



1. **TYPE EXAMINATION CERTIFICATE**
2. **Equipment or Protective Systems Intended for use in
Potentially explosive atmospheres
Directive 94/9/EC**
3. Reference: **VTT 08 ATEX 009X/ Issue 1**
4. Equipment: **Range of cage induction motors**

Certified types: **AMA 400...
AMA 450...
AMA 500...**
5. Applicant : **ABB Oy Machines
Strömbergintie 1
FI-00380 Helsinki
Finland**
6. Manufactured by **ABB Oy Machines
Strömbergintie 1
FI-00380 Helsinki
Finland**

or

**ABB Electrical Machines Ltd
No. 380, Tian Xing Road
Minhang District, Shanghai
People's Republic of China**
7. These equipment and any acceptable variations thereto are specified in the schedule and possible supplement(s) to this certificate and the documents therein referred to.
8. VTT, Expert Services/Electrical Ex-Apparatus, Inspection Body No. I018 accredited by the Finnish Accreditation Service (FINAS), certifies that these equipment have been found to comply with the Essential Health and Safety Requirements in Annex II to European Union Directive 94/9/EC of March 1994



relating to the design and construction of Category 3 equipment intended for use in potentially explosive atmospheres.

- 9 The examination and test results are recorded in confidential Report no VTT-S-08115-09 (FI/VTT/ExTR08.0001/01)
10. Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
EN 60079-0 (2009)
EN 60079-15 (2005)
11. If the sign "X" is placed after the certificate number, it indicates that these equipment is subject to special conditions for safe use specified in the schedule to this Statement.
12. This Type examination certificate relates only to the design, examination and tests of the specified equipment in accordance to the directive 94/9/EC.

Further requirements of the Directive may apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.
13. The marking of the equipment shall include the following:

**II 3 G****Ex nA IIC T1-T4 Gc**

Espoo, 6.11.2009

VTT, Technical Research Centre of Finland



Martti Siirola
Research scientist



Risto Sulonen
Senior research scientist

14. **Schedule**15. **TYPE EXAMINATION CERTIFICATE NO. VTT 08 ATEX 009X/ Issue 1**16. Description of Equipment

Three phase squirrel cage induction motors of a closed type with welded steel frame and fitted out with Ex-certified main terminal boxes and Ex-certified auxiliary terminal boxes. The temperature class of the motor depends on the ratings of the motor and temperature class of the accessories.

Technical data

The Certificate is valid for the range of induction having the technical values within the limits in the following table:

U / kV	Number of poles	f / Hz	P / kW
Up to 11,5	2 - 20	50/60	Up to 4000

In the 50/60 Hz supply the duty type of the motors shall be S1 or S2.

17. Report No. VTT-S-08115-0918. Special conditions for safe use

The motors may be indicated to be used in ambient temperature other than specified in the standard (- 20 °C... + 40 °C).

Temperature class may vary between T1 - T4 depending of the design and the motor is marked accordingly.

Equipment group may also be IIA or IIB depending of equipment groups of the used auxiliaries and the motor is marked accordingly.

The Certificate covers also the following frequency converter drives with the converter types ACS 600- , ACS 800- , ACS 1000- and ACS 5000-series manufactured by ABB Group Ltd:

1. Squared torque drive, and

2. Drives featuring constant torque up to the field weakening point, or/and constant power in speed range above the field weakening point, presuming that the main motor is equipped with a separate (Ex-certified) fan motor or the stator windings are equipped with detectors for temperature control.

All the manufacturer's instructions concerning the speed range and the torque restrictions shall be followed.

19. Essential Health and Safety Requirements

Met by compliance with the standards EN 60079-0 and EN 60079-15.

Espoo, 6.11.2009

VTT, Technical Research Centre of Finland



Martti Siirola
Research scientist



Risto Sulonen
Senior research scientist