



Marine & Offshore

Certificate number: 09691/D0 BV

File number: ACE 4/400/3

Product code: 2584H

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

KONCAR-MES Ltd.

Zagreb - CROATIA

for the type of product

ASYNCHRONOUS MACHINES (Power below 100kW)

Marine Flameproof Motors type 5ABT 71 to 112.

Requirements:

BV Rules for the Classification of Steel Ships.

IEC 60034-1 (2022)

IEC 60079-0 (2017), IEC 60079-1 (2014), IEC 60079-7 (2017), IEC 60079-31 (2022).

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: 21 Sep 2027

For Bureau Veritas Marine & Offshore,

At BV RIJEKA, on 21 Sep 2022,

Slaven Celic

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 3 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION:

1.1 - Approval range:

Marine ATEX Motors - Explosion proof enclosure

3-phase cage induction MARINE motors totally enclosed

Series 5ABT

Type of protection:

Ex d IIC (motor and terminal box "d" or motor "d" with permanently connected cables

Ex de IIC (motor and terminal box "d" or motor "e")

| | |
|------------------------------------|--------------------------------------|
| Frame material | Die cast alloy aluminium |
| Number of poles | 2 to 8 |
| Frame sizes | 71- 80 - 90 - 100 - 112 mm |
| Cooling | Air -Cooling method IC 411 or IC 410 |
| Degree of protection of enclosures | IP 55, IP 56, IP 65, IP 66 and IP 67 |
| Rotor | squirrel cage |
| Power supply | 220 to 690 V |
| Frequency | 50 Hz and 60 Hz |
| Speed | 750 to 3600 RPM |
| Insulation class | F |
| Temperature rise class | B |
| Duty service | S1 to S10 according to IEC standard |
| Ambient temperature | 50°C |

Rated power at S1 duty*

| Motor type | kW 2 poles 50 Hz | kW 2 poles 60 Hz | kW 4 poles 50 Hz | kW 4 poles 60 Hz | kW 6 poles 50 Hz | kW 6 poles 60 Hz | kW 8 poles 50 Hz | kW 8 poles 60 Hz |
|------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| 5ABT 71A | 0,37 | 0,4 | 0,25 | 0,3 | 0,18 | 0,2 | 0,09 | 0,09 |
| 5ABT 71B | 0,55 | 0,6 | 0,37 | 0,4 | 0,25 | 0,3 | 0,12 | 0,12 |
| 5ABT 80A | 0,75 | 0,8 | 0,55 | 0,6 | 0,37 | 0,4 | 0,18 | 0,2 |
| 5ABT 80B | 1,1 | 1,2 | 0,75 | 0,8 | 0,55 | 0,6 | 0,25 | 0,3 |
| 5ABT 90S | 1,5 | 1,7 | 1,1 | 1,2 | 0,75 | 0,8 | 0,37 | 0,4 |
| 5ABT 90L | 2,2 | 2,5 | 1,5 | 1,7 | 1,1 | 1,2 | 0,55 | 0,6 |
| 5ABT 100LA | / | / | 2,2 | 2,5 | / | / | 0,75 | 0,8 |
| 5ABT 100LB | / | / | 3 | 3,4 | / | / | 1,1 | 1,2 |
| 5ABT 100L | 3 | 3,4 | / | / | 1,5 | 1,7 | / | / |
| 5ABT 112M | 4 | 4,5 | 4 | 4,5 | 2,2 | 2,5 | 1,5 | 1,7 |

* The power indicated in this table can be modified according to ambient temperature, duty type and other factors as per customer request

2. DOCUMENTS AND DRAWINGS:

Technical description as per KONCAR-MES documentation N° A69192, Annex 7, dated 02 Jul 2021.

Assembly drawing N° A69192, rev.A, dated 03 Mar 2014.

Data and list of positions N° A69192-S1, rev.B and A69192-S2, rev.B, dated 30 May 2014

Drawing with all dimensions of protective gag N° A69192 -11, -12, -13, -14 and -15

Terminal box "e" with group bushing insulator + terminal block N° A69192-2

Terminal box "d" cable adapter with cable N° A69192-31, rev.B and A69192-32, rev.B, dated 30 May 2014.

Terminal box "e" and "d" with bushing insulator + terminal block N° A69192-41 and 42

Technical description ref. A69192-DO, dated 31.Mar.2016.

Brake mounting drawing "d" option N° A69192-5, rev.A, dated 03 Mar 2014.

Terminal block drawing N° A67850, rev.B, dated 30 May 2014.

3. TEST REPORTS:

Type tests carried out according to BV Rules Pt C, Ch 2, Sec 4, Table 1
EC Type Examination Certificate N° CESI 05 ATEX 110X dated 29 Dec 2005 and extension to CESI 05 ATEX 110X / 07 dated 12 Jul 2021.

Ex-Agencija:

- EC type examination certificate no. EXA 16 ATEX 0002U
- Test report N° 17 TR 0023, dated 15 Mar 2017.

CESEI:

- EU-type examination certificate ref. CESEI 05 ATEX 110 X / 07, dated 12 Jul 2021.

4. APPLICATION / LIMITATION:**4.1 - Application / Limitation of use**

According to BV Rules for the Classification of Steel Ships and IEC 60092 series

4.2 - On board installation & Maintenance requirements

According to BV Rules for the Classification of Steel Ships and IEC 60092 series

4.3 - Ex-certification is not covered by this certificate, Applications in hazardous areas are to be approved in each case according to the Rules and Conditions for Safe Use specified in a valid Ex-Certificate issued by a Notified or Recognised Certification Body.

5. PRODUCTION SURVEY REQUIREMENTS:

5.1 - The above products are to be supplied by **KONCAR-MES Ltd.** 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 - **KONCAR-MES Ltd.** 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 - For information, **KONCAR-MES Ltd.** has declared to Bureau Veritas the following production site:

KONCAR-MES Ltd.
Fallerovo setaliste 22
10000 Zagreb
CROATIA

6. MARKING OF PRODUCT:

6.1 - Name plate according to IEC 60034-1

6.2 - Additional marking:

II 2G Ex db IIB T3 Gb or II 2G Ex db eb IIB T3 Gb

II 2G Ex db IIC T3,T4,T5,T6 Gb or II 2G Ex db eb IIC T3,T4,T5,T6 Gb

II 2D Ex tb IIIC T160°C, T130°C, T100°C Db

7. OTHERS:

7.1 - It is **KONCAR-MES Ltd.** 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° 09691/C0 BV issue on 20 Mar 2017 by the Society.

*** END OF CERTIFICATE ***