



MARINE DIVISION

Certificate number: 09693/B0 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

Marine Motors with cast iron frame type 7ABZ 132 to 315  
Power < 100KW

**Requirements:**

BV Rules for the Classification of Steel Ships,  
IEC 60034 series,  
IEC 60092 301.

*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: 11 May 2016**

**For BUREAU VERITAS,**

At BV RIJEKA, on 11 May 2011,

Branko VISKOVIĆ



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 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.

## THE SCHEDULE OF APPROVAL

### 1. PRODUCT DESCRIPTION:

3-phase cage induction MARINE motors  
Series 7ABZ  
Totally enclosed

Frame material	Cast iron
Number of poles	2 to 8 and multi poles
Frame sizes	132 - 160 - 180 - 200 - 225 - 250 - 280 - 315 mm
Cooling	Air -Cooling method IC 411
Degree of protection of enclosures	IP 54 - IP 55 - IP 56 - IP66
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 or F
Duty service	S1 to S10 according to IEC standard
Ambient temperature	40°C to 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
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.

**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

**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

**5. PRODUCTION SURVEY REQUIREMENTS:**

5.1 - The asynchronous motors described above are to be manufactured, examined and tested by **KONCAR-MES d.d., Falleroovo setaliste 22 - HR-10000 Zagreb** in accordance with the type described in this certificate and Bureau Veritas Rules for the Classification of Steel Ships.

5.2 - Production sites are to be recognized by Bureau Veritas as per NR320 for HBV products. To this **KONCAR-MES d.d., Falleroovo setaliste 22 - HR-10000 Zagreb** to make the necessary arrangements for a Society's Surveyor to perform visits and product audits at the production sites.

5.3 - **KONCAR-MES d.d., Falleroovo setaliste 22 - HR-10000 Zagreb** has declared to Bureau Veritas that the type of electrical motors described in this certificate are manufactured at the following site:

**KONCAR-MES d.d.  
Falleroovo setaliste 22  
HR-10000 Zagreb  
Croatia**

**6. MARKING OF PRODUCT:**

Name plate according to IEC 60034-1

**7. OTHERS:**

7.1 - This approval is given on the understanding that the society reserves the right to require check tests to be carried out on the units at any time and that the **KONCAR-MES d.d., Falleroovo setaliste 22 - HR-10000 Zagreb** will accept full responsibility for informing shipbuilders, ship-owners or their sub-contractors of the proper methods of use and general maintenance of the units and the conditions of this approval.

7.2 - This certificate supersedes the Type Approval Certificate n° 09693/A0 BV issue on 15/07/2002 by the Society.

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