



MARINE DIVISION

Certificate number: 22769/A0 BV

File number: ACE 4/861/2

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

ABB Shanghai Motors Co. Ltd.
Shanghai - CHINA

for the type of product

ASYNCHRONOUS MACHINES

Three-phase Cage Induction MARINE MOTORS Type M2QA below 100KW

Requirements:

Bureau Veritas 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: 10 Mar 2015

For BUREAU VERITAS,

At BV SHANGHAI, on 10 Mar 2010,

Jennifer Zhang



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 :

1.1 Three phase Cage Induction Marine Motors - Type M2QA...

Frame material	Cast Iron Frame
Number of poles:	2, 4, 6 and 8
Height of frame:	71, 80, 90, 100, 112, 132, 160, 180, 200, 225, 250, 280, 315
Power supply:	220 to 690 V 50 Hz / 60 Hz
Enclosure and cooling	IP 55, IP56 & IP65
Ambient temperature:	50°C
Duty type:	S1 to S9
Insulation class:	F
Temperature rise:	B or F

Maximum rated power at S1

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
71MA	0,37	0,43	0,25	0,29	0,18	0,21	/	/
71MB	/	0,63	/	0,43	/	0,29	/	/
80MA	0,75	0,86	0,55	0,63	0,37	0,43	/	/
80MB	1,1	1,27	0,75	0,86	0,55	0,63	/	/
90SA	1,5	1,73	1,1	1,27	0,75	0,86	/	/
90LA	2,2	2,53	1,5	1,73	1,1	1,27	/	/
100LA	3,0	3,45	2,2	2,53	1,5	1,73	0,75	0,86
100LB	/	/	3,0	3,45	/	/	1,1	1,27
112MA	4,0	4,6	4,0	4,6	2,2	2,53	1,5	1,73
132SA	5,5	6,33	5,5	6,33	3,0	3,45	2,2	2,53
132SB	7,5	8,6	/	/	/	/	/	/
132MA	/	/	7,5	8,6	4,0	4,6	3,0	3,45
132MB	/	/	/	/	5,5	6,33	/	/
160MA	11,0	12,7	11,0	12,7	7,5	8,6	4,0	4,6
160MB	15,0	17,3	/	/	/	/	5,5	6,33
160LA	18,5	21,3	15,0	17,3	11,0	12,7	7,5	8,6
180MA	22,0	25,3	18,5	21,3	/	/	/	/
180LA	/	/	22,0	25,3	15,0	17,3	11,0	12,7
200LA	30,0	34,5	30,0	34,5	18,5	21,3	15,0	17,3
200LB	37,0	42,6	/	/	22,0	25,3	/	/
225SA	/	/	37,0	42,6	/	/	18,5	21,3
225MA	45,0	51,8	45,0	51,8	30,0	34,5	22,0	25,3
250MA	55,0	63,0	55,0	63,0	37,0	42,6	30,0	34,5
280SA	75,0	86,0	75,0	86,0	45,0	51,8	37,0	42,6
280MA	90,0	/	90,0	/	55,0	63,0	45,0	51,8
315SA	/	/	/	/	75,0	86,0	55,0	63,0
315MA	/	/	/	/	90,0	/	75,0	86,0
315LA	/	/	/	/	/	/	90,0	/

2. DOCUMENTS AND DRAWINGS :

As per technical specification Q/ JBQS 33-2009.

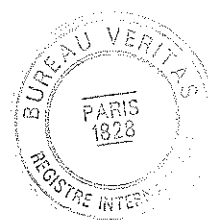
3. TEST REPORTS :

WY09-654, WY08-1003, WY09-059, WM09-263, WY08-082, WY08-913, WY08-1715.

4. APPLICATION / LIMITATION:

4.1 - Application / Limitation of use

According to BV Rules for the Classification of Steel Ships and IEC 60092 series.
For installation in non hazardous area.



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 **ABB Shanghai Motors Co., Ltd.** 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 end **ABB Shanghai Motors Co., Ltd** has to make the necessary arrangements for a Society's Surveyor to perform visits and product audits at the production sites.

5.3 - **ABB Shanghai Motors Co., Ltd** has declared to Bureau Veritas that the type of product described in this certificate are manufactured at the following site:

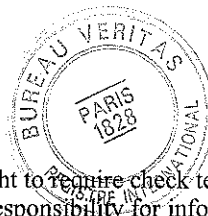
ABB Shanghai Motors Company Limited
88, Tianning Road, Minhang Economic and technical Development Zone
Shanghai
P.R. China

6. MARKING OF PRODUCT:

- Name plate according to IEC 60034-1

7. OTHERS:

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 **ABB Shanghai Motors Co., Ltd** 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.



*** END OF CERTIFICATE ***