

TYPE APPROVAL CERTIFICATE

Certificate no.:
TAP00001KB
 Revision No:
2

This is to certify:

that the **Flexible Hoses of Non-Metallic Material with Permanently Fitted Couplings**

with type designation(s)

INTERPUMP MARATHON, INTERPUMP HYPRESS R17, INTERPUMP HYPRESS 2SC, INTERPUMP HIPAC 2SC, LONGLIFE 2SC

issued to

I.M.M. Hydraulics S.p.A.
Atessa, CH, Italy

is found to comply with

DNV rules for classification – Ships Pt.4 Ch.6 Piping systems
DNV-OS-D101 – Marine and machinery systems and equipment, Edition July 2021
DNV class programme DNV-CP-0183 – Type approval – Flexible non-metallic hoses

Application:

Product(s) approved by this certificate is/are accepted for installation on vessels classed by DNV.

Type:	Temperature range:	Max. working press.:	Sizes:
INTERPUMP MARATHON	-40°C to +120°C	250 bar to 450 bar	DN6,8,10,12,16,19,25
INTERPUMP HYPRESS R17	-40°C to +100°C	210 bar	DN6,8,10,12,16,19,25
INTERPUMP HYPRESS 2SC	-40°C to +120°C	165 bar to 400 bar	DN6,8,10,12,16,19,25
INTERPUMP HIPAC 2SC	-40°C to +120°C	65 bar to 430 bar	DN6,8,10,12,16,19,25,31,38,51,63,76
LONGLIFE 2SC	-40°C to +120°C	65 bar to 430 bar	DN6,8,10,12,16,19,25,31,38,51,63,76

Issued at **Høvik** on **2024-02-26**

This Certificate is valid until **2029-02-25**.

for **DNV**

DNV local unit: **Italy/Malta CMC**

Approval Engineer: **Per Ola Nymoen**

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

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

Four types of hose assemblies:

Designation	MARATHON	HIPAC 2SC/ LONGLIFE 2SC	HYPRESS 2SC	HYPRESS R17
Code	THE0M2K/THEMM2K/ THE2M2K/ THEYM2K	THE002K/THEM02K/ THEY02K /THE202K	TFEM02K/TFEY02K	TFSM017/TFSY017
Tube	Oil resistant synthetic rubber			
Reinforcement	High Tensile Steel Wire Braid (1 or 2)			
Braid	Sizes: -04 to -16	Sizes: -04 to -48	Sizes: -04 to -16	Sizes: -04 to -16
Cover	Oil, abrasion and weather resistant synthetic rubber MSHA and NO-MSHA		Oil, abrasion and weather resistant synthetic rubber MSHA	

Hose Manufacturer: I.M.M. Hydraulics S.p.A. Atessa(CH) , ASCOLI Satriano (FG)

Hose Size			MARATHON	HIPAC 2SC	LONGLIFE2SC	HYPRESS 2SC	HYPRESS R17
DASH	DN	inch	Ferrule/One Piece	Ferrule	Ferrule	Ferrule	Ferrule
-04	6	¼"	001C / G series	001C / G series	001C / G series	001C / G series	001C / G series
-05	8	5/16"	001C / G series	001C / G series	001C / G series	001C / G series	001C / G series
-06	10	3/8"	001C / G series	001C / G series	001C / G series	001C / G series	001C / G series
-08	12	½"	001C / G series	001C / G series	001C / G series	001C / G series	001C / G series
-10	16	5/8"	001C / G series	001C / G series	001C / G series	001C / G series	001C / G series
-12	19	¾"	001C / G series	001C / G series	001C / G series	001C / G series	001C / G series
-16	25	1"	0022 / G series	001C / G series	001C / G series	001C / G series	001C / G series
-20	31	1 ¼"	-	001C / G series	001C / G series	-	-
-24	38	1 ½"	-	001C / G series	001C / G series	-	-
-32	51	2"	-	001C / G series	001C / G series	-	-
-40	63	2 ½"	-	001C	001C	-	-
-48	76	3"	-	001C	001C	-	-

Couplings Material:

Two pieces (Ferrule 001C, X001C, 0022 & X0022 with related standard tail fittings):

Carbon steels: EN 10277-3 1.0737 (11SMnPb37)

EN 10263-2 1.0214 (C10C)

EN 10210-1/2 S355J2H

Stainless steel: EN 10088-3 1.4404 (AISI 316L)

One Piece (G Series):

Carbon steels: EN 10277-3 1.0737 (11SMnPb37)

EN 10263-2 1.0214 (C10C)

EN 10210-1/2 S355J2H

Coupling Manufacturer: IMM Hydraulics, Atessa (CH), Ascoli Satriano (FG), Italy

Application/Limitation

This certificate is valid for the specific assembly of hose and coupling type as specified, assembled and delivered by the holder (named as manufacturer) of this certificate and below assembly locations:

I.M.M. Hydraulics S.p.A. - Atessa, Italy
 GS-Hydro AB - Kista Suecia, Sweden
 GS-Hydro Austria GmbH -Pasching, Austria
 GS-Hydro Korea Ltd. - Busan, Korea
 GS-Hydro S.A.U. - Abanto y Zierbena, Spain
 GS-Hydro Singapore Pte. Ltd – Singapore
 GS-Hydro U.S. Inc. - Houston, USA
 GS-Hydro UK Ltd. - Branch office Wakefield, UK

I.M.M. Hydraulics S.p.A. - Genova, Italy
 GS-Hydro AB - Sundsvall Suecia, Sweden
 GS-Hydro Danmark A/S - Kolding, Denmark
 GS-Hydro Piping Systems Co. Ltd. - Shanghai, China
 GS-Hydro S.A.U. - Madrid, Spain
 GS-Hydro System GmbH - Hagen, Germany
 GS-Hydro UK Ltd. - Aberdeen, UK
 GS-Hydro UK Ltd. - Sunderland, UK

GS-Hydro Sp. z o.o. - Gdynia, Poland
 GS Hydro do Brasil Sistemas Hidraulicos Ltda - Bairro Imperial, Brazil

GS-Hydro Benelux B.V. - Barendrecht, Netherlands

Hose Size			Maximum Working Pressure [bar]			
DASH	DN	inch	MARATHON	HIPAC SC/ LONGLIFE 2SC	HYPRESS 2SC	Hypress R17
-04	6	1/4"	450	430	400	210
-05	8	5/16"	420	400	350	210
-06	10	3/8"	385	350	330	210
-08	12	1/2"	350	310	275	210
-10	16	5/8"	350	280	250	210
-12	19	3/4"	280	240	215	210
-16	25	1"	250	210	165	210
-20	31	1 1/4"	-	160	-	-
-24	38	1 1/2"	-	150	-	-
-32	51	2"	-	100	-	-
-40	63	2 1/2"	-	80	-	-
-48	76	3"	-	65	-	-

Hose assemblies covered by this certificate may be used in:

- Petroleum based fluids (Mineral oils) and Biological Oils (temperature as stated on the front page);
- Water Based Fluids and compressed air (-40°C to +70 °C);
- Water (0°C to 70°C).

Flexible hoses are only to be used in short lengths where it is necessary due to vibrations or flexible mounting of the machinery. The hoses shall not replace/be used where permanent piping is possible/required.

The hose assemblies must only be fitted in places where they are always accessible. Flexible hoses of these types are not to be used on boiler fronts.

The cover of hoses for gaseous applications shall be pin-pricked.

Production testing

All hose assemblies delivered under the DNV type approval scheme shall be subject to a pressure test at 1.5 times the maximum working pressure and shall be delivered with the pressure test report with reference to this type approval certificate and hose assembly location.

Type Approval documentation

Tests carried out

Dimensional Check Test, Change in Length Test, Burst Test, Cold Flexibility Test, Ozone Resistance Test, Impulse Test, Oil Resistance Test, fire resistance test.

Marking of product

For traceability to this Type Approval, the products are at least to be marked with:

- Hose manufacturer's name or trademark;
- Date of manufacture (month/year);
- Designation type reference;
- Nominal diameter;
- Pressure rating;
- Temperature rating

Periodical assessment

This certificate is only valid if required periodical assessments are carried out with satisfactory results.



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For retention of the Type Approval, a DNV Surveyor shall perform periodical assessment after two years (+/- 90 days) and after 3.5 years (+/- 90 days) to verify that the conditions for the approval are complied with. Reference is made to DNV-CP-0338.

To check the validity of this certificate, please look it up in <https://approvalfinder.dnv.com>