



1 **EC TYPE-EXAMINATION CERTIFICATE**

2 Equipment intended for use in Potentially Explosive Atmospheres Directive 94/9/EC

3 Certificate Number: **Sira 09ATEX1322X** Issue: **2**

4 Equipment: **AR range of Adaptors and Reducers**

5 Applicant: **Peppers Cable Glands Ltd**

6 Address: **Stanhope Road  
Camberley  
Surrey  
GU15 3BT  
UK**

7 This equipment and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

8 Sira Certification Service, notified body number 0518 in accordance with Article 9 of Directive 94/9/EC of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential reports listed in Section 14.2.

9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule to this certificate, has been assured by compliance with the following documents:

EN 60079-0:2009      EN 60079-1:2007      EN 60079-7:2007      IEC 60079-31:2008 Ed 1

10 If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

11 This EC type-examination certificate relates only to the design and construction of the specified equipment. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment.

12 The marking of the equipment shall include the following:



I M2  
Ex d IIC Gb  
Ex e IIC Gb  
Ex tb IIIC Db IP66/ 68

or



II 2GD  
Ex d I Mb  
Ex e I Mb  
Ex tb IIIC Db IP66/ 68

D R Stubbings BA MIET  
Certification Manager

Project Number 24697  
C. Index 07

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## SCHEDULE

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#### 13 DESCRIPTION OF EQUIPMENT

The range of Adaptors and Reducers (Type 'AR') comprise a hollow hexagonal body, partly threaded at each end, one end having a male thread and the other a female thread. The Adaptors and Reducers are used to convert an existing threaded cable entry aperture to a different thread form and/or size. The Adaptors and Reducers may be machined with the thread forms and/or combinations as listed below. Their thread sizes are within the ranges specified but are limited based upon thread combinations certified within the manufacturer's documentation. Adaptors and reducers may also be fitted with an optional O-ring seal.

The products are manufactured with the following thread form options:

- M16/ M20/ M25/ M32/ M40/ M50/ M63/ M75/ M80/ M85/ M90/ M100 - ISO Metric to IEC 60423:1993, sizes above M75 may be manufactured with a 1.5 mm pitch
- 1/2"/ 3/4"/ 1"/ 1 1/4"/ 1 1/2"/ 2"/ 2 1/2"/ 3"/ 3 1/2"/ 4" NPT and NPSM to ANSI/ASME B1.20.1:1983 (R2001)
- 1/2"/ 3/4"/ 1"/ 1 1/4"/ 1 1/2"/ 2"/ 2 1/2"/ 3"/ 3 1/2"/ 4" – BSPP to BS EN ISO 228-1
- 1/2"/ 3/4"/ 1"/ 1 1/4"/ 1 1/2"/ 2"/ 2 1/2"/ 3"/ 3 1/2"/ 4" – BSPT to BS21:1985
- 7/ 9/ 11/ 13.5/ 16/ 21/ 29/ 36/ 42/ 48 PG to DIN 40430
- PG48F to NF C 68-312

Note: All threads manufactured in accordance with EN/IEC 60079-1:2007 (Ed.6) clauses 5.3 and C.2.2 (as applicable).

The Adaptors and Reducers may be manufactured with other thread forms, provided that they are in accordance with the applicable requirements of EN/IEC 60079-1:2007 clause 5.3 and C.2.2.

#### Design Options

##### 'O' Ring Seals

'O' ring seals materials fitted to male thread forms may be provided in the following materials to suit the application:

Nitrile	Silicone	Viton
Neoprene	Fluorosilicone	EPDM

#### Material of manufacture and product coding:

The adaptor and Reducers may be manufactured from the following materials:

Brass grade CW614 (CuZn 39Pb3)/ CZ121 3Pb	Stainless Steel 1.4404/ 316 S11
Brass grade CW617N (CuZn 40Pb2)/ CZ122	Stainless Steel 1.4401/ 316 S31
Brass grade CW614N (CuZn 38Pb4)/ CZ121 4Pb	Stainless Steel 1.4301/ 304
Brass grade Ecobrass C69300/ C87850	Stainless Steel 1.4305/ 303
Aluminium B21.1.90 AA6262T9/ 6262T9 •	Aluminium AW6082/ AW 6262/ 6082TF •
• Not suitable for Group I use	



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#### Surface coating

The products may additionally be metallic plated with either: Nickel, Zinc or Tin (0.008 mm thick max.) to suit the application.

#### Product Type Ref

##### A-B-C-D-E-F-G

**A** Product Type  
AR = Adaptor/Reducer

**B** Material of manufacture

A = Aluminium  
B = Brass  
S = Stainless steel

**C** IP Seal code

0	=	No seal fitted	(-100°C to +400°C)
1	=	Nitrile O-ring	(-30°C to +100°C)
2	=	Neoprene O-ring	(-35°C to +90°C)
3	=	Silicone O-ring	(-60°C to +200°C)
4	=	Fluorosilicone O-ring	(-55°C to +200°C)
5	=	Viton O-ring	(-20°C to +180°C)
6	=	EPDM O-ring	(-50°C to +110°C)

**D** Certification order code

**E** Plating

OO = Not plated  
NP = Nickel plated  
ZP = Zinc

**F** Male thread size and type

**G** Female thread size and type

The Adaptors and Reducers, when installed in accordance with the manufacturer's instructions, are capable of providing, with an enclosure on which they are fixed, an ingress protection rating of IP 66.

The Adaptors and Reducers with parallel threads and fitted with sealing rings, when installed in accordance with the manufacturer's instructions, are capable of providing, with an enclosure on which they are fixed, an ingress protection rating of IP 66 / IPX8 to 100 metres for 7 days.

The Adaptors and Reducers with tapered threads, fitted with sealing rings and installed in clearance holes, when installed in accordance with the manufacturer's instructions, are capable of providing, with an enclosure on which they are fixed, an ingress protection rating of IP 66 / IPX8 to 100 metres for 7 days.









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The adaptors may be male to male or female to female threads. The adaptors are designated as follows:

The product type is derived from the following options:

#### *A-B-C-D-E-F-G*

##### *A* Product Type

- ARMM = Male to male adaptor  
ARFF = Female to female adaptor

##### *B* IP Seal code

- 0 = No seal fitted (-100°C to +400°C)  
1 = Nitrile O-ring (-30°C to +100°C)  
2 = Neoprene O-ring (-35°C to +90°C)  
3 = Silicone O-ring (-60°C to +200°C)  
4 = Fluorosilicone O-ring (-55°C to +200°C)  
5 = Viton O-ring (-20°C to +180°C)  
6 = EPDM O-ring (-50°C to +110°C)

##### *C* Material of manufacture

- A = Aluminium  
B = Brass  
S = Stainless steel

##### *D* Certification order code

##### *E* Plating

- O = Not plated  
NP = Nickel plated  
ZP = Zinc

##### *F* First thread size and type

##### *G* Second thread size and type

**Variation 1** - This variation introduced the following changes:

- i. The recognition of an increase in the width of the marking band on the adaptors.
- ii. To allow amendments to dimensions of the adaptors and reducers, the changes do not affect the type of protection.

**Variation 2** - This variation introduced the following changes:

- i. The introduction of male to male and female to female adaptors was recognised, the description is amended accordingly.



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#### 14 DESCRIPTIVE DOCUMENTS

##### 14.1 Drawings

Refer to Certificate Annexe.

##### 14.2 Associated Sira Reports and Certificate History

Issue	Date	Report number	Comment
0	04 March 2010	R17200A/00	The release of the prime certificate.
1	26 April 2010	R22062A/00	The introduction of Variation 1.
2	24 March 2011	R24697A/00	The introduction of Variation 2.

#### 15 SPECIAL CONDITIONS FOR SAFE USE (denoted by X after the certificate number)

15.1 Blanking elements shall not be used in conjunction with an adaptor or reducer when installed in a flameproof enclosure.

15.2 Where Adaptors and Reducers without sealing rings are installed in protection by enclosure (Ex t) equipment for use in explosive dust atmospheres, they shall only be fitted into enclosures offering a minimum of 5 full threads, in accordance with IEC 60079-31:2008 clause 5.1.1.

15.3 Adaptors and Reducers shall not to be used for the direct inter-connection of enclosures.

15.4 Only one adaptor or reducer is to be used with any single cable entry on the associated equipment.

15.5 The products are approved for a temperature range at their point of mounting based upon the interface seal and material combinations of construction:

0	=	No seal fitted	(-100°C to +400°C)
1	=	Nitrile O-ring	(-30°C to +100°C)
2	=	Neoprene O-ring	(-35°C to +90°C)
3	=	Silicone O-ring	(-60°C to +200°C)
4	=	Fluorosilicone O-ring	(-55°C to +200°C)
5	=	Viton O-ring	(-20°C to +180°C)
6	=	EPDM O-ring	(-50°C to +110°C)

#### 16 ESSENTIAL HEALTH AND SAFETY REQUIREMENTS OF ANNEX II (EHSRs)

The relevant EHSRs that are not addressed by the standards listed in this certificate have been identified and individually assessed in the reports listed in Section 14.2.

#### 17 CONDITIONS OF CERTIFICATION

17.1 The use of this certificate is subject to the Regulations Applicable to Holders of Sira Certificates.

17.2 Holders of EC type-examination certificates are required to comply with the production control requirements defined in Article 8 of directive 94/9/EC.

17.3 Aluminium devices shall not be marked with any information indicating that they are suitable for Group I use.

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### Sira Certification Service

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# Certificate Annexe

Certificate Number: Sira 09ATEX1322X  
 Equipment: AR range of Adaptors and Reducers  
 Applicant: Peppers Cable Glands Ltd



## Issue 0

Drawing	Sheets	Rev.	Date (Sira stamp)	Title
PCG/ATX/AR	1 to 2	1	05 Feb 10	Marking and drawing notes
PCG/ATX/R-1	1 of 1	1	05 Feb 10	Reducers Metric (male) to Metric (female)
PCG/ATX/R-2	1 of 1	1	05 Feb 10	Reducers Metric (male) to NPT/ NPSM/ BSPT/ BSPP (female)
PCG/ATX/R-3	1 of 1	1	05 Feb 10	Reducers Metric (male) to PG (female)
PCG/ATX/R-4	1 of 1	1	05 Feb 10	Reducers NPT/ BSPT (male) to Metric (female)
PCG/ATX/R-5	1 of 1	1	05 Feb 10	Reducers NPT/ BSPT (male) to NPT/ NPSM/ BSPT/ BSPP (female)
PCG/ATX/R-6	1 of 1	1	05 Feb 10	Reducers NPT/ BSPT (male) to PG (female)
PCG/ATX/R-7	1 of 1	1	05 Feb 10	Reducers PG (male) to Metric (female)
PCG/ATX/R-8	1 of 1	1	05 Feb 10	Reducers PG (male) to NPT/ NPSM/ BSPT/ BSPP (female)
PCG/ATX/R-9	1 of 1	1	05 Feb 10	Reducers PG (male) to PG (female)
PCG/ATX/R-10	1 of 1	1	05 Feb 10	Reducers NPT/ BSPT (male) to Metric (female) for use with sealing washers
PCG/ATX/R-11	1 of 1	1	05 Feb 10	Reducers NPT/ BSPT (male) to NPT/ NPSM/ BSPT/ BSPP (female) for use with sealing washers
PCG/ATX/R-12	1 of 1	1	05 Feb 10	Reducers NPT/ BSPT (male) to PG (female) for use with sealing washers
PCG/ATX/R-13	1 of 1	1	05 Feb 10	Reducers NPSM/ BSPP(male) to Metric (female) for use with O-rings
PCG/ATX/R-14	1 of 1	1	05 Feb 10	Reducers NPSM/ BSPP (male) to NPT/ NPSM/ BSPT/ BSPP (female) for use with O-rings
PCG/ATX/R-15	1 of 1	1	05 Feb 10	Reducers NPSM/ BSPP (male) to PG (female) for use with O-rings
PCG/ATX/A-1	1 of 1	1	05 Feb 10	Adaptors Metric (male) to Metric (female)
PCG/ATX/A-2	1 of 1	1	05 Feb 10	Adaptors Metric (male) to NPT/ NPSM/ BSPT/ BSPP (female)
PCG/ATX/A-3	1 of 1	1	05 Feb 10	Adaptors Metric (male) to PG (female)
PCG/ATX/A-4	1 of 1	1	05 Feb 10	Adaptors NPT/ BSPT (male) to Metric (female)
PCG/ATX/A-5	1 of 1	1	05 Feb 10	Adaptors NPT/ BSPT (male) to NPT/ NPSM/ BSPT/ BSPP (female)
PCG/ATX/A-6	1 of 1	1	05 Feb 10	Adaptors NPT/ BSPT (male) to PG (female)
PCG/ATX/A-7	1 of 1	1	05 Feb 10	Adaptors PG (male) to Metric (female)
PCG/ATX/A-8	1 of 1	1	05 Feb 10	Adaptors PG (male) to NPT/ NPSM/ BSPT/ BSPP (female)
PCG/ATX/A-9	1 of 1	1	05 Feb 10	Adaptors PG (male) to PG (female)
PCG/ATX/A-10	1 of 1	1	05 Feb 10	Adaptors NPT/ BSPT (male) to Metric (female) for use with sealing washers
PCG/ATX/A-11	1 of 1	1	05 Feb 10	Adaptors NPT/ BSPT (male) to NPT/ NPSM/ BSPT/ BSPP (female) for use with sealing washers
PCG/ATX/A-12	1 of 1	1	05 Feb 10	Adaptors NPT/ BSPT (male) to PG (female) for use with sealing washers
PCG/ATX/A-13	1 of 1	1	05 Feb 10	Adaptors NPSM/ BSPP (male) to Metric (female) for use with O-rings
PCG/ATX/A-14	1 of 1	1	05 Feb 10	Adaptors NPSM/ BSPP (male) to NPT/ NPSM/ BSPT/ BSPP (female) for use with O-rings
PCG/ATX/A-15	1 of 1	1	05 Feb 10	Adaptors NPSM/ BSPP (male) to PG (female) for use with O-rings
PCG/ATX/PEXMP	1 of 1	1	22 Feb 10	Hazardous Area Approved Products Marking Plan

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# Certificate Annexe

Certificate Number: Sira 09ATEX1322X  
Equipment: AR range of Adaptors and Reducers  
Applicant: Peppers Cable Glands Ltd



## Issue 1

Drawing	Sheets	Rev.	Date (Sira stamp)	Title
PCG/ATX/R-1	1 of 1	2	25 Mar 10	Reducers Metric (male) to Metric (female)
PCG/ATX/R-2	1 of 1	2	25 Mar 10	Reducers Metric (male) to NPT/ NPSM/ BSPT/ BSPP (female)
PCG/ATX/R-3	1 of 1	2	25 Mar 10	Reducers Metric (male) to PG (female)
PCG/ATX/R-4	1 of 1	2	25 Mar 10	Reducers NPT/ BSPT (male) to Metric (female)
PCG/ATX/R-5	1 of 1	2	25 Mar 10	Reducers NPT/ BSPT (male) to NPT/ NPSM/ BSPT/ BSPP (female)
PCG/ATX/R-6	1 of 1	2	25 Mar 10	Reducers NPT/ BSPT (male) to PG (female)
PCG/ATX/R-7	1 of 1	2	25 Mar 10	Reducers PG (male) to Metric (female)
PCG/ATX/R-8	1 of 1	2	25 Mar 10	Reducers PG (male) to NPT/ NPSM/ BSPT/ BSPP (female)
PCG/ATX/R-9	1 of 1	2	25 Mar 10	Reducers PG (male) to PG (female)
PCG/ATX/R-10	1 of 1	2	25 Mar 10	Reducers NPT/ BSPT (male) to Metric (female) for use with sealing washers
PCG/ATX/R-11	1 of 1	2	25 Mar 10	Reducers NPT/ BSPT (male) to NPT/ NPSM/ BSPT/ BSPP (female) for use with sealing washers
PCG/ATX/R-12	1 of 1	2	25 Mar 10	Reducers NPT/ BSPT (male) to PG (female) for use with sealing washers
PCG/ATX/R-13	1 of 1	2	25 Mar 10	Reducers NPSM/ BSPP(male) to Metric (female) for use with O-rings
PCG/ATX/R-14	1 of 1	2	25 Mar 10	Reducers NPSM/ BSPP (male) to NPT/ NPSM/ BSPT/ BSPP (female) for use with O-rings
PCG/ATX/R-15	1 of 1	2	25 Mar 10	Reducers NPSM/ BSPP (male) to PG (female) for use with O-rings
PCG/ATX/A-1	1 of 1	2	25 Mar 10	Adaptors Metric (male) to Metric (female)
PCG/ATX/A-2	1 of 1	2	25 Mar 10	Adaptors Metric (male) to NPT/ NPSM/ BSPT/ BSPP (female)
PCG/ATX/A-3	1 of 1	2	25 Mar 10	Adaptors Metric (male) to PG (female)
PCG/ATX/A-4	1 of 1	2	25 Mar 10	Adaptors NPT/ BSPT (male) to Metric (female)
PCG/ATX/A-5	1 of 1	2	25 Mar 10	Adaptors NPT/ BSPT (male) to NPT/ NPSM/ BSPT/ BSPP (female)
PCG/ATX/A-6	1 of 1	2	25 Mar 10	Adaptors NPT/ BSPT (male) to PG (female)
PCG/ATX/A-7	1 of 1	2	25 Mar 10	Adaptors PG (male) to Metric (female)
PCG/ATX/A-8	1 of 1	2	25 Mar 10	Adaptors PG (male) to NPT/ NPSM/ BSPT/ BSPP (female)
PCG/ATX/A-9	1 of 1	2	25 Mar 10	Adaptors PG (male) to PG (female)
PCG/ATX/A-10	1 of 1	2	25 Mar 10	Adaptors NPT/ BSPT (male) to Metric (female) for use with sealing washers
PCG/ATX/A-11	1 of 1	2	25 Mar 10	Adaptors NPT/ BSPT (male) to NPT/ NPSM/ BSPT/ BSPP (female) for use with sealing washers
PCG/ATX/A-12	1 of 1	2	25 Mar 10	Adaptors NPT/ BSPT (male) to PG (female) for use with sealing washers
PCG/ATX/A-13	1 of 1	2	25 Mar 10	Adaptors NPSM/ BSPP (male) to Metric (female) for use with O-rings
PCG/ATX/A-14	1 of 1	2	25 Mar 10	Adaptors NPSM/ BSPP (male) to NPT/ NPSM/ BSPT/ BSPP (female) for use with O-rings
PCG/ATX/A-15	1 of 1	2	25 Mar 10	Adaptors NPSM/ BSPP (male) to PG (female) for use with O-rings

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## Certificate Annexe

Certificate Number: Sira 09ATEX1322X  
Equipment: AR range of Adaptors and Reducers  
Applicant: Peppers Cable Glands Ltd

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### Issue 2

Drawing	Sheets	Rev.	Date (Sira stamp)	Title
PCG/ATX/ARFF	1 of 2	1	22 Mar 11	Female to female thread adaptor – part number and markings
PCG/ATX/ARMM	1 of 2	1	22 Mar 11	Male to male thread adaptor – part number and markings
PCG/ATX/ARFF	2 of 2	1	22 Mar 11	Female to female thread adaptor – dimensions
PCG/ATX/ARMM	2 of 2	1	22 Mar 11	Male to male thread adaptor – dimensions

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