

CERTIFICATE

1.

2.

VTT No. Ex-04.003X

3.

This Certificate is issued for the following electrical apparatus, intended for use in potentially explosive atmospheres:

Range of cage induction motors

4.

Certified types: **M3GM 315...**
 M3GM 355...
 M3GM 400...

5.

Manufactured by: **ABB Oy Electrical Machines**

6.

Address: **Strömbergintie 1**
 00380 HELSINKI
 FINLAND

7.

These electrical apparatus and any acceptable variations thereto are specified in the Annex and possible supplement(s) to this Certificate and in the descriptive documents therein referred to.

8.

VTT Industrial Systems/Electrical Ex-apparatus, Inspection Body No. I018 accredited by the Finnish Accreditation Service (FINAS),

- certifies that these electrical apparatus has been found to comply with the following IEC-standards:

IEC 60079-15 (2001)
IEC 61241-1-1 (1999)

and have successfully met the type verification and test requirements of these standards.

- confirms that confidential Research Report TUO26-044257 has been completed on these verifications and tests.

9.

The code for the electrical apparatus is:

Ex nA II T3 and/or
DIP A21

10. By marking the supplied electrical apparatus, the manufacturer attests on his own responsibility that this electrical apparatus complies with the descriptive documents referred to in the Annex to this Certificate or in the Research Report.
11. If there appears sign X after the certification number, there are special conditions for safe use, which are specified in the Annex of this Certificate.

Espoo, 19.5.2004

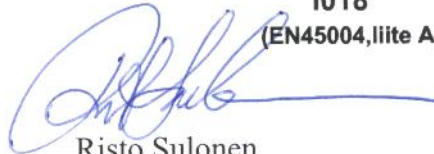
VTT INDUSTRIAL SYSTEMS
Electrical Ex-apparatus



I018
(EN45004, liite A)



Martti Siirola
Research scientist



Risto Sulonen
Senior research scientist

Range of cage induction motors, types M3GM 315...400Description of Equipment

Three phase squirrel cage induction motors of a closed type with external longitudinal cooling, cast iron frame and fitted out with Exe-certified main and auxiliary terminal boxes. The duty type of the motors shall be S1.

Technical data

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

Shaft height	U / kV	Number of poles	f / Hz	P / kW
315	3.0 -3.3	2 - 6	50/60	110 - 530
355	3.0 - 6.6	2 - 6	50/60	110 - 530
400	3.0 - 6.6	2 - 12	50/60	110 - 530

Special conditions for safe use

The Certificate covers also the frequency converter drive with the converter type ACS 1000-series, manufactured by ABB Group Ltd, at squared torque drive. All the manufacturer's instructions concerning the speed range and the moment restrictions shall be followed.

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

Validity

The Certificate is valid five years from the date of issue.

Espoo, 19.5.2004

VTT INDUSTRIAL SYSTEMS
Electrical Ex-apparatus



Martti Siirola
Research scientist



1018
(EN45004, liite A)



Risto Sulonen
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