EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate No:
MEDB00008M8

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)
INTERPUMP KAIZEN 2SN

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

is found to comply with the requirements in the following Regulations/Standards:
Regulation **(EU) 2023/1667,**
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 **2028-10-18**.

Issued at **Høvik** on **2023-10-19**

DNV local unit:
Italy/Malta CMC

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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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

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 of test bench

Construction

Inner tube	:	Oil resistant synthetic rubber, NBR
Reinforcement	:	Two high tensile steel wire braid
External cover	:	Synthetic rubber, SBR/NBR/PVC
Couplings	:	AVP – Two-piece carbon steel fittings (Ferrule code 0022) INOX – Two-piece stainless steel fittings (Ferrule code X0022)
Materials		
Carbon steel	:	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)

Hose and couplings manufacturer

I.M.M. Hydraulics S.p.A.,
Via Italia 49, 66041 Atessa(CH), Italy

I.M.M. Hydraulics S.p.A.,
Zona Ind.le C.da Giarnera Grande, 71022 Ascoli Satriano(FG), Italy

Application/Limitation

The hose assemblies covered by this certificate are approved to be used in fuel oil systems with maximum working pressures as below:

Size (ID)		INTERPUMP KAIZEN 2SN		
Inch	DN	Part number	Pressure	
			psi	bar
¼”	6	THD0021-04	6090	420
5/16”	8	THD0021-05	5220	360
3/8”	10	THD0021-06	5075	350
½”	12	THD0021-08	5075	290
5/8”	16	THD0021-10	3625	250
¾”	19	THD0021-12	3118	215
1”	25	THD0021-16	2538	175
1 ¼”	31	THD0021-20	2030	140
1 ½”	38	THD0021-24	1813	125
2”	51	THD0021-32	1305	90

Type Examination documentation

Tests carried out

Fire test according to ISO 15540/15541.

Marking of product

As a minimum, the final product shall be marked with 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.