



Marine & Offshore

Certificate number: 57906/B0 BV

File number: ACM 135/2751/02

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

I.M.M. HYDRAULICS S.p.A.

ATESSA-CH - ITALY

for the type of product

NON-METALLIC HOSES (FLEXIBLE PIPES) ASSEMBLIES

Non-metallic Flexible Hoses INTERPUMP HyGreen 4SH, R13 & R15, Hypress 2SC & R17, HIPAC 2SC/ONGLIFE 2SC & MARATHON.

Requirements:

- Bureau Veritas Rules for the Classification of Steel Ships
- Bureau Veritas Rules for the Classification of Offshore Units
- Bureau Veritas Rules for the Classification of Naval Ships
- Bureau Veritas Rules for the Classification of Yachts

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: 01 Jul 2029

For Bureau Veritas Marine & Offshore,

At BV NAPOLI, on 01 Jul 2024,
Alessandro Asbornio

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.

The electronic version is available at: <http://www.veristarm.com/veristarnb/jsp/viewPublicPdfTypepec.jsp?id=okj5jlxipt>

BV Mod. Ad.E 530 June 2017

This certificate consists of 4 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION

Non-metallic Flexible Hoses INTERPUMP HyGreen 4SH, R13 & R15, Hypress 2SC & R17, HIPAC 2SC/ONGLIFE 2SC & MARATHON.

1.1 Ratings

Hose type INTERPUMP HyGreen 4SH

Diameter (mm)	19	25.4	31.8	38.1	50.8
Maximum working pressure (bar)	420	385	350	300	250

Temperature range -40°C to +100°C (up to 120°C), depending on the fluid

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

Hose type INTERPUMP HyGreen R13

Diameter (mm)	19	25.4	31.8	38.1	50.8
Maximum working pressure (bar)	350	350	350	350	350

Temperature range -40°C to +121°C (up to 125°C), depending on the fluid

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

Hose type INTERPUMP HyGreen R15

Diameter (mm)	16	19	25.4	31.8	38.1	50.8
Maximum working pressure (bar)	420	420	420	420	420	420

Temperature range -40°C to +121°C (up to 125°C), depending on the fluid

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

Hose type INTERPUMP Hypress 2SC

Diameter (mm)	6.4	8.0	9.5	12.7	16.0	19.0	25.4
Maximum working pressure (bar)	400	350	330	275	250	215	165

Temperature range -40°C to +120°C (up to 135°C), depending on the fluid

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

Hose type INTERPUMP Hypress R17

Diameter (mm)	6.4	8.0	9.5	12.7	16.0	19.0	25.4
Maximum working pressure (bar)	210	210	210	210	210	210	210

Temperature range -40°C to +100°C (up to 120°C), depending on the fluid

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

Hose type INTERPUMP HIPAC 2SC / ONGLIFE 2SC

Diameter (mm)	6.4	8.0	9.5	12.7	16.0	19.0	25.4	31.8	38.1	50.8	63.5	76.2
Maximum working pressure (bar)	430	400	350	310	280	240	210	160	150	100	80	65

Temperature range -40°C to +120°C (up to 135°C), depending on the fluid

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

Hose type INTERPUMP MARATHON

Diameter (mm)	6.4	8.0	9.5	12.7	16.0	19.0	25.4
Maximum working pressure (bar)	450	420	385	350	350	280	250

Temperature range -40°C to +120°C (up to 135°C), depending on the fluid

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

1.2 Material specification

Part	Material
Internal hose	Synthetic rubber
Reinforcement	One/two/four/six high tensile steel braids/spirals
Cover	Oil resistant synthetic rubber
Fittings	11SMnPb37 / C4C / C10C / S355J2 AISI 316L

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

2. DOCUMENTS AND DRAWINGS

- Catalogue N°CAT-IFS-H-EN dated 2024.
- HIPAC - LONGLIFE equivalence N°QA007/27 dated 22/02/2021

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 - Hose type INTERPUMP HyGreen 4SH

- Test reports N° 007DNV-18, 008DNV-18, 009DNV-18 dated 05/09/2018
- Test reports N° Q18-4SH19, Q18-4SH31, Q18-4SH51 dated 05/09/2018
- Fire resistance test reports N° 2093.OIS0110/18 to 2101.OIS0110/18 dated 01/10/2018

3.2 - Hose type INTERPUMP HyGreen R13

- Test reports N° 010DNV-18, 011DNV-18, 012DNV-18 dated 05/09/2018
- Test reports N° Q18-R1319, Q18R1331, Q18R1351 dated 05/09/2018
- Fire resistance test reports N° 2103.OIS0110/18, 2104.OIS0110/18 & 2106.OIS0110/18 to 2110.OIS0110/18 dated 10/10/2018

3.3 - Hose type INTERPUMP HyGreen R15

- Test reports N° 015DNV-18, 016DNV-18, 017DNV-18 dated 05/09/2018
- Test reports Q18-R1519, Q18-R1531, Q18-R1551 dated 05/09/2018
- Fire resistance test reports 2111.OIS0110/18 & 2113.OIS0110/18 to 2119.OIS0110/18 dated 10/10/2018

3.4 - Hose type INTERPUMP Hypress 2SC

- Test reports N° 001ABS-18, 002ABS-18 & 003ABS-18 dated 23/03/2018
- Test reports N° Q18-2SC06 & Q18-2SC12 dated 05/09/2018
- Fire resistance test reports 1110.OIS0110/18 to 1118.OIS0110/18 dated 28/06/2018

3.5 - Hose type INTERPUMP Hypress R17

- Test reports N° 007ABS-18, 008ABS-18 & 009ABS-18 dated 23/03/2018
- Test reports N° Q18-R1706, Q18-R1712 & Q18-R1725 dated 05/09/2018
- Fire resistance test reports 1075.OIS0110/18 to 1083.OIS0110/18 dated 21/06/2018 & 12/07/2018

3.6 - Hose type INTERPUMP Longlife 2SC

- Burst test reports dated 31/05/2019 & 28/06/2017
- Test reports N° Q17-2HC08, Q17-2HC16 & Q17-2HC31 dated 28/06/2017
- Fire resistance test reports N° 1394.OIS0110/18 to 1399.OIS0110/18 dated 02/08/2018, 1549.OIS0110/15 dated 15/10/2015, 1655.OIS0110/15 dated 30/10/2015.

3.7 - INTERPUMP MARATHON

- Test report N° 010ABS-18, 011ABS-18 & 012ABS-18 dated 23/03/2018
- Test report N° Q18-2MC06, Q18-2MC12, Q18-2MC19 dated 05/09/2018
- Fire resistance test reports N° 1134.OIS0110/18 to 1142.OIS0110/18 dated 28 & 29/06/2018.

3.8 - Vibration test report Hygreen R13 N°VIB1660638B Rev.0 dated 01/09/2021

3.9 - Vibration test report Hygreen 4SH N°VIB1660638A Rev.0 dated 01/09/2021

3.10 - Vibration test report Marathon 2SC N°VIB1660638D Rev.0 dated 01/09/2021

4. APPLICATION / LIMITATION

- 4.1 - May be used for the following services on board: fuel oil, lubricating oil, hydraulic oil, compressed air, fresh water and sea water.
- 4.2 - The hose assemblies are to be installed according to manufacturer's instructions and Bureau Veritas Rules.
- 4.3 - 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. When the hoses are intended to be used for essential services or containing either flammable or toxic media, they are not to exceed 1.5 m in length. The hoses are to be installed in clearly visible and readily accessible locations at all times.
- 4.4 - 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.
- 4.5 - End fittings as per manufacturer's catalogue. The hoses are to be entirely assembled in the manufacturer's workshop.
- 4.6 - The use of stainless steel is to be restricted as per the requirements of the Bureau Veritas Rules.
- 4.7 - Not to be used in case of high level of vibrations where fitted to engines, pumps, compressors and other sources of high vibrations except for the following models : HYGREEN R13, HYGREEN 4SH and MARATHON 2SC.

5. PRODUCTION SURVEY REQUIREMENTS

- 5.1 - The products are to be supplied by **I.M.M. HYDRAULICS S.p.A.** in compliance with the type and the requirements described in this certificate. This type of product is within the category IBV of Bureau Veritas Rule Note NR320.
- 5.2 - BV product certificate is required.
- 5.3 - Each hose with end fittings is to be hydraulically pressure tested to 1.5 times the maximum working pressure and provided with the manufacturer's pressure test report and conformity of production.
- 5.4 - For information, **I.M.M. HYDRAULICS S.p.A.** has declared to Bureau Veritas the following production site:
- **I.M.M. HYDRAULICS S.p.A.: Via Italia 49-51, 66041 ATESSA (CH), ITALY**
 - **I.M.M. HYDRAULICS S.p.A. - STAB 03: Contrada Giarnera Grande, 71022 Ascoli Satriano (FG), ITALY**
 - **I.M.M. Hydro Est (Catcau): Nr 353, 407180 Catcau, ROMANIA**
 - **I.M.M. Hydro Est (Dej): Str. Henri Coanda nr. 9, 405200 Dej, ROMANIA**

6. MARKING OF PRODUCT

Each flexible hose assembly shall be clearly and indelibly marked with at least:

- Manufacturer name or logo
- Type designation
- Date of manufacture (month/year)
- Nominal Diameter
- Society's brand as relevant
- Pressure rating
- Temperature rating

7. OTHERS

It is **I.M.M. HYDRAULICS S.p.A.**'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° 57906/A2 BV issued by the Society

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