



# IECEx Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit [www.iecex.com](http://www.iecex.com)

Certificate No.: IECEx TSA 06.0034X issue No.: 3  
Status: **Current**  
Date of Issue: **2009-02-24** Page 1 of 4

Certificate history:  
Issue No. 3 (2009-2-24)  
Issue No. 2 (2008-10-8)  
Issue No. 1 (2007-11-30)  
Issue No. 0 (2006-8-23)

Applicant: **CMG Pty Ltd**  
19 Corporate Avenue  
Rowville Victoria 3178  
**Australia**

Electrical Apparatus: **Range of SGA induction motors frames 71 to 315**  
Optional accessory:

Type of Protection: **Ex e, nA, tD**

Marking: **CMG Three Phase Motor**  
Duty: Type:  
**Ex e II T3**  
**Ex nA II T3 (Tamb 50 Deg C)**  
**Ex tD A21 IP66 T135 Deg C (Tamb 50 Deg C)**  
**IECEx TSA 06.0034X**  
**S/No**

Approved for issue on behalf of the IECEx  
Certification Body:

Ujen Singh

Position:

Quality and Certification Manager

Signature:  
(for printed version)

  
24.02.2009

Date:

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the Official IECEx Website.

Certificate issued by:

**TestSafe Australia**  
919 Londonderry Road  
Londonderry NSW 2753  
Australia





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Manufacturer: **CMG Pty Ltd**  
19 Corporate Avenue  
Rowville Victoria 3178  
**Australia**

Manufacturing location(s):

|  |   |
|--|---|
| <b>CMG Electric Motors Asia Pacific Pte Ltd</b><br>69 Tech Park Crescent<br>Singapore 638073 | <b>CMG Electric Motors NZ Ltd</b><br>303E / 315A Rosebank Road<br>Avondale, Auckland<br>New Zealand |
|--|---|

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

#### STANDARDS:

The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

|   |   |
|---|---|
| <b>IEC 60079-0 : 2004</b><br>Edition: 4.0   | Electrical apparatus for explosive gas atmospheres - Part 0: General requirements   |
| <b>IEC 60079-15 : 2005-03</b><br>Edition: 3 | Electrical apparatus for explosive gas atmospheres Part 15: Construction, test and Marking of Type of Protection "n" electrical apparatus |
| <b>IEC 60079-7 : 2006-07</b><br>Edition: 4  | Explosive atmospheres - Part 7: Equipment protection by increased safety "e"  |
| <b>IEC 61241-0 : 2004</b><br>Edition: 1     | Electrical apparatus for use in the presence of combustible dust - Part 0: General requirements   |
| <b>IEC 61241-1 : 2004</b><br>Edition: 1     | Electrical apparatus for use in the presence of combustible dust - Part 1: Protection by enclosures "tD"                                  |

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

#### TEST & ASSESSMENT REPORTS:

*A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in*

Test Report:

AU/ITA/ExTR06.0001/00  
AU/TSA/ExTR06.0045/00  
AU/TSA/ExTR06.0047/00  
AU/TSA/ExTR06.0063/00  
AU/TSA/ExTR08.0029/00  
AU/TSA/ExTR08.0030/00  
AU/TSA/ExTR08.0031/00

Quality Assessment Report:

AU/TSA/QAR06.0012/00  
AU/TSA/QAR07.0008/00  
AU/TSA/QAR07.0008/01  
AU/TSA/QAR07.0009/00



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## Schedule

### EQUIPMENT:

*Equipment and systems covered by this certificate are as follows:*

The SGA range of squirrel cage induction motors is manufactured using a cast iron carcass and comprises a main body with a separate bolt-on terminal box. The motors are designed to operate on 3 phase, 100 V to 800 V, 40 Hz, 50 Hz or 60 Hz power systems. Motors may be single speed for Ex e applications and either single speed or two speed for Ex n and tD applications. Motors may be supplied with one or several , including auxiliary terminal boxes as required for the connection of optional anti-condensation heaters, RTD'S and thermistors. Motors are available as foot mounted, flange mounted or foot and flange mounted. The bearings have V-ring seals with a nitrile rubber gasket seal on the lid of the main terminal box to give the motors an IP rating of IP55 for Ex e and Ex nA motors. A gamma seal is available to give the motors an IP66 rating for Ex tD and as an option for Ex e and Ex nA motors. Electrical connection is via a threaded entry in the main terminal box wall, designed to accommodate either a gland or conduit.

The drawings relating to this certification are listed in Annex 1 of Issue 0. The range of Single Speed Induction Motors frame sizes SGA 71 to SGA 280 for Ex e, Ex n and Ex tD are listed in the Annex 2 of Issue 0. The range of Two Speed Induction Motors frame sizes SGA 71 to SGA 280 for Ex n and Ex tD are listed in Annex 3 of Issue 0.

### CONDITIONS OF CERTIFICATION: YES as shown below:

- 1) It is a condition of safe use that Ex tD Motors operated from a VVVF drive shall have thermal protection devices connected into the motor control circuit in such a manner as to disconnect the source of supply in order to prevent the nominated temperature class from being exceeded.
- 2) It is a condition of safe use that supply cables shall be fitted via conduit or appropriately certified cable glands. The installation shall have an IP rating equivalent with the equipment rating. Unused gland entries must be fitted with appropriately certified plugs.
- 3) It is a condition of safe use that Ex tD motors fitted with brake units shall not have the brake device operated at frequency greater than 20 times per hour.
- 4) It is a condition of safe use that for Ex nA motors operated from a VVVF drive the following shall apply:
  - a) The applied load shall be inside the limits specified by the loadability curve shown in drawing SGA208. The motors are suitable for operation with VACON brand variable frequency drive types or equivalent types as determined by test and /or calculation.
  - b) The thermal protection devices shall be connected into the motor control circuit in such a manner as to disconnect the source of supply in order to prevent the nominated temperature class from being exceeded.
- 5) It is a condition of manufacture that each Ex nA motor shall have a dielectric strength test carried out by the manufacturer in accordance with Clause 34.2.1 of IEC60079.15.
- 6) It is a condition of manufacture that each Ex e motor shall have a dielectric strength test carried out by the manufacturer in accordance with Clause 7 of IEC60079.7.



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## DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

### Changes relating to Issue 3.

1. Change to the address of the CMG Electric Motors Asia Pacific Pte Ltd from 21 Tuas South Street 1 Singapore 638032 to CMG Electric Motors Asia Pacific Pte Ltd 69 Tech Park Crescent Singapore 638073.

### Conditions of certification relating to Issue 3.

All previous conditions still apply.

### Drawings relating to Issue 3.

No changes have been made to the previously certified drawings.