

MARINE DIVISION

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Certificate number: 11802/B0 BV

File number : ACE 04/004/08 & 07

Product code : 25841

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 Increased safety Motors, type M3HP.

Regulations and standards :

BV Rules for the Classification of Steel Ships.
IEC 60034 series, IEC 60092-301.
EN 50014, 50021, 50281-1-1.

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

L. COURREGELONGUE

Approval office



Local office : BV HELSINKI
Surveyor : T. 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. 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: **M3HP 160 to M3HP 355** EEx e
 Rated voltage: 220 V up to 690 V
 Rated frequency: 50 Hz - 60Hz
 Ambient temperature: 45°C
 Synchronous speed: 500 to 3600 RPM
 Number of poles: 2 to 12
 Duty type: S1, S2S9 according to IEC standard
 Insulation class: F
 Temperature rise: class B
 Rated power at S1 duty: 3.5 kW to 330 kW
 Degree of protection: IP 55 and IP 56

2. DOCUMENTS AND DRAWINGS :

According to documents filed in ACE 4/4/8 & 7, including drawings, description and technical data
 ABB M3000 Motors for hazardous environments Catalogue BU/Ex-motors GB 00-12.

3. TEST REPORTS :

EC type examination certificate issued by LCIE

N° LCIE 01 ATEX 6015 for type M3HP 160... (EEx e II T2 or T3)
 N° LCIE 01 ATEX 6021 for type M3HP 180... (EEx e II T2 or T3)
 N° LCIE 01 ATEX 6022 for type M3HP 200... (EEx e II T2 or T3)
 N° LCIE 01 ATEX 6023 for type M3HP 225... (EEx e II T2 or T3)
 N° LCIE 01 ATEX 6024 for type M3HP 250... (EEx e II T2 or T3)
 N° LCIE 02 ATEX 6071 for type M3HP 280... (EEx e II T2 or T3)
 N° LCIE 02 ATEX 6072 for type M3HP 315... (EEx e II T2 or T3)
 N° LCIE 03 ATEX 6022 for type M3HP 355... (EEx e II T2 or T3)

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: M3HP 160LMB 2 EEx e II T3 400VD 50Hz 8 kW, M3HP 225SMB 4 EEx e II T3, M3HP 280SMA 2 EEx e II T3 ,M3HP 315SMB 2 EEx e II T3, M3HP 355SMA 2 EEx e II T3, M3HP 280SMA 4 EEx e II T3, M3HP 315SMA 4 EEx e II T3, M3HP 355SMB 4 EEx e II T3, M3HP 280SMA 6 EEx e II T3, M3HP 355SMC 8 EEx e II T3.

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: **M3HP 160 to M3HP 355** EEx e 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° 11802/A1 BV issued on 15.04.2002 by the Society.

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