



Marine & Offshore

Certificate number: 31727/C0 BV

File number: ACM 101/0096/03

Product code: 1406I

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 LUBE OIL PUMP

DESMI Centrifugal Pumps Type DL

Requirements:

- BUREAU VERITAS Rules for the Classification of Steel Ships

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: 11 Jul 2028

For Bureau Veritas Marine & Offshore,

At BV FREDERICIA, on 11 Jul 2023,

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 5 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION

DESMI Centrifugal Pumps Type DL

Type : DL300 / DL300B / DL400 / DL400B / DL500

1.1 DL300-4stg product description

Multistage centrifugal pump with thrust bearing unit and equipped with a closed impeller

Speed (r/min)	Dia.(mm)	Flow (m3/h)	Head (m)	Efficiency (%)	Power (kW)	NPSHr (m)
1450	229	205	37	72	29	3.7
	198	164	25	69	28	3.4
1780	229	251	56	72	53	4.6
	198	200	38	69	30	4.1

Note: to meet different performance requirements by cut the impeller dia. Max. Dia.229mm Min. Dia.198mm.and/or the number of stages can be changed

1.2 DL300-7stg product description

Multistage centrifugal pump with thrust bearing unit and equipped with a closed impeller

Speed (r/min)	Dia.(mm)	Flow (m3/h)	Head (m)	Efficiency (%)	Power (kW)	NPSHr (m)
1450	229	205	65	72	50	3.7
	198	164	44	69	28	3.4
1780	229	251	98	72	93	4.6
	198	200	66	69	52	4.1

Note: to meet different performance requirements by cut the impeller dia. Max. Dia.229mm Min. Dia.198mm.and/or the number of stages can be changed

1.3 DL300B-5stg product description

Multistage centrifugal pump with thrust bearing unit and equipped with a closed impeller

Speed (r/min)	Dia.(mm)	Flow (m3/h)	Head (m)	Efficiency (%)	Power (kW)	NPSHr (m)
1450	229	220	52	79	50	3.9
	198	181	36	71	25	3.5
1780	229	269	78	79	73	5.9
	198	223	54	71	47	5.3

Note: to meet different performance requirements by cut the impeller dia. Max. Dia.229mm Min. Dia.198mm.and/or the number of stages can be changed

1.4 DL400-4stg product description

Multistage centrifugal pump with thrust bearing unit and equipped with a closed impeller

Speed (r/min)	Dia.(mm)	Flow (m3/h)	Head (m)	Efficiency (%)	Power (kW)	NPSHr (m)
1450	316	505	85	78	150	5.0
	279	419	63	77	94	4.1
1780	316	620	128	78	277	6.1
	279	514	95	77	173	5.1

Note: to meet different performance requirements by cut the impeller dia. Max. Dia.316mm Min. Dia.279mm.and/or the number of stages can be changed

1.5 DL400-6stg product description

Multistage centrifugal pump with thrust bearing unit and equipped with a closed impeller

Speed (r/min)	Dia.(mm)	Flow (m3/h)	Head (m)	Efficiency (%)	Power (kW)	NPSHr (m)
1450	316	505	128	78.2	226	5.0
	279	419	95	77.3	140	4.1
1780	316	620	192	78.2	416	6.1
	279	514	143	77.3	260	5.1

Note: to meet different performance requirements by cut the impeller dia. Max. Dia.316mm Min. Dia.279mm.and/or the number of stages can be changed

1.6 DL400B-4stg product description

Multistage centrifugal pump with thrust bearing unit and equipped with a closed impeller

Speed (r/min)	Dia.(mm)	Flow (m3/h)	Head (m)	Efficiency (%)	Power (kW)	NPSHr (m)
1450	319	630	83	83	172	4.9
	279	600	55	83	109	4.6
1780	319	773	125	83	318	6.0
	279	736	83	83	202	5.6

Note: to meet different performance requirements by cut the impeller dia. Max. Dia.319mm Min. Dia.279mm and/or the number of stages can be changed

1.7 DL500-4stg product description

Multistage centrifugal pump with thrust bearing unit and equipped with a closed impeller

Speed (r/min)	Dia.(mm)	Flow (m3/h)	Head (m)	Efficiency (%)	Power (kW)	NPSHr (m)
1185	400	900	81	80	248	4.9
	360	800	60	75.6	173	4.8

Note: to meet different performance requirements by cut the impeller dia. Max. Dia.400mm Min. Dia.360mm.and/or the number of stages can be changed

1.8 Materials and/or components

Material combination depending on pump series:

Head	Cast iron GG20 / GGG40
Top shaft	Stainless Steel 1.4460 / Carbon Steel C45
Discharge case	Cast iron GG20
Bowl	Cast iron GG20
Bell	Cast iron GG20
Impeller	Copper alloy / Stainless Steel AISI 316
Pump shaft	Stainless Steel 1.4460 / Carbon Steel C45

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

2. DOCUMENTS AND DRAWINGS

- Installation, Operation and maintenance Instruction Manual N°T1518 rev B dated 11/16
- DL pump drawing list :

Model	DL300-7stg	DL300B-5stg	DL400-2stg	DL400-4stg	DL400B-4stg	DL500-4stg
Head Column Assembly	415136 dated 13/09/2017	415136 dated 13/09/2017	415136 dated 13/09/2017	415136 dated 13/09/2017	416171 dated 13/09/2017	415381 dated 13/09/2017
Head	523450 dated 08/07/2015	523450 dated 08/07/2015	524000 dated 08/07/2015	524000 dated 08/07/2015	524030 dated 31/01/2017	523550 dated 31/01/2017
Top Shaft	114051 dated 23/10/2017	114051 dated 23/10/2017	114051 dated 23/10/2017	114051 dated 23/10/2017	112671 dated 05/08/2016	114066 dated 25/07/2017
Bowl Assembly	414675 dated 20/04/2017	413740 dated 20/04/2017	413200 dated 20/04/2017	414697 dated 12/2010	414164 dated 20/04/2017	407349 dated 20/04/2017
Bowl	520660 dated 18/09/2014	520660 dated 18/09/2014	520420 dated 18/09/2014	520420 dated 18/09/2014	521930 dated 31/01/2017	523620 dated 31/01/2017
Bell	520680 dated 05/09/2014	520680 dated 05/09/2014	520440 dated 05/09/2014	520440 dated 05/09/2014	522010 dated 31/01/2017	523640 dated 31/01/2017
Impeller	520640 dated 31/01/2017	522960 dated 31/01/2017	520400 dated 31/01/2017	520400 dated 31/01/2017	521950 dated 31/01/2017	523600 dated 31/01/2017
Pump Shaft	112979 dated 05/08/2016	114057 dated 01/04/2014	114064 dated 01/04/2014	114532 dated 05/03/2015	114065 dated 01/04/2014	114686 dated 17/12/2015
Discharge Case	/	/	520460 dated 31/01/2017	/	/	/

The performance curves of pumps dated 02/2018 :

- DL300B-5stg pump curves 1450 rpm
- DL300B-5 stg pump curves 1780 rpm
- DL300-7stg pump curves 1450 rpm
- DL300-7 stg pump curves 1780 rpm
- DL400-4 stg pump curves 1450 rpm
- DL400-4 stg pump curves 1780 rpm
- DL400B-4 stg pump curves 1450 rpm
- DL400B-4 stg pump curves 1780 rpm
- DL500-4 stg pump curves 1185 rpm

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

Not required.

4. APPLICATION / LIMITATION

- 4.1 Pumps may be used as deepwell lube oil pumps for Main Engine Lubrication oil supply.
- 4.2 The pumps body and internal parts shall be of a suitable type for use with fluids intended to be carried.
- 4.3 The approval does not include the prime mover of the pump.
- 4.4 The pump is to be installed according to manufacturer's instructions and Bureau Veritas Rules requirements.
- 4.5 The use of grey cast iron is restricted according to the Bureau Veritas requirements Pt C, Ch 1, Sec 10, Table 5.
- 4.6 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 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 BV Rules NR 467, Pt C, Ch 1, Sec 10 table 40.

5.5 For information, **DESMI Pumping Technology A/S** has declared to Bureau Veritas the following production sites :

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**

DESMI Pumping Technology A/S

**P. O. Box 226
Tagholm 1
9400 Nørresundby
DENMARK**

6. MARKING OF PRODUCT

Each pump shall at least clearly and indelibly marked with:

- 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.

This certificate supersedes the Type Approval Certificate N° 31727/B0 BV issued by the Society.

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