EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate no.:
MEDB00008KK

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)
EC110 1SN

issued to
Hydraulic Systems S.r.l.
Padova, PD, **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 **2029-05-21**.

Issued at **Høvik** on **2024-05-22**

DNV local unit:
Italy/Malta CMC

Approval Engineer:
Andreas Hansen

Notified Body
No.: **0575**

for **DNV AS**

Mydlak-Röder, Christine
Head of Notified Body

NORWEGIAN ACCREDITATION PROD 019

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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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

Hose assemblies covered by this certificate are tested according to:

1) ISO 15540:2016 – Fire resistance of hose assemblies – Test methods
2) ISO 15541:2016 – Fire resistance of hose assemblies – Requirements for the test bench

Flexible non-metallic hose type EC110, designed according to EN 853 Type 1SN, comprised of materials listed below:

Reinforcement : One steel wire braid
Inner Tube : Synthetic rubber
Cover : Synthetic rubber
Couplings : Two-piece Winner TTC Fitting - Carbon steel

Hose manufacturing location
POLİMER KAUÇUK SAN. VE PAZ. A.Ş.
Çerkezköy Organize Sanayi Bölgesi Karaağaç mah. 6. Sok No:3
Kapaklı / TEKİRDAĞ, TURKEY

Coupling manufacturing location

- Danfoss Power Solutions II GmbH, Dr. Reckewegstr. 1, D-76532 Baden-Baden, Germany
- Danfoss Power Solutions II LLC, 1225 W. Main Street Van Wert, Ohio 45891-0389, USA
- Danfoss Power Solutions (Ningbo) Co.,Ltd. No. 1965, Jiangnan Rd., Hi-tech Park, Ningbo, China

Application/Limitation

Hose assemblies covered by this certificate are suitable for use in systems conveying oil or fuel oil with the maximum allowable working pressures:

Part Number **EC110**	Hose I.D.		Maximum working pressure	
	mm	inch	[bar]	[psi]
EC110-04	6.4	¼”	225	3250
EC110-05	7.9	5/16”	215	3125
EC110-06	9.5	3/8”	180	2600
EC110-08	12.7	½”	160	2300
EC110-10	15.9	5/8”	130	1900
EC110-12	19	¾”	105	1525
EC110-16	25.4	1”	88	1275

Type examination documentation

Tests carried out

Fire tests carried out according to ISO 15540/15541.

Marking of product

As a minimum, the final products (hoses with couplings) are to be marked with:

- Manufacturers 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 mode (D, E, or F) is valid.