



1 **EC TYPE-EXAMINATION CERTIFICATE**

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

3 Certificate Number: **Sira 08ATEX1240X** Issue: **4**

4 Equipment: **BD-U Range of Breather/Drains**

5 Applicant: **EX Innovations Limited**

6 Address: **Jepson Court
Tancred Close
Queensway
Royal Leamington Spa
Warwickshire CV31 3RZ** **Trading as Redapt
Unit 1, 1 Kingsway South
Aldridge
Walsall
West Midlands WS9 8FS**

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:

IEC 60079-0:2007 EN 60079-1:2007 EN 60079-7:2007 EN 61241-0:2006 EN 61241-1:2004

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 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 M 2

II 2GD

Ex e I/IIC Mb Gb •

Ex d I/IIC Mb Gb **k**

Ex tb IIIC Db IP 6X

• -50°C to 150°C (Dependant on O-ring fitted, refer to Special Conditions of Safe Use)

k -50°C to +60°C (Lower range dependant on O-ring fitted, refer to Special Conditions of Safe Use)

Project Number 70004736

A C Smith
Certification Manager

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SCHEDULE

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13 DESCRIPTION OF EQUIPMENT

The BD-U Breather/Drains are designed to allow moisture emission from either Flameproof Type 'Ex d' enclosures and Increased Safety Type 'Ex e' enclosures. Each device comprises either a brass or a stainless steel body with an M20, M25, 1/2" NPT or 3/4" NPT entry thread. The body is machined such that a dust/moisture seal, manufactured from sintered copper/bronze alloy which can be optionally nickel plated, can be pressed in place. The device is designed to be screwed into the wall of an enclosure.

'O' ring seals materials fitted into the Breather/Drain are provided in nitrile, viton, EPDM, neoprene, silicone or fluoro-silicone materials to suit the application.

Variation 1 - This variation introduced the following changes:

- i. The applicant has advised us that their address has been changed from Units 46 & 47, Darlaston Central Trading Estate, Salisbury Street, Darlaston, West Midlands WS10 8XB to that currently shown.

Variation 2 - This variation introduced the following change:

- i. The recognition that the company name and address has changed from Redapt Ltd, Westgate, Aldridge, West Midlands WS9 8FS to EX Innovations Ltd., Trading as Redapt at Jepson Court, Tancred Close, Queensway, Royal Leamington Spa, Warwickshire CV31 3RZ.
- ii. The introduction of a Condition of Certification/Manufacture.

Variation 3 - This variation introduced the following change:

- i. The introduction of a Special Condition for Safe Use relating to surface temperature.

14 DESCRIPTIVE DOCUMENTS

14.1 Drawings

Refer to Certificate Annexe.

14.2 Associated Sira Reports and Certificate History

Issue	Date	Report number	Comment
0	10 November 2008	R59L18059A	The release of the prime certificate.
1	12 November 2009	R51A18059B	Re-Issued to amend the Special Conditions For Safe Use
2	28 May 2012	R27642A/00 R28111A/00	The introduction of Variation 1 and the removal of a Special Condition for Safe Use.
3	14 January 2013	R29744A/00	The introduction of Variation 2.
4	28 May 2014	R70004736A	The certificate was changed from a Component 'U' certificate into an Equipment certificate at this variation. <ul style="list-style-type: none">• Report R28111A/00 was replaced by R28111A/01.• The introduction of Variation 3.

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

- 15.1 The breather/drains are only suitable for bottom entry applications.
- 15.2 The interfaces between the breather/drains and associated enclosure cannot be defined. Therefore it is the user's responsibility to ensure that the appropriate ingress protection level is maintained at these interfaces.
- 15.3 At their point of mounting, these devices are suitable for use at the following temperatures dependant on the type of 'O' ring:

'O'-ring Material	Limiting temperature
Nitrile	-20°C to +80°C
EPDM	-30°C to +125°C
Neoprene	-20°C to +100°C
Viton	-5°C to +150°C
Silicone	-30°C to +150°C
Fluorosilicone	-50°C to +150°C

- 15.4 The reference pressure is limited to 4000 kPa maximum.
- 15.5 The maximum surface temperature of the breather drain can be determined by the following:
Maximum surface temperature = Maximum ambient temperature + (1.5°C x 1.2)
- 15.6 The maximum free volume of the enclosure into which the breather may be fitted is 2.5 litres.
- 15.7 Only one breather drain shall be fitted into any single flameproof enclosure.
- 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 The manufacturer shall provide with each device a declaration stating the following:
 - Confirmation of the material, maximum bubble test pre size and minimum density;
 - Special mounting instructions.
- 17.4 These products shall be marked in accordance with the information as specified in this certificate and related reports.

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Certificate Annexe

Certificate Number: Sira 08ATEX1240X
Equipment: BD-U Range of Breather/Drains
Applicant: EX Innovations Limited



Issue 0

Number	Sheet	Rev.	Date (Sira stamp)	Description
99-D-10	1 of 1	1	30 Oct 08	Flameproof Ex d Breather Drain
99-D-12	1 of 1	1	30 Oct 08	Ex d Breather Sinter
BDS-04-3	1 of 1	1	10 Nov 08	Stencil marking layout

Issue 1 - No new drawings were introduced.

Issue 2

Drawing No.	Sheets	Rev.	Date (Sira stamp)	Description
IECEx MD-01	1 of 1	3	18 May 12	Marking Drawing

Issue 3

Drawing No.	Sheets	Rev.	Date (Sira stamp)	Description
IECEx MD - 01	1 of 1	4	14 Jan 13	Redapt Marking Label drawing

Issue 4

Drawing	Sheets	Rev.	Date (Sira stamp)	Description
BD-U Marking	1 of 1	1	23 May 14	Redapt Marking for BD-U Products

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