



CERTIFICATE NUMBER
EFFECTIVE DATE
EXPIRY DATE
ABS TECHNICAL OFFICE

23-00T2434010-2-PDA
17-Jun-2025
07-Aug-2028
London Engineering Department

CERTIFICATE OF Product Design Assessment

This is to certify that a representative of this Bureau did, at the request of

MECC ALTE UK LIMITED

located at

**6 LANDS' END WAY, , OAKHAM, RUTLAND, United Kingdom, LE15
6RF**

assess design plans and data for the below listed product. This assessment is a representation by the Bureau as to the degree of compliance the design exhibits with applicable sections of the Rules. This assessment does not waive unit certification or classification procedures required by ABS Rules for products to be installed in ABS classed vessels or facilities. This certificate, by itself, does not reflect that the product is Type Approved. The scope and limitations of this assessment are detailed on the pages attached to this certificate.

Product: **Generator**

Model: **ECP32-3L/4, ECP34-1L/4, ECP34-2L/4, ECO38-1S/4, ECO38-3S/4, ECO38-1L/4, ECO38-2L/4, ECO38-3L/4, ECO40-1S/4, ECO381M4C, ECO382M4C, ECO381S4C, ECO382L4C, ECP34 2L4C, ECO40 2S4C, ECO4...**

Endorsements:

Tier: **5 - Unit Certification Required**

This Product Design Assessment (PDA) Certificate remains valid until 07/Aug/2028 or until the Rules and/or Standards used in the assessment are revised or until there is a design modification warranting design reassessment (whichever occurs first).

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or previous to the effective date of the ABS Rules and standards applied at the time of PDA issuance. Use of the Product for non-ABS units is subject to agreement between the manufacturer and intended client.

American Bureau Of Shipping

Vasileios Vitanopoulos, Engineer/Consultant

NOTE: This certificate evidences compliance with one or more of the Rules, Guides, standards or other criteria of ABS or a statutory, industrial or manufacturer's standards. It is issued solely for the use of ABS, its committees, its clients or other authorized entities. Any significant changes to the aforementioned product without approval from ABS will result in this certificate becoming null and void. This certificate is governed by ABS Rules 1-1-A3/5.9 Terms and Conditions of the Request for Product Type Approval and Agreement (2010)

MECC ALTE UK LIMITED

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Tier: 5 - Unit Certification Required

Product: Generator
Model: ECP32-3L/4, ECP34-1L/4, ECP34-2L/4, ECO38-1S/4, ECO38-3S/4, ECO38-1L/4, ECO38-2L/4, ECO38-3L/4, ECO40-1S/4, ECO381M4C, ECO382M4C, ECO381S4C, ECO382L4C, ECP34 2L4C, ECO40 2S4C, ECO401L4C

Endorsements:**Intended Service:**

Power generation on board ABS Classed Vessels or Mobile Offshore Units

Description:

Steel casing, cast iron shield, C45 steel for shaft, three phases, two bearings

Rating:

ECP32-3L/4: 74	kVA @ 440 VAC, 60 Hz, 1800 rpm
ECP34-1L/4: 119	kVA @ 440 VAC, 60 Hz, 1800 rpm
ECP34-1L/4: 124	kVA @ 450 VAC, 60 Hz, 1800 rpm
ECP34-2L/4: 150	kVA @ 450 VAC, 60 Hz, 1800 rpm
ECO38-1S/4: 188	kVA @ 450 VAC, 60 Hz, 1800 rpm
ECO38-3S/4: 188	kVA @ 400 VAC, 50 Hz, 1500 rpm
ECO381S4C: 147.5	kVA @ 400 VAC, 50 Hz, 1500 rpm
ECO38-3S/4: 243	kVA @ 450 VAC, 60 Hz, 1800 rpm
ECO38-1L/4: 270	kVA @ 440 VAC, 60 Hz, 1800 rpm
ECO38-2L/4: 250	kVA @ 450 VAC, 60 Hz, 1800 rpm
ECO38-2L/4: 312.5	kVA @ 440 VAC, 60 Hz, 1800 rpm
ECO38-3L/4: 375	kVA @ 450 VAC, 60 Hz, 1800 rpm
ECO381M4C: 218.8	kVA @ 480 VAC, 60 Hz, 1800 rpm
ECO382M4C: 250	kVA @ 480 VAC, 60 Hz, 1800 rpm
ECO40-1S/4: 375	kVA @ 450 VAC, 60 Hz, 1800 rpm
ECO40-1S/4: 438	kVA @ 690 VAC, 60 Hz, 1800 rpm
ECO38-2L/4C: 336	kVA @ 400VAC, 50 Hz, 1800 rpm
ECP34-2L4C: 158	kVA@ 400VAC, 50 Hz, 1500 rpm
ECO40-2S4C: 432	kVA@ 400VAC, 50 Hz, 1500 rpm
ECO40-1L4C: 528	kVA@ 400VAC, 50 Hz, 1500 rpm

Ambient Temperature 50° C

Degree of Protection IP 23

Insulation Class H

Service Restriction:

- Unit Certification is required for this product as per 4-8-3/Table 3 of Marine Vessel Rules or 6-1-7/Table 2 of Offshore Rules.
- Generators are for marine application in non-hazardous areas.
- If the manufacturer or purchaser requests an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined.

Comments:

- 1.The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.
- 2.The generator has an IP rating of IP23 as such when the generator is installed in a machinery area with local fixed pressure water-spraying or local water mist fire extinguishing systems. Evidence is to be submitted to ABS showing the suitability for use of the generator in these areas as per ABS MVR 2025, 4-8-3/1.11.2 . Alternatively, the IP protection is to be increased to IP44.

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Tier: 5 - Unit Certification Required

Notes/Drawing/Documentation:

Drawing Submitted During Latest Revision:

Drawing No. SRP0041, SRP0041_00 ECO40C ROTOR WINDING, Revision: 00, Pages: 1
Drawing No. ECO40C TECH SPECS, Technical specification ECO40C, Revision: 00, Pages: 28
Drawing No. ECO401L4C ENDORSED TEST REPORTS, ECO401L4C ENDORSED TEST REPORTS, Revision: -, Pages: 4
Drawing No. B0886, B0886_03 ECP34 DOUBLE BEARING SHAFT, Revision: 03, Pages: 1
Drawing No. SRP0036, SRP0036_01 ECP34 ROTOR WINDING, Revision: 01, Pages: 1
Drawing No. B0931, B0931_03 ECP34 SINGLE BEARING GA, Revision: 03, Pages: 1
Drawing No. SCA2150, SCA2150 ECO40-1L STATOR WINDING, Revision: 02, Pages: 1
Drawing No. SCA2693, SCA2693_01 ECP34-2L STATOR WINDING, Revision: 01, Pages: 1
Drawing No. B0800, B0800_03 ECP34 SINGLE BEARING SHAFT, Revision: 03, Pages: 1
Drawing No. SCC0062, SCC0062_04 ECP34 AVR CONNECTION, Revision: 04, Pages: 1
Drawing No. SCC0159, SCC0159_05 ECO40 AVR CONNECTION THREE PHASE SENSING, Revision: 05, Pages: 1
Drawing No. ECP342L4C ENDORSED TEST REPORTS, ECP342L4C ENDORSED TEST REPORTS, Revision: -, Pages: 4
Drawing No. B1697, B1697_00 ECP34 TERMINAL BOX LAYOUT, Revision: 00, Pages: 1
Drawing No. SCA03725, SCA03725_00 ECO40C STATOR WINDING 690 60, Revision: 00, Pages: 1
Drawing No. A9449, A9449_02 ECO40C B34 SHAFT, Revision: 02, Pages: 1
Drawing No. ECO402S4C ENDORSED TEST REPORTS, ECO402S4C ENDORSED TEST REPORTS, Revision: -, Pages: 4
Drawing No. D00047, D00047_00 OVERALL DIMENSIONS ECO40C B34, Revision: 00, Pages: 1
Drawing No. B0940, B0940_03 ECP34 DOUBLE BEARING GA, Revision: 03, Pages: 1

-----Drawings submitted to previous Review-----

Drawing No. C01280, C01280_01 SINGLE BEARING SHAFT, Revision: 01, Pages: 1
Drawing No. B1452, B1452_04 TWIN BEARING SHAFT, Revision: 04, Pages: 1 Drawing No. SCA2770, SCA2770_00 STATOR WINDING, Revision: 00, Pages: 1
Drawing No. B2161, B2161_02 ROTOR CONSTRUCTION, Revision: 02, Pages: 1
Drawing No. TECHNICAL DETAILS, Technical specification ECO38C, Revision: 00, Pages: 26 Drawing No. SRP0114, SRP0114_00 ROTOR WINDING, Revision: 00, Pages: 1
Drawing No. B1700, B1700_03 SINGLE BEARING GA, Revision: 03, Pages: 1 Drawing No. B1702, B1702_03 TWIN BEARING GA, Revision: 03, Pages: 1

Drawing No. Vibration ECO 38-2 Drawing No. Vibration ECO 38-1 Drawing No. Vibration ECP-34 Drawing No. Balancing ECO38-1 Drawing No. Balancing ECP34 Drawing No. Generator ECO 38-N Drawing No. Wirings ECO38 Drawing No. Wiring ECO38-2LN/4 Drawing No. Inter-tour windings Drawing No. Shaft ECP-34 Drawing No. Alternator ECP-34
Drawing No. Shaft MD35-B3B14 Type S Drawing No. Shaft Type L
Drawing No. Bearings ECP34-1 Drawing No. Bearings ECO38-1S Drawing No. Bearings ECO38-2 Drawing No. Diagram V/A Drawing No. Balancing Eco 38-2 Drawing No. Wirings ECP34-1L4
Drawing No. Wirings Type ECO 38-1SN/4
Drawing No. A5077 Rev.01 "Overall Dimensions Eco 38-N" Drawing No. A5826 Rev.08 "Shaft ECO 38-N"
Drawing No. A5319 Rev.03 "Moments Of Inertia ECO 38-3LN/4"
Drawing No. A5297 (SCA1492) Rev.02 "Stator Windings ECO 38-3LN/4 (450)" Drawing No. SCC0100 Rev.01 "Electrical Connection ECO Series"
Drawing No. 3004006773 (292381) Rev.00 "Data Sheet Specification ECO 38-3LN/4" Drawing No. A5514 (SRP0114) Rev.00 "Rotor Windings"
Drawing No. UNI 6604-69 Rev.Dec.1969 "Keys" Drawing No. A4053 Rev.04 "Shaft ECO 40"
Drawing No. A4778 Rev.03 "Overall Dimensions ECO 40" Drawing No. A3483 Rev.08 "Moments Of Inertia ECO

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Tier: 5 - Unit Certification Required

40-1S/4"

Drawing No. A1039 (SCA1100/02) Rev.05 " Stator Windings ECO 40-1S/4"

Drawing No. 68655/6 (EB1110294/5) Rev.00 " Data Sheet Specification ECO 40-1S/4" Drawing No. 6519 (SRP0041) Rev.00 " Rotor Windings ECO 40"

Drawing No. A4895 Rev.03, "ECO 38-3S/4 Protection IP23 Drawing" Drawing No. A5825 Rev.07, "ECO 38-3S/4 Shaft"

Drawing No. A9185 Rev.02, "ECO 38-3S/4 Overall dimension" Drawing No. SCA1495 Rev.02, "ECO 38-3S/4 Stator Windings" Drawing No. SCC0100 Rev.02, "ECO 38-3S/4 Connections Diagram"

Drawing No. SPECIF_EB1510370," ECO 38-3S/4 Technical Specification Sheet" Drawing No. SRP0114 Rev.00, "ECO 38-3S/4 Rotor Winding"

Drawing No. UTP_new version, ECO38 new version Drawing No. ECO38-3S/4 Name plate

Drawing No. ECO38-3S/4 Rotor details

Drawing No. 3293 3 1 MECC ALTE SPA, Shaft Certificate iaw EN 10204 Drawing No. A3595 Rev.02, DISC SAE 6 1-2

Drawing No. A3598 Rev.02, DISC SAE 7 1-2 Drawing No. A3599 Rev.02, DISC SAE 8 Drawing No. A3600 Rev.02, DISC SAE 10 Drawing No. A3601 Rev.02, DISC SAE 11 1-2

Drawing No. A5510 Rev.07, Disc Assembly Scheme ECP 32 Drawing No. A5548 Rev.01, Disc Blocking Ring

Drawing No. A6165 Rev.03, Steel Spacer Ring for Flywheel 8-10 Drawing No. ECP32_4B-moment of inertia, ECP32_4B-moment of inertia Drawing No. Nameplate ECO38-1L_4 270kVA

Drawing No. Nameplate ECP32-3L_4B 74kVA Drawing No. Nameplate ECP34-1L_4 119kVA

Type Test Report No. GE992175 dated 06 May 2008 in Italy Type Test Report No. VE955546 dated 18 February 2008 in Italy

Type Test Report No. VE1053567 dated 10 September 2008 in Italy Type Test Report No. VE2043953 dated 23 September 2011 in Italy Type Test Report No. VE2037422 dated 07 September 2011 in Italy Type Test Report No.

BO2711355 dated 11 September 2014 in Italy Type Test Report No. BO2999238 dated 01 October 2015 in Italy

Type Test Report No. BO3253343B (ECO38-1L/4) dated 19 December 2016 in Italy Type Test Report No.

BO3253343A (ECP32-3L/4B) dated 12 December 2016 in Italy Type Test Report No. BO3242099 (ECP34-1L/4) dated 21 November 2016 in Italy

Mecc Alte Test Report No. ECO381S4A 3004061134 U0433016 U043017 dated 19 April 2022 in UK Drawing No. B1451_01, SINGLE BEARING SHAFT, dated 16 July 2020, Page 1,

Drawing No. B1452_03, TWIN BEARING SHAFT, dated 26 April 2023, Page 1,

Drawing No. B1700_01, OVERALL DIMENSIONS SINGLE BEARING, dated 27 October 2020, Page 1,

Drawing No. B1702_01, OVERALL DIMENSIONS TWIN BEARING, dated 27 October 2020, Page 1, Drawing No.

SCA2772_00, ECO382M4C STATOR WINDING, dated 19 September 2019, Page 1, Drawing No. SCA2773_00,

ECO381M4C STATOR WINDING, dated 19 September 2019, Page 1, Drawing No. SCC0062_04, AVR

CONNECTION, dated 16 November 2016, Page 1,

Drawing No. SRP0114_00, ECO381M4C ROTOR WINDING, dated 4 February 2004, Page 1,

Type Test Report No. TEST REPORT ECO381M4C, ENDORSED TEST REPORT, dated 4 July 2018, Page 10, issued by MECC ALTE Marine,

Type Test Report No. TEST REPORT ECO382M4C, ENDORSED TEST REPORT, dated 23 November 2016, Page 4, issued by MECC ALTE Marine,

Drawing No. SCA2776, ECO381S4C STATOR WINDING, dated 19 September 2019, Page 1,

Type Test Report No. TEST REPORT ECO381S4C, ENDORSED TEST REPORT, dated 20 July 2023, Page 4, issued by MECC ALTE Marine

Terms of Validity:

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STANDARDS**ABS Rules:**

2025 Rules for Conditions of Classification, 1-1-4/7.7, 1-1-A3, 1-1-A4, which covers the following:

2025 Marine Vessels Rules: 4-8-3/3

2025 Rules for Conditions of Classification Offshore Rules (2025) 1-1-4/9.7, 1-1-A2, 1-1-A3, which covers the following:

2025 Offshore Rules: 6-1-7/5

National:

NA

International:

NA

Government:

NA

EUMED:

NA

OTHERS:

NA