



Marine & Offshore

Certificate number: 09694/D0 BV

File number: ACE 04/400/06

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: 7ABT 71 to 315.

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: 02 Dec 2027

For Bureau Veritas Marine & Offshore,

At BV RIJEKA, on 02 Dec 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 4 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION:

Series 7ABT , 3-phase cage induction MARINE motors (Totally enclosed)

- Type of protection:
- Ex db IIC (motor and terminal box "db" or motor "db" with permanently connected cables)
 - Ex db eb IIC (motor "db" and terminal box "eb")
 - Ex db eb I (motor "db" and terminal box "eb")
 - Ex db I (motor "db" with permanently connected cables)

Frame material:	Cast iron frame size 71 to 315
Number of poles:	2 to 8
Cooling:	Air –Cooling method IC 411 - IC 410 and IC 416
Degree of protection of enclosures:	IP 54, IP 55, IP 56, 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 - H
Temperature rise class:	B
Duty service:	S1 to S10 according to IEC standard
Ambient temperature:	- 20°C to 60°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
7ABT 71A	0.37	0.4	0.25	0.3	0.18	0.2	0.09	0.1
7ABT 71B	0.55	0.6	0.37	0.4	0.25	0.3	0.12	0.14
7ABT 80A	0.75	0.8	0.55	0.6	0.37	0.4	0.18	0.2
7ABT 80B	1.1	1.2	0.75	0.8	0.55	0.6	0.25	0.3
7ABT 90S	1.5	1.7	1.1	1.2	0.75	0.8	0.37	0.4
7ABT 90L	2.2	2.5	1.5	1.7	1.1	1.2	0.55	0.6
7ABT 100L	3	3.4	/	/	1.5	1.7	/	/
7ABT 100LA	/	/	2.2	2.5	/	/	0.75	0.8
7ABT 100LB	/	/	3	3.4	/	/	1.1	1.2
7ABT 112M	4	4.5	4	4.5	2.2	2.5	1.5	1.7
7ABT 132S	/	/	5,5	6,2	3	3,4	2,2	2,5
7ABT 132SA	5,5	6,2	/	/	/	/	/	/
7ABT 132SB	7,5	8,5	/	/	/	/	/	/
7ABT 132M	9,5	11	7,5	8,5	/	/	3	3,4
7ABT 132MA	/	/	9,5	11	4	4,5	/	/
7ABT 132MB	/	/	/	/	5,5	6,2	/	/
7ABT 160M	/	/	11	12,5	7,5	8,2	/	/
7ABT 160MA	11	12,5	/	/	/	/	4	4,5
7ABT 160MB	15	17	/	/	/	/	5,5	6,2
7ABT 160L	18,5	21	15	17	11	12,5	7,5	8,5
7ABT 180M	22	25	18,5	21	/	/	/	/
7ABT 180L	/	/	22	25	15	17	11	12,5
7ABT 200L	/	/	30	34	/	/	15	17
7ABT 200LA	30	34	/	/	18,5	21	/	/
7ABT 200LB	37	42	/	/	22	25	/	/
7ABT 225S	/	/	37	42	/	/	18,5	21
7ABT 225M	45	50	45	52	30	34	22	25
7ABT 250M	55	62	55	62	37	42	30	34
7ABT 280S	75	85	75	85	45	50	37	42
7ABT 280M	90	99	90	99	55	62	45	50
7ABT 315S	/	/	/	/	75	84	55	62
7ABT 315M	/	/	/	/	90	99	75	85
7ABT 315LA	/	/	/	/	/	/	90	99

* 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° A524200, Annex 10, dated 24 Jun 2021.

Schematic overview: A51420/12E

Assembly drawing: A51420/A + A69946/E + A69946/1E + A69946/2E

Assembly drawing of electric motors in Ex protection type "explosion-proof enclosure d": A52420/E

Connection complete for motors in Ex protection type "explosion-proof enclosure d" / A52421/E

Terminal plate: A51420/2E – A51420/3E

Terminal box (7ABT 132 to 250 EExd IIC): A51420/4E and A51420/5E

Terminal box (7ABT 132 to 280 EExd IIC): A51420/4E and A51420/5Exd

Terminal box (7ABT 132 to 250 EExde IIC): A51420/4E and A51420/6E

Thermal protection drawing: A61903/E

Protective gaps: A51420/1E

Bushing isolator: A61926E

Connection parts in the terminal box: A56432E

Forced ventilation unit: A54343E

Technical description ref. A524200, dated 31.Mar.2016.

Dimensional drawing N° 122016/6A, rev.D, dated Dec 2020.

Schematic overview of mech. protection drawing N° 122016/9D2, rev.A, dated Dec 2020.

Terminal Box drawing N° 122016/10B1, dated 21 Jan 2021.

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° 1146939

CESI:

Certificate N° CESI 03 ATEX 280X, CESI extension N° 02/06 dated 14/06/2006 to CESI 03 ATEX 280X and CESI extension N° 03/08 dated 09/09/2008 to CESI 03 ATEX 280X and CESI extension N° 04/10 dated 09/04/2010 to CESI 03 ATEX 280X and

Examination certificate No. CESI 03 ATEX 280 X /10, dated 29 Jun 2021.

KONCAR-MES Ltd.:

Test reports dated 25 Oct 2016.

Test report dated 03 Mar 2021.

Test report dated 04 Mar 2021.

Ex-Agencija:

Test report N° 15 TR 0105, dated 14 Sep 2015.

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: I M2 Ex db IMb or I M2 Ex db eb IMb
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° 09694/C0 BV issue on 20 Mar 2017 by the Society.

*** END OF CERTIFICATE ***