



1 **EU-TYPE EXAMINATION CERTIFICATE**

2 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

3 Certificate Number: **Sira 09ATEX3321X** Issue: **4**

4 Equipment: **ACDP Breather drains**

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 Articles 17 and 21 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, 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 60079-0:2012/A11:2013

EN 60079-7:2015

EN 60079-31:2014

The above list of documents may detail standards that do not appear on the UKAS Scope of Accreditation, but have been added through Sira's flexible scope of accreditation, which is available on request.

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

11 This EU-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 eb I Mb

or



II 1D 2G  
Ex eb IIC Gb  
Ex ta IIIC Da IP66

Project Number 70137497

C Ellaby  
Deputy Certification Manager

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**13 DESCRIPTION OF EQUIPMENT**

The breather drain plug is designed to allow moisture emission from Ex e and Ex ta enclosures and to allow air within the enclosure to breathe with the surrounding atmosphere. The device body may be manufactured from aluminium, brass or stainless steel with a 10 mm long metric or NPT thread. The body is machined to house a sintered bronze or stainless steel filter. Drainage channels through the body allow for the passage of moisture through the filter.

The device may be screwed into the wall of an enclosure or into a through hole, being secured by a castellated locknut.

Parallel threaded Breather Drains may be fitted with or without an O-ring seal, see below for approved seals. When fitted with an O-ring seal and screwed into the wall of an enclosure or into a through hole, being secured with a castellated locknut, they will maintain IP66 degree of protection.

Tapered threaded Breather Drain may be fitted with or without an O-ring seal, see below for approved seals. When fitted with an O-ring seal and secured into a through hole, they will maintain IP66 degree of protection.

**Design Options**

Extended Thread Length:

The breather drain plug may be machined with a long thread. Long threads have two additional drainage channels machined into the thread.

The breather drain may have the following threads:		
M12	M25	3/8" NPT
M16	M32	1/2" NPT
M20		1/4" or 3/4" NPT

Alternatively the breather drains may be provided with the following, but not limited to, alternative thread forms of an equivalent size:

- NPSM: ANSI /ASME B1.20.1: 1983
- BSPT: BS21:1995 (ISO 7/1; BE EN 10226-1:2004)
- BSPP: BS EN ISO 228-1: 2003; BS EN ISO 228-1:2003
- PG: DIN 40430: 1971

'O' ring seals materials fitted to male thread forms may be provided in the following materials to suit the application:		
Nitrile O-ring		Fluorosilicone O-ring
Neoprene O-ring		Viton O-ring
Silicone O-ring		EPDM O-ring

**Materials of Manufacture and Marking:**

The breather drain plugs may be manufactured from the following materials:

- |                                            |                 |
|--------------------------------------------|-----------------|
| Brass grade CW614N (CuZn 38Pb4)/ CZ121 4Pb | I M2 / II 1D 2G |
| Brass grade Ecobrace C69300/ C87850        | I M2 / II 1D 2G |
| Stainless Steel 1.4401/ 316 S31            | I M2 / II 1D 2G |
| Stainless Steel 1.4404/ 316 S11            | I M2 / II 1D 2G |
| Stainless Steel 1.4301/ 304                | I M2 / II 1D 2G |
| Aluminium AW6082/ AW 6262/ 6082TF          | II 1D 2G        |
| Aluminium B21.1.90 AA6262T9/ 6262T9        | II 1D 2G        |

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

#### Product Type Ref:

The product type is derived from the following options:

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

##### A Product Type

ACDP = Breather drain

##### 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

OO	=	Not plated
NP	=	Nickel Plated
ZP	=	Zinc
AN	=	Anodized

##### F Thread Size

Metric	=	M12/M16/M20/ M25/ M32
NPT	=	1/4" / 3/8" / 1/2" / 3/4"

##### G Lock nut

X	=	No lock nut
S	=	Stainless Steel Option

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

- i. The model code 'B' and 'C' designations have swapped their design options that they refer to; The description was amended accordingly  
From:  
**B** = Material of manufacture  
and  
**C** = IP Seal code  
To:  
**B** = IP Seal code  
and

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- C* = Material of manufacture
- ii. The option to fit an alternative Stainless Steel sinter (filter) within all sizes as indicted by the introduction of following part model code 'S' designation as indicated below.  
*A-B-C-D-E-F-S*
- iii. The introduction of the following metric and NPT spigot sizes indicted by their type and size designations in the following model code.  
*A-B-C-D-E-M12-G*  
*A-B-C-D-E-1/4" NPT-G*  
*A-B-C-D-E-M16-G*  
*A-B-C-D-E-3/8" NPT-G*
- iv. Replacement of the tin plating option model code 'TP' designation with anodize plating option model code 'AN' designation as indicated below.  
From:  
*A-B-C-D-TP-F-S*  
To:  
*A-B-C-D-AN-F-S*
- v. Marking the products suitable for level of protection "ta" (EPL "Da") was approved
- vi. The recognition of the following minor drawing modifications; these amendments are administrative or involve changes to the design that do not affect the aspects of the product that are relevant to explosion safety:
- Typographical additions/clarifications/corrections
  - Minor dimensional changes
- Along with the introduction of the following additional schedule approval drawings omitted in error under the original certification:
- PCG/ACFD*  
*PCG/MATS/SB*  
*PCG/MATS/AL*  
*PCG/ETOR*
- vii. Reassessment of the breather drain approval as Ex Equipment certification from Ex Component certification, the template was amended accordingly.
- viii. Recognition of the following materials of manufacturer for the breather drain body being:  
**Removed:**  
Brass grade CW614 (CuZn 39Pb3)/ CZ121 3Pb  
Brass grade CW617N (CuZn 40Pb2)/ CZ122  
Stainless Steel 1.4305/ 303  
**Added**  
Ecobrass C69300
- ix. The removal of the threaded drainage holes and slots from the short threaded NPT versions along with an increase in the thread length of the 1/2" NPT and 3/4" NPT versions from 10mm to 13mm.
- x. An IPX6 rating was approved for the short threaded NPT versions.
- xi. Following appropriate assessment to demonstrate compliance with the latest technical knowledge, EN 60079-0:2009, EN 60079-7:2007 and IEC 60079:2008 Ed 1, were replaced by EN 60079-0:2012/A11:2013, EN 60079-7:2015 and EN 60079-31:2014, the Condition of Safe Use and markings were amended as applicable to recognise the new standards.

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

- i. To permit the reduction of the bore diameters for each size of ACDP range of breather drains by 0.2 mm.

**Variation 3** - This variation introduced the following changes:

- i. To permit the use of a replacement sintered bronze filter within ACDP (short and long thread version) breather drain sizes M20, M25, M32, 1/2" NPT and 3/4" NPT. Component part reference ACBSD.
- ii. To permit a reduction in the diametrical tolerance of the sintered bronze filter, within ACDP (short and long thread version) breather drains M12, M16, 1/4" NPT and 3/8" NPT, having their bore diameter reduced to accommodate. Component part reference ACBSD-2.
- iii. Drawing PCG/MATS/AL was updated to clearly define the grade and temper of materials used in manufacture.

**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	R51L17199A	The release of the prime certificate.
1	20 January 2016	R70041656A	The introduction of Variation 1.
2	26 April 2016	R70058330A	This Issue covers the following changes: <ul style="list-style-type: none"> <li>• EC-Type Examination Certificate in accordance with 94/9/EC updated to EU-Type Examination Certificate in accordance with Directive 2014/34/EU.</li> <li>• <i>(In accordance with Article 41 of Directive 2014/34/EU, EC-Type Examination Certificates referring to 94/9/EC that were in existence prior to the date of application of 2014/34/EU (20 April 2016) may be referenced as if they were issued in accordance with Directive 2014/34/EU. Variations to such EC-Type Examination Certificates may continue to bear the original certificate number issued prior to 20 April 2016.)</i></li> </ul>
3	30 November 2016	R70110211A	The introduction of Variation 2.
4	15 August 2017	R70137497A	The introduction of Variation 3.

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- 15 **SPECIFIC CONDITIONS OF USE** (denoted by X after the certificate number)
- 15.1 The breather/drains are only suitable for bottom entry applications within associated Ex eb and Ex ta enclosures.
- 15.2 The products are approved for a temperature range at their point of mounting based upon the interface seal and material combinations of construction:
- No seal fitted (-100°C to +400°C)
  - Nitrile O-ring (-30°C to +100°C)
  - Neoprene O-ring (-35°C to +90°C)
  - Silicone O-ring (-60°C to +200°C)
  - Fluorosilicone O-ring (-55°C to +200°C)
  - Viton O-ring (-20°C to +180°C)
  - EPDM O-ring (-50°C to +110°C)
- When no seal is fitted and the breather drain is installed in an increased safety (Ex e) enclosure, the user shall ensure that a minimum degree of protection IP54 is maintained
- 15.3 When used in explosive dust atmospheres, the breather drain shall be fitted with sealing a ring except when installed into a tapered threaded hole. In this case the short threaded versions 10 mm (1/4" NPT, 3/8" NPT) or 13 mm (1/2" NPT, 3/4" NPT) shall be used to ensure that a minimum of 3 full threads of contact will be maintained. This is in accordance with clause 5.3.2 of EN 60079-31: 2014.
- 15.4 The M12 and 1/4" NPT threaded breather drains made of brass and intended for mining (Group I) applications shall be installed in areas where they are subject to low risk of mechanical impact or are protected from mechanical damage.
- 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 MANUFACTURE**
- 17.1 The use of this certificate is subject to the Regulations Applicable to Holders of Sira Certificates.
- 17.2 Holders of EU-Type Examination certificates are required to comply with the conformity to type requirements defined in Article 13 of Directive 2014/34/EU.
- 17.3 Breather drains manufactured from aluminium shall not be marked for Group I use.
- 17.4 The filter discs shall be mechanically press fitted into the body component ensuring an interference fit is maintained.

# Certificate Annexe



Certificate Number: Sira 09ATEX3321X  
Component: ACDP Breather drains  
Applicant: Peppers Cable Glands Ltd

## Issue 0

Drawing	Sheets	Rev.	Date (Sira stamp)	Title
PCG/ATX/ACDP	1 of 1	1	11 Jan 10	Marking and product notes
PCG/ATX/BDS	1 of 1	1	11 Jan 10	Short thread breather drain body
PCG/ATX/BDL	1 of 1	1	11 Jan 10	Long thread breather drain body
PCG/ATX/LNS	1 of 1	1	11 Jan 10	Castellated locknut type LNCS, LNCA
PCG/ATX/PEXMP	1 of 1	1	22 Feb 10	Hazardous Area Approved Products Marking Plan
PCG/MATS/SB	1 of 1	1	26 Feb 10	Standard materials

## Issue 1

Drawing	Sheets	Rev.	Date (Sira stamp)	Description
PCG/ATX/ACDP	1 of 1	3	15 Dec 15	Marking and product notes
PCG/ATX/BDS	1 of 1	4	15 Dec 15	Short thread breather drain body
PCG/ATX/BDL	1 of 1	4	15 Dec 15	Long thread breather drain body
PCG/LNC	1 of 1	5	15 Dec 15	Castellated locknut
PCG/ACFD	1 of 1	2	15 Dec 15	Filter Disc
PCG/MATS/SB	1 of 1	5	15 Dec 15	Standard Materials
PCG/MATS/AL	1 of 1	2	15 Dec 15	Standard Materials
PCG/ETOR	1 of 1	12	15 Dec 15	O-ring

Issue 2 No new drawings were introduced

## Issue 3

Drawing	Sheets	Rev.	Date (Sira stamp)	Description
PCG/ATX/BDS	1 of 1	5	25 Nov 16	Short thread breather drain body
PCG/ATX/BDL	1 of 1	5	25 Nov 16	Long thread breather drain body

## Issue 4

Drawing	Sheets	Rev.	Date (Sira stamp)	Title
PCG/ACFD	1 of 1	3	24 Jul 17	Component filter disc
PCG/ATX/BDS	1 of 1	6	24 Jul 17	Short thread breather drain body
PCG/ATX/BDL	1 of 1	6	24 Jul 17	Long thread breather drain body
PCG/MATS/AL	1 of 1	3	14 Aug 17	Standard materials

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