



Marine & Offshore

Certificate number: 13506/D0 BV

File number: ACM 101/96/01

Product code: 14011

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

CENTRIFUGAL PUMPS

Modular H and Modular S

Type SA, DSL, NSL, PVLN, ESL

Requirements:

- BUREAU VERITAS Rules for the Classification of Steel Ships
- BUREAU VERITAS Rules for the Classification of Offshore Units

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: 10 Jan 2024

For Bureau Veritas Marine & Offshore,

At BV FREDERICIA, on 10 Jan 2019,

Jesper Jensen



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

DESMI Centrifugal Pumps Modular H and Modular S Type SA, DSL, NSL, PVLN, ESL

1.1 Design

Irrespective of size and capacity the whole DESMI centrifugal pumps are constructed of 5 standard components:

- Pump casing, impeller, bearing housing, suction cover and shaft seal cover

Model	Capacity range (m3/h)	Pressure range (mWC)	Design	Max Temperature (°C)
Modular H	Up to 350 at 50 Hz Up to 400 at 60 Hz	Up to 100 at 50 Hz Up to 150 at 60 Hz	Non self-priming Horizontal	+120
Modular S	Up to 350 at 50 Hz Up to 400 at 60 Hz	Up to 100 at 50 Hz Up to 150 at 60 Hz	Self-priming Horizontal	+80
Type SA	Up to 830	Up to 110	Self-priming Open impeller	+80
Type DSL	Up to 4850	Up to 155	Self-priming (1) Vertical in-line	+120
Type NSL (4)	Up to 2700	Up to 215	Self-priming (1) Vertical in-line	+120
Type PVLN (2)	Up to 700	Up to 90	Self-priming (1) Vertical in-line	+120
Type ESL (3)	Up to 260	Up to 75	Self-priming (1) Vertical in-line	+120

Nota 1- If requested the pumps are available with built-on air ejector or separate priming pump

Nota 2- Type PVLN with AC motor

Nota 3- Type ESL Monobloc pump: Models ESL25-180, ESL50-180, ESL40-180, ESL80-180, ESL80-180B, ESL65-180, ESL80-180E and ESL100-180. Type ESL also have horizontal (ESLH) and vertical (ESLV) end-suctions models.

Nota 4- Type NSL also have horizontal (NSLH) and vertical (NSLV) end-suctions models

1.2 Materials

Material combination depending on pump series:

Pump casing Suction cover Shaft seal cover	Cast iron GG20 / SG iron GGG40 / Bronze Rg5 / AlMg5 / NiAlu-bronze / Super Duplex SAF2507 / Stainless Steel
Impeller	Cast iron GG20 / Bronze Rg5 / Alu-bronze / NiAlu-bronze / Super Duplex SAF2507 / Stainless Steel
Bearing housing	Cast iron GG20
Shaft seal	Mechanical Carbon / Ceramics / SiC

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

2. DOCUMENTS AND DRAWINGS

- Drawings N° 41 00 18 Modular H 40-160/A-D09, N° 41 95 30 Modular S I A09, N° 41 95 61 Modular S I A11-09, N° 40 26 02 Type SA 80-220/17, N° 40 45 62d Type DSL 300-320 M/spacer, N° 41 00 81 Type NSL-D-330/415-02, N° C39902 Type PVLN

- Model ESL25-180 assembly Drawing N° 491000

- Model ESL40-180 Drawings N° 491447 (assembly), N° 523850 (casing), N° 523870 (impeller), N° D39849a (shaft)

- Model ESL40-180N Drawings N° 409677 (assembly), N° 560880 (casing), N° 560750 (impeller), N° 115269 (shaft)

- Model ESL50-180 assembly Drawing N° 490945

- Model ESL50-180N Drawing N° 409677(assembly), N° 561140 (casing), N° 561120 (impeller), N° 115269 (shaft)

- Model ESL65-180 Drawings N° 490376 (assembly), N° 528900 (casing), N° 528880 (impeller), N° D42301 (shaft)

- Model ESL80-180 Drawings N° 490376a (assembly), N° 524570 (casing), N° 524560 (impeller), N° D42301a (shaft)

- Model ESL80-180B Drawings N° 490376a (assembly), N° 524570 (casing), N° 190886 (impeller), N° D42301a (shaft)

- Model ESL80-180E Drawings N° 490376 (assembly), N° 528160 (casing), N° 528180 (impeller), N° 114819 (shaft)

- Model ESL100-180 Drawings N° 490376 (assembly), N° 528540 (casing), N° 528560 (impeller), N° 114819 (shaft)

- Operation and maintenance instructions:

Pump type	Manual	Rev.	Comments
Modular H	T1340	F (10/17)	
	T1351	F (10/17)	Modular H Monobloc
Modular S	T1440	E (06/18)	Modular S-N (Open Design)
	T1441	F (10/17)	Modular S-N Monobloc (Open Design)
	T1444	C (10/17)	Modular S-N Super Bilge Pump
	T1530	B (10/17)	Modular S-N Super Self-Priming Pump
Type SA	T1345	E (06/16)	
	T1517	B (06/13)	Sa25, SA35, SA50 Monobloc Design
	T1411	D (06/16)	SA50-T
Type DSL	T1343	N (03/17)	DSL300/DSL400
	T1513	J (05/18)	Without bottom bearing
Type NSL	T1380	AA (08/10)	NSL Monobloc
	T1379	S (11/17)	NSL Spacer
	T1524	C (04/18)	NSLV/NSLH Monobloc
	T1529	D (04/18)	NSLV/NSLH Spacer
Type PVLN	T1306	E (06/16)	
Type ESL	T1515	I (05/18)	ESM Monobloc
	T1528	B (03/17)	ESLH/ESLV

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 Operating media: Fresh and sea water

4.2 May be used for the following services: Ballast and bilge / Fire fighting / Cooling / Other general service application.

4.3 Use of grey cast iron is restricted acc. to Pt C, Ch 1, Sec 10 Table 5 of the BUREAU VERITAS Rules, can be used for class III and class II system.

4.4 The pumps used as bilge pumps are to be fitted with efficient priming means.

4.5 The pumps body and internal parts shall be of a suitable type for use with cargoes intended to be carried.

4.6 The approval does not include the prime mover of the pump.

4.7 The pumps are to be installed according to manufacturer's instructions and Society's Rule requirements.

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 The pumps are to be hydrostatically and performance tested according to Pt C, Ch 1, Sec 10 [20.4.5] of the BUREAU VERITAS Rules, and delivered with a BUREAU VERITAS certificate when required in Pt C, Ch 1, Sec 10 [table 39] of the BUREAU VERITAS Rules.

5.4 BV product certificate is required.

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

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

- **DESMI Pumping Technology (Suzhou) Co, Ltd: N° 740 Fengting avenue, Weiting Sub District, 215122 SIP, Suzhou, CHINA**

6. MARKING OF PRODUCT

Each pump shall be at least permanently marked with:

- Manufacturer's name or logo
- Pump size
- Serial number
- 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° 13506/C1 BV issued by the Society.

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