

Certification of

EXPLOSION PROTECTED ELECTRICAL EQUIPMENT

AUSEx Scheme

Certificate of Conformity

Certificate No: AUS Ex 3769X **Issue 0:** Original Issue 13/3/2002
Issue 2: 31/05/2005

Date of Expiry: 13/3/2012

Certificate Holder: CMG Pty Ltd
19 Corporate Avenue
ROWVILLE VIC 3178

Electrical Equipment: Range of Flameproof Induction Motors
Frame Sizes PPD 200 to PPD 280

Type of Protection: Ex d

Marking Code: Ex d I/IIB T4 IP66
AUS Ex 3769X

Manufactured By: Nanyang Explosion Protection Group Co Ltd, China

Issued by:



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JAS-ANZ



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This certificate is granted subject to the conditions as set out in Standards Australia Miscellaneous Publication MP69 and the Procedure (Doc Q7134) of the scheme.

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

- AS 2380.1-1989 Electrical equipment for explosive atmospheres - Explosion-protection techniques Part 1: General requirements (incorporating Amendment 1)
- AS 2380.2-1991 Electrical equipment for explosive atmospheres - Explosion-protection techniques Part 2: Flameproof enclosure 'd' (incorporating Amendment 1)
- AS 1939-1990 Degrees of protection provided by enclosures of electrical equipment (IP Code)

This certificate does not ensure compliance with electrical safety requirements and performance other than those included in the Standards listed above.

It is the certificate holder's responsibility to ensure any relevant routine test in the above Standards is carried out.

The equipment listed successfully met the examination and test requirements as recorded in

Test Report No: TestSafe 22459, 24328, 26357

File Reference: TestSafe 2001/008620, 2003/001976, 2004/021856



Signed for and on behalf of issuing authority

Quality & Certification Manager
Position

31/05/2005
Date of Issue

Ex3769X-2

This certificate and schedule may not be reproduced except in full.

This certificate is not transferable and remains the property of the issuing body to whom it must be returned in the event of it being revoked or not renewed.

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Schedule

Certificate No: AUS Ex 3769X

Issue: 2

Date of Issue: 31/05/2005

Certified Equipment: The range of flameproof squirrel cage induction motors is manufactured from cast iron and comprise a main body with a separate bolt-on terminal box. The motors are designed to operate on 3 phase, 100 V to 1100 V, 40, 50 or 60 Hz. Motors may be supplied with auxiliary terminal boxes covered by AUS Ex 2085 as required for the connection of anti-condensation heaters, RTD'S, thermocouples and thermistors. Motors are available as foot mounted, flange mounted or foot and flange mounted. An 'O' ring seal on the lid of the main terminal box gives the motors an IP rating of IP66 against the ingress of dust and moisture. Electrical connection is via a threaded entry in the main terminal box wall, designed to accommodate either a gland or conduit.

The range of motors covered by this certificate is listed in Schedule 1.

The equipment may include one or more of the following options:

- a) Auxiliary terminal boxes.
- b) Anti-condensation heaters.
- c) RTD's, thermocouples or thermistors.
- d) Top cover for vertical mounting.
- e) VVVF drive.

Conditions of Certification:

1. It is a condition of safe use for Group I applications that the motors be installed in accordance with AS 2595.1 –1992.
2. It is a condition of safe use that on installation if a gland is used then this gland must be appropriately Standard Australia Certified and have an IP rating of at least IP66.
3. It is a condition of safe use for any multi-speed motor or any motor operated from a VVVF drive that the thermal protection devices 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.
4. As the equipment passed pressure tests which were four times the reference pressures and the motors are not of welded construction, the range may be exempted from the routine pressure test of Clause 4.3 of AS 2380.2.

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Addendum to Certificate No Ex.3769X-2

Conditions of Certification (continued):

The motors were tested at the following pressures.

Motor	Pressure kPa	Terminal Box	Pressure kPa
PPDB200L-4	2610	M5	2850
PPD250M-4	2410	M6	2918
PPD280M-6	3340	M8	3010
		M10	3050

Schedule 1

Motor Type	Poles	Motor Rating (kW)	Motor Type	Poles	Motor Rating (kW)
PPD 200L1-2	2	30	PPD 250M-2	2	55
PPD 200L2-2	2	37	PPD 250M-4	4	55
PPD 200L-4	4	30	PPD 250M-6	6	37
PPD 200L1-6	6	18.5	PPD 250M-8	8	30
PPD 200L2-6	6	22	PPD 280S-2	2	75
PPD 200L-8	8	15	PPD 280M-2	2	90
PPD 225M-2	2	45	PPD 280S-4	4	75
PPD 225S-4	4	37	PPD 280M-4	4	90
PPD 225M-4	4	45	PPD 280S-6	6	45
PPD 225M-6	6	30	PPD 280M-6	6	55
PPD 225S-8	8	18.5	PPD 280S-8	8	37
PPD 225M-8	8	22	PPD 280M-8	8	45

Drawing Schedule

Drawing No	Drawing Title	Issue	Date
Exd-PPD 200 Sht 1 of 2	Flameproof three phase induction motor PPD 200	B	16/1/02
Exd-PPD 200 Sht 2 of 2	Flameproof three phase induction motor PPD 200	A	28/5/01
Exd-PPD 225 Sht 1 of 2	Flameproof three phase induction motor PPD 225	B	16/1/02
Exd-PPD 225 Sht 2 of 2	Flameproof three phase induction motor PPD 225	A	28/5/01
Exd-PPD 250 Sht 1 of 2	Flameproof three phase induction motor PPD 250	B	16/1/02
Exd-PPD 250 Sht 2 of 2	Flameproof three phase induction motor PPD 250	A	28/5/01
Exd-PPD 280 Sht 1 of 2	Flameproof three phase induction motor PPD 280	B	16/1/02
Exd-PPD 280 Sht 2 of 2	Flameproof three phase induction motor PPD 280	A	28/5/01
PPD001	Placement of protection devices	C	22/2/02
PPD002	Nameplate details, PPD Ex d motors	C	5/3/02
PPD003	Cable to cable gland assembly Exd N80-N280	B	21/1/02
PPD004	Auxiliary terminal box assembly Exd N80-N280	B	18/1/02

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Schedule of Variations

Variations Permitted by Issue 1:

Forced ventilation by separately driven cooling fan driven by an Ex d explosion protected motor.

The range of forced ventilation motors covered by this variation is listed in Schedule 2.

Schedule 2

Motor Frame Size PPD 200-PPD 280

Main Motor				Aux Cooling Fan Motor		
Motor Type	Poles	Motor Rating (kW)	Fan O.D. (mm)	Motor Type	Poles	Motor Rating (kW)
PPD 200L1-2	2	30	260	PPD 801-2	2	0.75
PPD 200L2-2	2	37	260	PPD 801-2	2	0.75
PPD 200L-4	4	30	260	PPD 801-4	4	0.55
PPD 200L1-6	6	18.5	295	PPD 90S-6	6	0.75
PPD 200L2-6	6	22	295	PPD 90S-6	6	0.75
PPD 200L-8	8	15	295	PPD 90S-6	6	0.75
PPD 225M-2	2	45	250	PPD 802-2	2	1.10
PPD 225S-4	4	37	350	PPD 802-4	4	0.75
PPD 225M-4	4	45	350	PPD 802-4	4	0.75
PPD 225M-6	6	30	350	PPD 90S-6	6	0.75
PPD 225S-8	8	18.5	350	PPD 90S-6	6	0.75
PPD 225M-8	8	22	350	PPD 90S-6	6	0.75
PPD 250M-2	2	55	250	PPD 802-2	2	1.10
PPD 250M-4	4	55	350	PPD 802-4	4	0.75
PPD 250M-6	6	37	350	PPD 90S-6	6	0.75
PPD 250M-8	8	30	350	PPD 90S-6	6	0.75
PPD 280S-2	2	75	250	PPD 90S-2	2	1.50
PPD 280M-2	2	90	250	PPD 90S-2	2	1.50
PPD 280S-4	4	75	390	PPD 90S-4	4	1.10
PPD 280M-4	4	90	390	PPD 90S-4	4	1.10
PPD 280S-6	6	45	390	PPD 90S-6	6	0.75
PPD 280M-6	6	55	390	PPD 90S-6	6	0.75
PPD 280S-8	8	37	390	PPD 90S-6	6	0.75
PPD 280M-8	8	45	390	PPD 90S-6	6	0.75

Note 1. A higher rating auxiliary fan motor may be used if found necessary by the temperature rise test.

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Conditions of Certification Relating to Variations Permitted by Issue 1:

1. It is a condition of manufacture that a temperature rise test shall be conducted for each motor rating with auxiliary cooling fan motor fitted to ensure that the nominated Temperature Class is not exceeded.
2. It is a condition of safe use that suitably rated thermal protective devices will be fitted to all motors with auxiliary cooling and will 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.

Drawings Relating to Variations Permitted by Issue 1:

Drawing No	Drawing Title	Issue	Date
PPD001	Placement of protection devices	C	27/02/02
PPD003	Cable to cable gland assembly Exd N80-N280	B	21/01/02
PPD004	Auxiliary terminal box assembly Exd N80-N280	B	18/01/02
PPD008	Forced ventilation by separately driven cooling fan explosion protection.	D	27/08/03
PPD009	Selection of auxiliary cooling fan motor for PPD	A	05/09/03
MMP-DG001	Procedure for Fitting Force Cooling Fan Motor on PPD	B	27/08/03
Page 1 of 1	Motor 200 – 280 frames.		

Variations Permitted by Issue 2:

1. Addition of double entry terminal boxes.
2. Changes to drawings to include shaft material and details of alterations to shafts.
3. Changes to drawing PPD004 update of Note for heaters.

Conditions of Certification Relating to Variations Permitted by Issue 2:

1. Previous conditions still apply.
2. It is a condition of manufacture that the equipment be subjected to a routine high voltage test in accordance with Clause 6.2 of AS 2380.1.

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Drawings Relating to Variations Permitted by Issue 2:

Drawing No	Drawing Title	Issue	Date
Exd-PPD 200 Sheet 1of 2	Flameproof three phase induction motor PPD 200	C	20/10/04
Exd-PPD 225 Sheet 1of 2	Flameproof three phase induction motor PPD 225	C	20/10/04
Exd-PPD 250 Sheet 1of 2	Flameproof three phase induction motor PPD 250	C	20/10/04
Exd-PPD 280 Sheet 1of 2	Flameproof three phase induction motor PPD 280	C	20/10/04
PPD004	Auxiliary terminal box assembly Exd N80-N280	C	5/05/05
PPD2022TBDE	Flame Proof Three Phase Induction Motor - Double Entry T/Box 200 - 225 Frames	B	15/03/05
PPD2528TBDE	Flame Proof Three Phase Induction Motor - Double Entry T/Box 250 - 280 Frames	B	15/03/05

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