



1. **TYPE EXAMINATION CERTIFICATE**
2. **Equipment or Protective Systems Intended for use in  
Potentially explosive atmospheres  
Directive 94/9/EC**
3. Reference: **VTT 09 ATEX 054X Issue 1**
4. Equipment: **Range of cage induction motors**  
  
Certified types: **HXR 315...  
HXR 355...  
HXR 400...  
HXR 450...  
HXR 500...  
HXR 560...**
5. Applicant : **ABB Oy Motors and Generators  
Strömbergintie 1  
FI-00380 HELSINKI  
FINLAND**
6. Manufactured by **ABB Oy Motors and Generators  
Hiomotie 13  
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 Ltd, Certification Body No. S017 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-00486-12.
10. Compliance with the Essential Health and Safety Requirements has been assured by compliance with:  
**IEC 60079-0 (2011)**  
**EN 60079-15 (2010)**
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 these equipment. These are not covered by this certificate.
13. The marking of the equipment shall include the following:



**II 3 G**

**Ex nA IIA/IIB/IIC T1 – T4 Gc**

Espoo, 30.1.2012

**VTT Expert Services Ltd**

  
Martti Siirola  
Senior Expert

  
Risto Sulonen  
Product Manager

14.

## Schedule

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**TYPE EXAMINATION CERTIFICATE NO. VTT 09 ATEX 054X Issue 1**

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### Description of Equipment

Three phase squirrel cage induction motors of a closed type with external longitudinal cooling, cast iron frame and fitted out with Ex-certified main terminal boxes and Ex-certified auxiliary terminal boxes.

### Technical data

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

| Shaft height | U / kV    | Number of poles | f / Hz | P / kW     |
|--------------|-----------|-----------------|--------|------------|
| 315          | Up to 7,3 | 2 - 6           | 50/60  | Up to 400  |
| 355          | Up to 7,3 | 2 - 8           | 50/60  | Up to 500  |
| 400          | Up to 7,3 | 2 - 12          | 50/60  | Up to 700  |
| 450          | Up to 11  | 2 - 16          | 50/60  | Up to 1000 |
| 500          | Up to 11  | 2 - 20          | 50/60  | Up to 1500 |
| 560          | Up to 11  | 2 - 24          | 50/60  | Up to 2500 |

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

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### 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 be IIA, IIB or IIC 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-series, ACS 800-series, ACS 1000-series, ACS 2000-series or 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 protected with temperature detectors in the stator windings.

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 IEC 60079-0 and EN 60079-15

Certificate history

| Issue | Date       | Report No.     | Comment   |
|-------|------------|----------------|---|
| -     | 27.10.2009 | VTT-S-07286-09 | Prime certificate   |
| 1     | 30.1.2012  | VTT-S-00486-12 | Change of the applicant's name. Certification documents are updated with new tests results and construction changes especially with main terminal boxes. Use with the converter type ACS 2000 added. The certificate is extended to cover the new standards IEC 60079-0 (2011) and EN 60079-15 (2010) |

Espoo, 30.1.2012

**VTT Expert Services Ltd**



Martti Siirola  
Senior Expert



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