

MARINE DIVISION

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Certificate number: 11803/B0 BV

File number : ACE 04/004/07

Product code : 2584I

This certificate is not valid when presented without the full attached schedule composed of 7 sections

TYPE APPROVAL CERTIFICATE

as per Bureau Veritas Classification Rules

This certificate is issued to

ABB Oy, Motors
VAASA - FINLAND

for the type of product

ASYNCHRONOUS MACHINES

Marine Flameproof Motors type, M3JP / KP.

Regulations and standards :

BV Rules for the Classification of Steel Ships.
IEC 60034 series, IEC 60092-301.
EN 50014, 50018, 50019, EN50281-1-1.

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 of the Regulations and standards mentioned above.

This certificate is valid until : 28 Aug 2012

At Paris la Défense, on : 28 Aug 2007

For BUREAU VERITAS,
By order of the Secretary

Approval office

Local office : BV HELSINKI
Surveyor : T. Andersson

L. COURREGELONGUE



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. 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
 Cast iron frame, Ex protected
 Type: **M3JP 160 to M3JP 355** EEx d
 Type: **M3KP 160 to M3KP 355** EEx de
 Rated voltage: 220 V up to 690 V
 Rated frequency: 50 Hz - 60 Hz
 Ambient temperature: 45°C
 Synchronous speed: 500 to 3600 RPM
 Number of poles: 2 to 12
 Duty type: S1, S2 S9 according to IEC standard
 Insulation class: F
 Temperature rise: class B
 Rated power at S1 duty: 4 kW to 600 kW
 Degree of protection: IP 55 and IP 56

2. DOCUMENTS AND DRAWINGS :

According to documents filed in ACE 04/004/07, including drawings, description and technical data
 ABB M3000 Motors for hazardous environments Catalogue BU/Ex-motors GB -12.

3. TEST REPORTS :

EC type examination certificate issued by LCIE

N° LCIE 00 ATEX 6023 for type M3JP 160.../M3KP 160...(EEx d/de IIB/IIC T1 to T6)
 N° LCIE 00 ATEX 6028 for type M3JP 180.../M3KP 180...(EEx d/de IIB/IIC T1 to T6)
 N° LCIE 00 ATEX 6027 for type M3JP 200.../M3KP 200...(EEx d/de IIB/IIC T1 to T6)
 N° LCIE 00 ATEX 6029 for type M3JP 225.../M3KP 225...(EEx d/de IIB/IIC T1 to T6)
 N° LCIE 00 ATEX 6030 for type M3JP 250.../M3KP 250...(EEx d/de IIB/IIC T1 to T6)
 N° LCIE 01 ATEX 6078 for type M3JP 280.../M3KP 280...(EEx d/de IIB/IIB + H2 T1 to T6)
 N° LCIE 01 ATEX 6079 for type M3JP 315.../M3KP 315...(EEx d/de IIB/IIB + H2 T1 to T6)
 N° LCIE 03 ATEX 6060 for type M3JP 355.../M3KP 355...(EEx d/de IIB/IIC T1 to T6)

Electrical tests

The type tests have been carried out in the laboratory of the manufacturer according to BV Rules Pt C, Ch 2, Sec 4, table 5.
 Type test reports of: M3JP 160LMC 2 EEx d IIB T4 440VD 60 Hz 21 kW, M3JP 200LMC 4 EEx d IIB T4 400VD 50 Hz 37 kW, M3JP 250SMA 4 EEx d IIB T4 400VD 50 Hz 55 kW, M3JP 280SMB 4 EEx d IIB T4 400VD 50 Hz 90 kW, M3KP 250SMB 4 EEx d IIB T4 440VD 60 Hz 86 kW, M3KP 315SMB 4 EEx d IIB T4 400VD 50 Hz 132 kW, M3KP 315SMC 2 EEx de IIC T4, M3JP 280SMB 4 EEx d IIB T4, M3KP 315SMB 4 EEx de IIB T4, M3KP 280SMB 6 EEx d IIB T4, M3KP 315SMB 8 EEx de IIB T4.

4. APPLICATION / LIMITATION :

Application / Limitation of use :

According to BV Rules for the Classification of Steel Ships and IEC 60092 series.
 Conditions of the certificate issue by LCIE must be observed.

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 Type: **M3JP 160 to M3JP 355** EEx d & Type: **M3KP 160 to M3KP 355** EEx de are to be manufactured, examined and tested by **ABB Oy, Electrical Machines, LV Motors, VAASA - FINLAND** in accordance with the type described in this certificate and Bureau Veritas Rules for the Classification of Steel Ships.

5. 2 Arrangements shall be made for a Society's Surveyor to attend the relevant tests and examinations at manufacturer's works or to perform the relevant audits when an alternative survey scheme (BV Mode I) has been agreed. Relevant Bureau Veritas

certificate will be issued after satisfactory completion of the procedure.

5.3 **ABB Oy** has declared to Bureau Veritas that the type of product described in this certificate are manufactured at the following address

ABB Oy
L V Motors
Strömbergin Puistotie 5 A
FIN-65320 Vaasa
FINLAND

6. MARKING OF PRODUCT :

- Name plate according to IEC 60034-1 and directive 94/9/CE.
- Stamp @ on frame when BV mode I survey.
- Stamp \ on frame when BV mode II survey.

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 **ABB OY, Electrical Machines, LV Motors, VAASA - 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° 11803/A1 BV issued on 15.04.2002 by the Society.

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