



Marine & Offshore

Certificate number: 66171/A1 BV

File number: MPA2102081

Product code: 2572I

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
MECC ALTE SPA
 Creazzo (VI) - ITALY

for the type of product
ALTERNATING CURRENT GENERATORS (Power 100kW and over)
 Type ECO & ECP

Requirements:

Bureau Veritas Rules for the Classification of Steel Ships, Offshore Units, Naval Ships and Yachts.
 IEC 60034-1 (2010)

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: 14 Apr 2027

For Bureau Veritas Marine & Offshore,

At BV VENEZIA, on 25 Jul 2022,

Sandro BRUSEGAN

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:

Three phases synchronous A.C. Generators - Type ECO & ECP

1.1 - Specifications:

Number of poles:	4
Rated frequency:	50/60Hz
Voltage:	Up to 690V
Enclosure class:	IP23/45
Duty type:	S1
Temperature rise:	B, F or H

1.2 - Approval's range for Class H (kVA) at Amb. 45°C:

	50Hz			60Hz				
	380V	400V	415V	440V	450V	460V	480V	690V
ECP34-1S4C	/	/	/	101	101	101	101	101
ECP34-2S4C	/	/	/	115	115	115	115	115
ECP34-1M4C	120	120	120	134	139	144	144	144
ECP34-2M4C	130	130	130	144	150	156	156	156
ECP34-1L4C	144	144	144	163	168	173	173	173
ECP34-2L4C	154	158	158	183	187	190	190	190

	50Hz			60Hz				
	380V	400V	415V	440V	450V	460V	480V	690V
ECO38-1S4C	173	173	173	211	211	211	211	211
ECO38-2S4C	192	192	192	230	230	230	230	230
ECO38-1M4C	216	216	216	259	259	259	259	259
ECO38-2M4C	240	240	240	288	288	288	288	288
ECO38-1L4C	288	288	288	326	336	346	346	346
ECO38-2L4C	336	336	336	403	403	403	403	403

	50Hz			60Hz				
	380V	400V	415V	440V	450V	460V	480V	690V
ECO40-1S4C	384	384	384	432	446	461	461	461
ECO40-2S4C	432	432	432	490	504	518	518	518
ECO40-3S4C	480	480	480	557	566	576	576	576
ECO40-1L4C	528	528	518	605	619	634	634	634
ECO40-2L4C	600	600	600	677	699	720	720	720
ECO40-3L4C	653	653	653	749	766	783	783	783
ECO40-VL4C	720	720	720	864	864	864	864	864

For class B rating temperature rises, multiply class H rating by 0,792

For degree of protection IP45 (fitting an air inlet filter and air outlet filter), multiply class H rating by 0,74.

For 50°C ambient temperature multiply class H rating (or class F, or class B) by 0,97.

1.3 - Approval's range for Class F (kVA) at Amb. 45°C:

	50Hz			60Hz				
	380V	400V	415V	440V	450V	460V	480V	690V
ECP34-2S4C	/	/	/	105	105	105	105	105
ECP34-1M4C	108	108	108	120	125	130	130	130
ECP34-2M4C	116	116	116	130	135	140	140	140
ECP34-1L4C	131	131	131	144	150	156	156	156
ECP34-2L4C	138	143	143	158	165	171	171	171

	50Hz			60Hz				
	380V	400V	415V	440V	450V	460V	480V	690V
ECO38-1S4C	163	163	163	197	197	197	197	197
ECO38-2S4C	178	178	178	211	211	211	211	211
ECO38-1M4C	199	199	199	240	240	240	240	240
ECO38-2M4C	221	221	221	269	269	269	269	269
ECO38-1L4C	264	264	264	298	307	317	317	317
ECO38-2L4C	307	307	307	370	370	370	370	370

	50Hz			60Hz				
	380V	400V	415V	440V	450V	460V	480V	690V
ECO40-1S4C	355	355	355	394	408	422	422	422
ECO40-2S4C	394	394	394	442	456	470	470	470
ECO40-3S4C	432	432	432	499	509	518	518	518
ECO40-1L4C	480	480	470	547	562	576	576	576
ECO40-2L4C	541	541	541	611	631	650	650	650
ECO40-3L4C	605	605	605	691	709	726	726	726
ECO40-VL4C	662	662	662	797	797	797	797	797

2. DOCUMENTS AND DRAWINGS:

Drawing for ECP34C overall dimensions B3B14, rev.04, dated 23 Sep 2021.
Drawing for ECP34C overall dimensions MD35, rev.04, dated 23 Sep 2021.
Drawing for ECP34C shaft B3B14, rev.02, dated 03 May 2019.
Drawing for ECP34C shaft MD35, rev.03, dated 27 May 2020.
Technical guide for ECP34C, rev.04.

Drawing for ECO38C overall dimensions B3B14, rev.01, dated 27 Oct 2020.
Drawing for ECO38C overall dimensions MD35, rev.01, dated 27 Oct 2020.
Drawing for ECO38C shaft B3B14, rev.02, dated 16 Jul 2020.
Drawing for ECO38C shaft MD35, rev.01, dated 16 Jul 2020.
Technical guide for ECO38C, rev.0.

Drawing for ECO40C overall dimensions B3B14, rev.0.
Drawing for ECO40C overall dimensions MD35, rev.0.
Drawing for ECO40C shaft B3B14 S type, rev.02, dated 21 Mar 2017.
Drawing for ECO40C shaft B3B14 VL type, rev.02, dated 21 Mar 2017.
Drawing for ECO340 shaft MD35 S type, rev.02, dated 21 Mar 2017.
Drawing for ECO340 shaft MD35 L type, rev.02, dated 21 Mar 2017.
Drawing for ECO340 shaft MD35 VL type, rev.02, dated 21 Mar 2017.
Technical guide for ECO40C, rev.0.

3. TEST REPORTS:

MECC ALTE SPA:

Test report N° 15600201, dated 19 Jul 2021.
Test report N° 15600206, dated 02 Aug 2021.
Test report N° 17100201, dated 07 May 2021
Test report N° 17100206, dated 25 May 2021.
Test report N° 19200207, dated 26 Nov 2021.

KIWA CREIVEN S.R.L.:

Test reports N° 499/21/01406/BT and 499/21/01417/BT, dated 22 Nov 2021.
Test reports N° 499/21/01402/BT, 499/21/01407/BT, 499/21/01408/BT and 499/21/01402/BT, dated 22 Nov 2021.
Test reports N° 499/21/01403/BT and 499/21/01414/BT, dated 22 Nov 2021.

CREI Ven S.c.a.r.l.:

Test report N° 234/19/192186BT, dated 09 Oct 2019.

4. APPLICATION / LIMITATION:

According to BV Rules for the Classification of Steel Ships, Offshore Units, Naval Ships and Yachts.

5. PRODUCTION SURVEY REQUIREMENTS:

5.1 - The above products are to be supplied by **MECC ALTE SPA** 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 - For information, **MECC ALTE SPA** has declared to Bureau Veritas the following production sites:

MECC ALTE SPA
Via Roma 20,
I-36051 Creazzo (VI)
ITALY

Mec Alte UK Ltd
6 Lands End Way
LE15 6RF Oakham
Rutland
UNITED KINGDOM

6. MARKING OF PRODUCT:

6.1 - Trade name.

6.2 - Date of manufacture and serial number.

6.3 - Equipment type or model identification under which it was type-tested

7. OTHERS:

7.1 - It is **MECC ALTE SPA**'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.

7.2 - This certificate supersedes the Type Approval Certificate N° 66171/A0 BV issued on 14 Apr 2022 by the Society.

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