



Marine & Offshore  
Division

Certificate number: 09693/C0 BV

File number: ACE 4/400/5

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 d.d.**

Zagreb - CROATIA

*for the type of product*

**ASYNCHRONOUS MACHINES (Power below 100kW)**

7ABZ series.

### Requirements:

Bureau Veritas Rules for the Classification of Steel Ships.  
IEC 60034 series (2010).

*This certificate is issued to attest that BUREAU VERITAS 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: 15 May 2022**

**For BUREAU VERITAS,**

At BV RIJEKA, on 15 May 2017,

Slaven Celic



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. 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 Division 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 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 October 2014

This certificate consists of 3 page(s)

## THE SCHEDULE OF APPROVAL

### 1. PRODUCT DESCRIPTION:

The **7ABZ series** are electrical motors for marine applications.

#### 1.1 - Specifications:

Frame material	Cast iron
Number of poles	2 to 8 and multi poles
Frame sizes	90 - 100 - 112 - 132 - 160 - 180 - 200 - 225 - 250 - 280 - 315mm
Cooling	Air -Cooling method IC 411
Degree of protection of enclosures	IP 54 - IP 55 - IP 56 - IP66
Power supply	220 to 690 V
Frequency	50 Hz and 60 Hz
Speed	750 to 3600 RPM
Thermal class	F
Duty service	S1 to S10 according to IEC standard
Ambient temperature	40°C to 50°C

#### 1.2 - Approval range:

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
7ABZ 90S	1.5	1.7	1.1	1.2	0.75	0.8	0.37	0.4
7ABZ 90L	2.2	2.5	1.5	1.7	1.1	1.2	0.55	0.6
7ABZ 90LC	/	/	2.2	2.5	/	/	1.75	0.8
7ABZ 100L	3	3.4	/	/	1.5	7.7	/	/
7ABZH 100L	4	4.5	/	/	/	/	/	/
7ABZ 100LA	/	2.2	2.5	/	/	0.75	0.8	/
7ABZ 100LB	/	/	3	3.4	/	/	1.1	1.2
7ABZH 100LB	/	/	3.5	4	/	/	/	/
7ABZ 112M	4	4.5	4	4.5	2.2	2.5	1.5	1.7
7ABZH 112M	5.5	6.2	5.5	6.2	/	/	/	/
7ABZH 112MA	/	/	/	/	3	3.4	2.2	2.5
7ABZ 132S	/	/	5,5	6,2	3	3,4	2,2	2,5
7ABZ 132SA	5,5	6,2	/	/	/	/	/	/
7ABZ 132SB	7,5	8,5	/	/	/	/	/	/
7ABZ 132M	9,5	11	7,5	8,5	/	/	3	3,4
7ABZH 132M	11	12,5	/	/	/	/	/	/
7ABZ 132MA	/	/	9,5	11	4	4,5	/	/
7ABZH 132MA	/	/	11	12,5	/	/	/	/
7ABZ 132MB	/	/	/	/	5,5	6,2	/	/
7ABZ 160M	/	/	11	12,5	7,5	8,2	/	/
7ABZ 160MA	11	12,5	/	/	/	/	4	4,5
7ABZ 160MB	15	17	/	/	/	/	5,5	6,2
7ABZ 160L	18,5	21	15	17	11	12,5	7,5	8,5
7ABZH 160L	22	25	/	/	/	/	/	/
7ABZ 180M	22	25	18,5	21	/	/	/	/
7ABZ 180L	30	33	22	25	15	17	11	12,5
7ABZ 180LA	/	/	30	34	18,5	21	15	17
7ABZ 200L	/	/	30	34	/	/	15	17
7ABZ 200LA	30	33	/	/	18,5	21	/	/
7ABZ 200LB	37	40	/	/	22	25	/	/
7ABZ 225S	/	/	37	42	/	/	18,5	21
7ABZ 225M	45	50	45	52	30	34	22	25
7ABZ 250M	55	60	55	63	37	42	30	34
7ABZ 280S	75	85	75	85	45	50	37	40
7ABZ 280M	90	/	90	/	55	60	45	50
7ABZ 315S	/	/	/	/	75	84	55	62
7ABZ 315M	/	/	/	/	90	/	75	85
7ABZ 315LA	/	/	/	/	/	/	90	/

\* 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, Out-line drawings, Assembly drawing, Data and list of position as per KONCAR-MES documentation N° A44689/A dated 07/2005 and KONCAR MES Catalogue O.K.E.10.00 and 1.K.E.10.00.

**For C0 version:**

Operation & maintenance instructions ref. 2752514, dated Sep 2016.

Technical description ref. A44689/D, dated 30 Sep 2016.

Drawing ref. A44689/C7, dated 14 Sep 2015.

Drawing ref. A44689/C6, dated 14 Sep 2015.

Drawing ref. A44689/C4, dated 30 Sep 2016.

Drawing ref. A44689/C5, dated 14 Sep 2015.

Drawing ref. A44689/C1, dated 14 Sep 2015.

Drawing ref. A44689/C3, dated 30 Sep 2016.

**3. TEST REPORTS:**

Type tests carried out according to BV Rules Pt C, Ch 2, Sec 4, Table 1

Review of type tests reports N° 649828 – 687229 – 684378 – 684934 – 684951 – Br. 21572-05/631 EI

**For C0 version:****KONCAR-MES d.d.:**

- Winding resistance measurement reports, dated 19 Jan 2017 & 17 Jan 2017.

- Type & routine tests report dated 17 Jan 2017.

**4. APPLICATION / LIMITATION:**

4.1 - BUREAU VERITAS Rules and Regulations for the Classification of Steel Ships.

4.2 - The installation shall comply with the Manufacturer's recommendation described in the above-referenced documentation.

**5. PRODUCTION SURVEY REQUIREMENTS:**

5.1 - The **7ABZ motors series** are to be supplied by **KONCAR-MES d.d.** 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 d.d.** has to make the necessary arrangements to have its works recognised by Bureau Veritas in compliance with the requirements of NR320 for HBV products.

**6. MARKING OF PRODUCT:**

Name plate according to IEC 60034-1

**7. OTHERS:**

7.1 - It is **KONCAR-MES d.d.** 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° 09693/B0 BV issue on 11 May 2011 by the Society.

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