



Marine & Offshore

Certificate number: 50919/A0 BV

File number: ACE4/484/5

Product code: 2572H

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 below 100kW)
 ALTERNATING CURRENT GENERATORS (with Power Lower than 100kW)

Requirements:

Bureau Veritas Rules for the Classification of Steel Ships
 IEC 60034 series (2017), IEC 60092 - 301 (1980)

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: 28 Nov 2022

For Bureau Veritas Marine & Offshore,

At BV VENEZIA, on 28 Nov 2017,

Sandro BRUSEGAN



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.

The electronic version is available at: <http://www.veristarnb.com/veristarnb/jsp/viewPublicPdfTypepec.jsp?id=doehnmvtvb>

BV Mod. Ad.E 530 June 2017

This certificate consists of 3 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION:

Tree phases Synchronous A.C Generators Type ECP.

Enclosure class :	IP 23 (IP45)
Winding Insulation :	Class H
Temperature rise limits :	Class B, F or H
Voltage class	Up to 690 V
Power class	Up to 97,9 kVA
Frequency class	50 or 60 Hz
Speed	1500 or 1800 rpm

Rating class H : [kVA] Amb 45°C

TYPE	50Hz			60Hz				
	380V	400V	415V	440V	450V	460V	480V	690V
ECP32 2S/4	33.6	33.6	33.6	40.3	40.3	40.3	40.3	40.3
ECP32 3S/4	40.8	40.8	40.8	49	49	49	49	49
ECP32 1M/4	48	48	48	57.6	57.6	57.6	57.6	57.6
ECP32 2M/4	60	60	60	68.6	70.6	72.6	72.6	72.6
ECP32 3L/4	72	72	72	82.3	84.4	86.4	86.4	86.4
ECP32 4L/4	76.8	76.8	76.8	88	90	92	92	92

ECP34 1S/4	81.6	81.6	81.6	97.9	97.9	97.9	97.9	97.9
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Rating class F : [kVA] Amb 45°C

TYPE	50Hz			60hz				
	380V	400V	415V	440V	450V	460V	480V	690V
ECP32 2S/4	30.8	30.8	30.8	37	37	37	37	37
ECP32 3S/4	37.4	37.4	37.4	45	45	45	45	45
ECP32 1M/4	44	44	44	52.8	52.8	52.8	52.8	52.8
ECP32 2M/4	58.2	58.2	58.2	62.9	64.7	66.5	66.5	66.5
ECP32 3L/4	66	66	66	75.4	77.3	79.2	79.2	79.2
ECP32 4L/4	70.4	70.4	70.4	80.6	82.5	84.3	84.3	84.3

ECP34 1S/4	74.8	74.8	74.8	89.8	89.8	89.8	89.8	89.8
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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.

2. DOCUMENTS AND DRAWINGS:

2.1) Mecc Alte Version A0:

- MCH-2010-005, dated 29/01/2010.
- MCH-2011-100, dated 08/10/2012.
- MCH-2009-007, dated 10/02/2009.
- CLP 054, dated 28/04/2008.
- MCH-2009-117, dated 17/12/2009.
- MCH-2012-010, dated 14/02/2012.

2.2) Mecc Alte Version A2:

- A4641 rev 11 , dated 10/02/2011.
- A4642 rev 11 , dated 10/02/2011.
- A4643 rev 08 , dated 10/02/2011.
- A4644 rev 08 , dated 10/02/2011.
- A9090 rev 00 , dated 30/09/2014.
- A9373 rev 00 , dated 26/02/2015.
- A9503 rev 03 , dated 27/10/2015.
- A9504 rev 03 , dated 27/10/2015.

2.3) Data sheet Specification

-ECP32-1M4, ECP32-2M4, ECP32-3L4, ECP32-4L4, ECP32-2S4,ECP32-3S4, ECP34-1S4.

3. TEST REPORTS:**Mecc Alte Version A0:**

- All tests witnessed by BV's Surveyor, dated : 08/02/2011, 18/09/2012, 24/09/2009, 24/09/2012, 30/03/2011.
- Tests reports N°1139989/1139983/1139992/1139985/1138872/1139993, stamped Accepted and Reviewed on 16/01/2013.
- Tests reports N°1142998/1131793/1350615/1139996/1139990, stamped Accepted and Reviewed on 16/01/2013.

Mecc Alte TAC 32147 Version A2:

N° 1885887 dated 09/06/2016, 1889552 dated 01/06/2016, 1901647 dated 01/06/2016, 1901647 dated 06/06/2016, 1889224 dated 25/03/2016, 1887605 dated 22/12/2015, 1887978 dated 21/12/2015, 1889069 dated 25/05/2016, ECP32-2M/4 Rev A, ref 6620930 dated 22/12/2015.
 ECP32-4L/4 Rev A, ref 6620930 dated 21/12/2015.
 ECP34-3L/4 Rev A, ref 6620930 dated 25/05/2016.

4. APPLICATION / LIMITATION:

- 4.1 - BUREAU VERITAS Rules and Regulations for the Classification of Steel Ships.
- 4.3 - Alternator located within area or adjacent area protected by fire water based local application fire fighting cannot be exposed to direct spray.

5. PRODUCTION SURVEY REQUIREMENTS:

- 5.1 - The **Tree phases Synchronous A.C Generators Type ECP** are to be supplied by **MECC ALTE SPA** in compliance with the type described in this certificate.
- 5.2 - This type of product is within the category HBV of Bureau Veritas Rule Note NR320 and as such does not require a BV product certificate.
- 5.3 - **MECC ALTE SPA** has to make the necessary arrangements to have its works recognised by Bureau Veritas in compliance with the requirements of NR320 for HBV products.
- 5.4 - **MECC ALTE SPA** has declared to Bureau Veritas the following production sites:

MECC ALTE Spa
Via Roma 20
36051 Creazzo
Vicenza
ITALY

MECC ALTEUK Ltd
6 Lands' End Way, Oakham
Rutland LE15 6RF
UNITED KINGDOM

6. MARKING OF PRODUCT:

- Name plate according to IEC 60034-1
- Society's brand as relevant
- @ or \ conformity marking, as relevant.

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.

*** END OF CERTIFICATE ***