



MARINE DIVISION

Certificate number: 06435/D0 BV

File number: ACE 04/004/03

Product code: 25841

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 Oy, Motors and Generators
VAASA - FINLAND

for the type of product

ASYNCHRONOUS MACHINES

Type: M2FA

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: 31 Dec 2011

For BUREAU VERITAS,

At BV HELSINKI, on 21 Jun 2011,

Tommy Andersson



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 :

OPEN DRIP PROOF SQUIRREL CAGE THREE PHASE MOTORS WITH STEEL FRAME

Type	M2FA
Size:	250, 280, 315, 355, 400
Rated power (S1 duty): *	37 up to 800 kW
N° of poles:	2, 4, 6, 8, 10, 12 and multipole
Rated voltage:	220 up to 690 V
Rated frequency:	50 and 60 Hz
Enclosure protection:	IP 23S
Insulation class:	F

- * - according to ABB Motors catalogue N° BA/M2FA GB 97-02.
 - for intermittent duties (S2, S3, etc.) the output power is approximately 1.3...1.5 times the nominal S1 power.

2. DOCUMENTS AND DRAWINGS :

According to documents and drawing filed in ACE 04/004/03 and ABB Motors catalogue N° BA/M2FA GB 97-02.

3. TEST REPORTS :

According to documents and drawing filed in ACE 04/004/03.

4. APPLICATION / LIMITATION :

- 4.1 - According to BV Rules for the Classification of Steel Ships and IEC 60092 series.
- 4.2 - Type test reports are to be available to the surveyor for each inspected motor before routine tests. If not, the whole type tests according Part C, Chapter 2, Section 4, Table 1, are to be carried out.
- 4.3 On board installation and maintenance requirements
 According to BV Rules for the classification of steel ships and IEC 60092 series



5. PRODUCTION SURVEY REQUIREMENTS :

The asynchronous motors described above are to be manufactured, examined and tested by **ABB Motors OY Finland** in accordance with the type described in this certificate and Bureau Veritas Rules for the classification of steel ships. Production site of motors below 100 kW is to be recognized by Bureau Veritas as per NR320. To this end **ABB Motors OY Finland** has to make the necessary arrangements for a society's surveyor to perform visits and product audits at the production site

For motors of 100 kW and over , arrangements shall be made for a society's Surveyor to attend the relevant tests and examinations at the manufacturer's work or to perform the relevant audit when an alternative survey schema BV Mode I has been agreed. Relevant Bureau Veritas certificate will be issued after satisfactory completion of the procedure **ABB Motors OY Finland** has declared to Bureau Veritas that the electrical motors described in this certificate are manufactured at the following site.

ABB Motors OY
VAASA - Finland

6. MARKING OF PRODUCT :

- According to IEC 60034.1
-  or  conformity marking, as relevant.

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 **ABB Motors OY Finland**, will accept full responsibility for informing shipbuilders, shipowners 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° 06435/C0 BV issued on 10/02/2006 by the Society.

*** END OF CERTIFICATE ***