) ASSEMBLIES - 2104I	GOLDENISO/21 XTRAFLEX, GOLDENISO/28 XTRAFLEX, GOLDENISO/35 XTRAFLEX & GOLDENISO/42 XTRAFLEX

The products corresponding to the categories listed in the table below are to be certified individually or per batch by Bureau Veritas Marine & Offshore in compliance with the applicable requirements (IBV products as defined in NR320).

Generic product	Description
HOSE / PIPE (NON-METALLIC)	Non-Metallic Hoses (Flexible Pipes) and Assemblies

2. LIMITATIONS

The certificates listed in the range of recognition are to be valid, as applicable.

Bureau Veritas Marine & Offshore is to be informed immediately of any modification to manufacturing facilities and associated quality procedures in order to agree on appropriate actions.

Manuli Hydraulics (Suzhou) Co., Ltd. has to apply for the periodical audits as agreed with Bureau Veritas Marine & Offshore.

3. PERIMETER OF CERTIFICATION

Quality system of following site(s) has been assessed:

Manuli Hydraulics (Suzhou) Co., Ltd. - Suzhou, Jiangsu Province - CHINA

4. REMARKS

1. Production site: No.85 Xinglin Street, Suzhou Industrial Park, Suzhou, JiangSu, P. R. China.
2. Annual audit should be implemented every year before March 21st.

***** END OF CERTIFICATE *****