DNV·GL

Certificate No:
MEDB00004CY

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)
Goldeniso/21 Antiwear and Goldeniso/28 antiwear

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

is found to comply with the requirements in the following Regulations/Standards:
Regulation **(EU) 2018/773,**
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 **2023-10-14**.

Issued at **Hamburg** on **2018-10-15**

DNV GL local station:
Shanghai

Approval Engineer:
Andrii Pishchanskyi

Notified Body
No.: **0098**

for **DNV GL SE**

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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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

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Product description

Type	Description
Goldeniso/21 antiwear	Inner hose of synthetic rubber with wire braid reinforcement (DN5 – DN12 have a single layer, DN16 – DN25 – two layers) and cover of high abrasion resistant synthetic rubber.
Goldeniso/28 antiwear	Inner hose of synthetic rubber with two layers of wire braid reinforcement and cover of high abrasion resistant synthetic rubber.

For hose design details refer to manufacturer's product data sheets:

- Goldeniso/21 antiwear, release 2, dated 2017-03-02;
- Goldeniso/28 antiwear, release 1, dated 2017-03-02.

Hose end fittings, maximum allowable working pressure (M.A.W.P.) and sizes are as following:

Hose type	Hose size			M.A.W.P. [bar]	Hose end fittings[1]	
	DN	Dash	Inch		Insert	Ferrule
Goldeniso/21 antiwear	5	-3	3/16″	210	MF2000	M03300-03
	6	-4	¼″	210	MF2000	M03300-04
	8	-5	5/16″	210	MF2000	M03300-05
	10	-6	3/8″	210	MF2000	M03300-06
	12	-8	½″	210	MF2000	M03400-08
	16	-10	5/8″	210	MF2000	M03400-10
	19	-12	¾″	210	MF2000	M03400-12
	25	-16	1″	210	MF2000	M03400-16
Goldeniso/28 antiwear	6	-4	¼″	280	MF2000	M03400-04
	8	-5	5/16″	280	MF2000	M03400-05
	10	-6	3/8″	280	MF2000	M03400-06
	12	-8	½″	280	MF2000	M03400-08
	16	-10	5/8″	280	MF2000	M03400-10
	19	-12	¾″	280	MF2000	M03400-12

Notes
[1] Made of carbon or stainless steel.

Application/Limitation

Piping systems conveying oil or fuel oil.

Type Examination documentation

Tests carried out

Fire resistance test according to ISO 15540:2016 and 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).