



Marine & Offshore

Certificate number: 77703/A0 BV

File number: .

Product code: 73011

*This certificate is not valid when presented without the full attached schedule composed of 7 sections*

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## TYPE APPROVAL CERTIFICATE

*This certificate is issued to*

**DESMI Pumping Technology A/S**

Nørresundby - DENMARK

*for the type of product*

**DEEPWELL CARGO PUMPS**

Type NDW80, NDW100, NDW125, NDW150, NDW200, NDW250 and NDW 300

### Requirements:

Bureau Veritas Rules for the Classification of Steel Ships

IGC Code

IBC Code

*This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.*

**This certificate will expire on: 21 Nov 2029**

**For Bureau Veritas Marine & Offshore,**

At BV FREDERICIA, on 21 Nov 2024,

Jesper JENSEN

***This certificate was created electronically and is valid without signature***



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with Bureau Veritas Marine & Offshore. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of Bureau Veritas Marine & Offshore available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against Bureau Veritas Marine & Offshore for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

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BV Mod. Ad.E 530 June 2017

This certificate consists of 4 page(s)

## THE SCHEDULE OF APPROVAL

### 1. PRODUCT DESCRIPTION

**DEEPWELL CARGO PUMPS / NDW80, NDW100, NDW125, NDW150, NDW200, NDW250 and NDW 300**

#### 1.1 - Ratings

Types	Capacity (m3/h)	Max. pump differential pressure (head) (bar)	Max. cargo tank pressure (bar)	Max speed (rpm)
NDW80	150	20	20	2000
NDW100	210			
NDW125	300			
NDW150	500			
NDW200	680			
NDW250	910			
NDW300	1400			

Media temperature range : -165°C to 45°C

#### 1.2 - Materials

Part	Material
Casing	Austenitic stainless steel (type 304 and type 316)
Impeller	Austenitic stainless steel (type 304 and type 316)
Shaft	Austenitic stainless steel (type 304 and type 316)

*When other choices of materials are used per manufacturer's recommendations, the BV agreement is to be obtained.*

### 2. DOCUMENTS AND DRAWINGS

- Drawing N° 119180 Rev. A.1 dated 05/07/2024 : Shaft NDW Ø55 316L.
- Drawing N° 119178 Rev. A.2 dated 05/07/2024 : Top shaft NDW150 316L.
- Drawing N° 119176 Rev. A.1 dated 05/07/2024 : NDW Interm. Pipe.
- Drawing N° 119171 Rev. A.1 dated 05/07/2024 : Column 8" W.Hole.
- Drawing N° 119167 Rev. A.1 dated 05/07/2024 : Delivery flange for NDW150.
- Drawing N° 119182 Rev. A.1 dated 05/07/2024 : NDW150 Bowl shaft 5 stages 316L.
- Drawing N° 599590 Rev. A.6 dated 03/07/2024 : Head NDW150 M ANSI 150LB.
- Drawing N° 599570 Rev. A.9 dated 03/07/2024 : NDW seal support M.
- Drawing N° 599500 Rev. A.3 dated 03/07/2024 : Middle bracket NDW150 M.
- Drawing N° 599280 Rev. A.5 dated 03/07/2024 : Tri-bear, NDW150 M.
- Drawing N° 599260 Rev. A.3 dated 03/07/2024 : Inducer NDW150 M.
- Drawing N° 599210 Rev. A.6 dated 03/07/2024 : Impeller NDW150 M.
- Drawing N° 555960 Rev. A.3 dated 05/07/2024 : Bowl NDW 150 M.
- Drawing N° 555940 Rev. A.2 dated 05/07/2024 : Bell NDW 150 M.
- Drawing N° 551810 Rev. A.3 dated 03/07/2024 : Mot. BR. NDW 150 IEC280 M.
- Drawing N° 499681 Rev. A.5 dated 03/07/2024 : Head unit NDW150.
- Drawing N° 461394 Rev. A.1 dated 05/07/2024 : Bowl unit NDW150-5 ASM.
- Drawing N° 461390 Rev. A.1 dated 12/06/2024 : NDW150-3 With motor hoyer HMCX 315M-4.
- Drawing N° 460318 Rev. A.1 dated 25/08/2024 : NDW150-3-I.
- Drawing N° 425721 Rev. A.4 dated 03/07/2024 : Column 8" NDW150.
- Manual of installation, use and maintenance N° T1543 Rev. A.5
- Technical datasheet named "Input for Certificate - NDW" Rev.0 dated 28/08/2024
- Performance curves dated 09/01/2024

*No departure from the above documents shall be made without the prior consent of the Society. The manufacturer must inform the Society of any modification or changes to these documents and drawings.*

**3. TEST REPORTS**

Test report including running test for pump in Nitrogen liquid for cryogenic application :

- Performance test report N° 4W240966 dated 01/11/2024 for NDW150
- NPSH-R test report N° 4W240967 dated 01/11/2024 for NDW150
- Hydrostatic test report N° QR-93-113 A/0 dated 07/11/2024 for NDW200 at 30,1 bar.
- Test report N° ZHSFC-QR-097C J-FM-202406-006 dated 12/06/2024.
- Functional type test report of NDW200-2 dated 11/05/2022.
- Hydrostatic pressure type test report of NDW200-2 dated 11/05/2022

**4. APPLICATION / LIMITATION**

- 4.1 - May be used on the following services on board: cargo handling systems of ships granted with the notation liquefied gas carrier / chemicals tankers. Media intended to be used : LNG, LPG, NH<sub>3</sub>, VCM (Vinyl Chloride Monomer), CO<sub>2</sub>, chemical products as listed in MEPC.2/Circular.29 as amended.
- 4.2 - The deepwell pumps intended to be installed on Bureau Veritas classed ship granted with the notation liquefied gas carrier have to comply with Pt D, Ch 9, Sec 5 and IGC Code.
- 4.3 - The deepwell pumps intended to be installed on Bureau Veritas classed ship granted with the notation chemicals tankers have to comply with Pt D, Ch 8, Sec 1 and IBC Code.
- 4.4 - Type tests reports witnessed by Bureau Veritas are to be available for each type and size of pump.
- 4.5 - The pump body and internal parts shall be of a suitable type for use with fluids intended to be carried.
- 4.6 - The approval does not include the prime mover of the pump.
- 4.7 - The pump is to be installed according to manufacturer's instructions and Bureau Veritas Rules requirements.
- 4.8 - The use of stainless steel is restricted according to the Bureau Veritas requirements Pt C, Ch 1, Sec 10, Table 5.

**5. PRODUCTION SURVEY REQUIREMENTS**

- 5.1 - The products are to be supplied by **DESMI Pumping Technology A/S** in compliance with the type and the requirements described in this certificate.
- 5.2 - This type of product certificate is within the category IBV of Bureau Veritas Rule Note NR320.
- 5.3 - BV product certificate is required.
- 5.4 - The pumps are to be hydrostatically and performance tested and delivered with a BV certificate when required in Pt C, Ch1, Sec 10, table 40 of BUREAU VERITAS Rules.
- 5.5 - For information, **DESMI Pumping Technology A/S** has declared to Bureau Veritas the following production sites:

Production site 1:

**DESMI Pumping Technology (Suzhou) Co., Ltd.**  
**1st to 3rd Floor of No.4 Office**  
**Building and No.5 Building,**  
**No.108 Houdai Street,SIP,Suzhou City,**  
**Jiangsu Province,P.R.China**  
**Suzhou**  
**CHINA**

Production site 2:

**DESMI Pumping Technology A/S**  
**P. O. Box 226**  
**Tagholm 1**  
**9400 Nørresundby**  
**DENMARK**

**6. MARKING OF PRODUCT**

The product shall be marked clearly and indelibly with at least:

- Trade name and serial number
- Rated speed
- Rated capacity
- Society's brand as relevant

**7. OTHERS**

It is **DESMI Pumping Technology A/S**'s responsibility to inform shipbuilders or their sub-contractors of the proper methods of fitting, use and general maintenance of the approved equipment and the conditions of this approval.

**\*\*\* END OF CERTIFICATE \*\*\***