

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED). This Certificate is issued by DNV GL SE based on the notification of the Federal Maritime and Hydrographic Agency of Germany.

This is to certify:

That the Materials other than steel for pipes conveying oil or fuel oil: flexible pipe assemblies

with type designation(s)
EQUATOR/1 (BLACK), EQUATOR/2 (BLACK)

Issued to

Manuli Hydraulics (Suzhou) Co., Ltd.
Suzhou Jiangsu, China

is found to comply with the requirements in the following Regulations/Standards:

Regulation **(EU) 2017/306**,
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

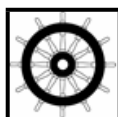
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2022-12-21**.

Issued at **Hamburg** on **2017-12-22**

DNV GL local station:
Shanghai CMC

Approval Engineer:
Hagen Markus



Notified Body
No.: **0098**

for **DNV GL SE**

Sven Dudzus
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 GL SE 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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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.



Product description

Hose design

Inner tube of oil-resistant synthetic rubber, one or two high tensile steel braid and weather, abrasion, ozone and heat resistant synthetic rubber cover. For design details refer to appropriate product data sheets.

Hose end fittings

Hose type	Hose size		Hose end fitting ¹
EQUATOR/1	DN	dash	Types
	6	-4	MF+M00120-04
	8	-5	MF+M00120-05
	10	-6	MF+M00120-06
	12	-8	MF+M00120-08
	16	-10	MF+M00120-10
	19	-12	MF+M00120-12
	25	-16	MF+M00130-16
	31	-20	MF+M00110-20
	38	-24	MF+M00110-24
EQUATOR/2	6	-4	MF+M00910-04
	8	-5	MF+M00910-05
	10	-6	MF+M00910-06
	12	-8	MF+M00910-08
	16	-10	MF+M00910-10
	19	-12	MF+M00920-12
	25	-16	MF+M00930-16
	31	-20	MF+M00920-20
	38	-24	MF+M00910-24
	51	-32	MF+M00910-32

Notes

¹ Made of carbon or stainless steel.

Maximum Allowable Working Pressure (M.A.W.P.) and Sizes

Size range			M.A.W.P. bar	
			EQUATOR/1	EQUATOR/2
6	-4	¼"	225	400
8	-5	5/16"	215	350
10	- 6	3/8"	180	330
12	- 8	½"	160	275
16	- 10	5/8"	130	250
19	- 12	¾"	105	215
25	- 16	1"	88	175
31	- 20	1 1/4"	65	150
38	- 24	1 1/2"	50	100
51	- 32	2"	40	90

Application/Limitation

Piping systems conveying oil or fuel oil.

Type Examination documentation

Job Id: **344.1-007785-1**
Certificate No: **MEDB00003NG**

Miscellaneous documents

- Crimping instruction OEM-P-008, Revision 2, 2015-12-25

Tests carried out

Fire resistance test acc. to EN ISO 15540:2016, EN ISO 15541:2016.

Marking of product

For traceability to this certificate each hose assembly is to be marked at least with:

- Manufacturer's name or trade mark
- Type designation
- M.A.W.P.
- Size
- Mark of Conformity according to Article 10 of the Council Directive (MED)

END OF CERTIFICATE