

Installation Instructions for Redapt Breather Drain

These installation instructions give guidance on selection of Redapt products and general instructions for safety and installation of chosen Redapt products. All Redapt products should only be used in applications and environments as detailed in these instructions and other Redapt literature.

Redapt will not take responsibility for any damage, injury or form of loss caused where products are not installed or used as detailed in these instructions. If in doubt, further advice can be obtained from our Technical Department.

Product Certification

Series	Material	ATEX Certification	IECEx Certification	CSA US/CANADA Certification
DP-E	Metallic (ex Alum)	I M2 II 2DG	Exe I/IIC Mb Gb Ex tb IIIC Db	CLI, Zn 1, Exe II
	Alum & G.F.Nylon	II 2DG	Exe II Gb Ex tb IIIC Db	CLI, Zn 1, Exe II

Product Information

Series	ATEX Certificate No.	IECEx Certificate No.	Basic IP/ CSA NEMA	Impact Resistance	Operating Temp
DP-E	Sira 99ATEX3050U	IECEx SIR 08.0024U	IP66 / 4X	20Nm-Metallic, 7Nm-GFN/Alum	-50°C to +125°C ¹ -50°C to +85°C ¹

Notes: ¹ Please see Special Notes for specific details concerning Operating Temperatures

Product Description and Part Number Designation

Product		Certification		Material		Plating		Thread Size			
DP	Breather Drain	E	Exe	1	Brass	0	Unplated	04	M20	43	3/4" NPS
				2	Mild Steel	1	Electroless Nickel	05	M25	55	1/2" BSPP
				3	S. Steel	2	Zinc	06	M32	56	3/4" BSPP
				4	G F Nylon	6	Chromatised	17	3/4" ET	68	1/2" BSPT
				5	Aluminium			18	1" ET	69	3/4" BSPT
								29	1/2" NPT	81	PG 11
								30	3/4" NPT	82	PG 13.5
								31	1" NPT	83	PG 16
								42	1/2" NPS	84	PG 21

Standard Breather Drain Variations

DP-E-1-0-04-??	Thread Length	Hole Position	Locknut?	Dust / Moisture Seal Material
S1	10 mm	Standard (x2)	With	Hydrophilic Polyethylene
S2	10 mm	Standard (x2)	Without	Hydrophilic Polyethylene
S3	15 mm	Offset (x3)	With	Hydrophilic Polyethylene
S4	15 mm	Offset (x3)	Without	Hydrophilic Polyethylene
M1	10 mm	Standard (x2)	With	Sintered Bronze
M2	10 mm	Standard (x2)	Without	Sintered Bronze
M3	15 mm	Offset (x3)	With	Sintered Bronze
M4	15 mm	Offset (x3)	Without	Sintered Bronze

Example: DP-E-1-0-04-S1

Breather Drain, Certified Exe II, Material Brass, Plating None, Size M20, Thread 10mm 2 Holes with Locknut.

Selection

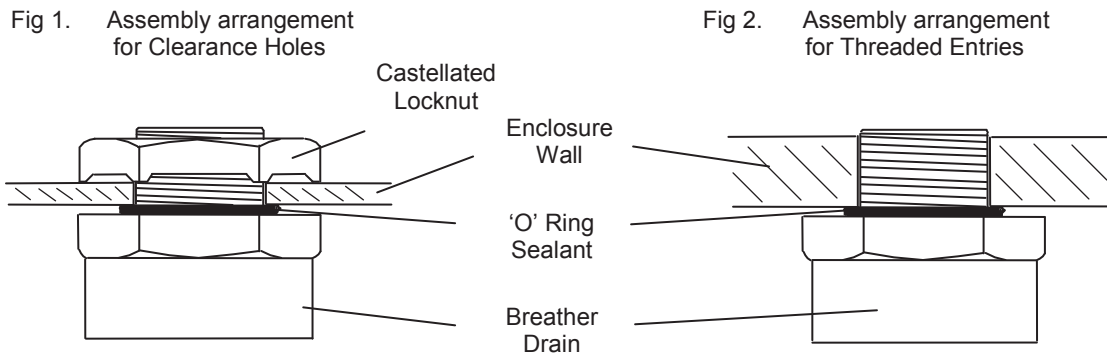
- Products should be selected in accordance with all relevant Standards and Codes of Practice.
- Ensure that the Breather Drain is certified to the same method of protection as the equipment to which it is to be installed.
- Ensure that the correct size Breather Drain is selected for the entry hole of the enclosure. If the entry hole is threaded ensure that the correct threadform is selected.
- Ensure that the Breather Drain material is suitable to the enclosure material and to the surrounding environmental conditions. Available Materials and Plating as detailed above.
- Ensure that the surrounding conditions do not exceed the stated Operating Temperatures.
- Ensure that the Breather Drain is certified to the same Ingress Protection levels as the equipment into which it is to be installed.
- Ensure that the impact resistance of the Breather Drain is suitable to that of the equipment to which it is to be installed.

Installation

1. All Redapt products should be installed in accordance with all relevant Installation Standards and Codes of Practice and the latest revision of IEC 60079-0:2007 and EN 60079-7:2007 Electrical Installations in hazardous areas (other than mines).
2. Installation of the product should only be carried out by an engineer trained in cable gland installation.
3. Positioning - The Breather Drain is to be fitted onto the bottom face at the lowest point to facilitate optimum drainage.
4. Clearance Holes – Clearance holes should be 0.5 mm (+0.2, -0.4mm) larger than the major diameter of the thread size being used. Breather Drains located in clearance holes must be secured with the castellated locknut unless secured in a threaded gland plate.
Threaded Entries – Breather Drains can be fitted directly into a threaded entry without the castellated locknut although the locknut is recommended for additional security.
5. Maintaining IP Rating – In order to ensure the effectiveness of the 'O' ring seal and to maintain the IP Rating of the component, the surface of the enclosure should be clean and free from dust or moisture before assembly. The installer should also ensure that the 'O' ring seal is seated in the groove provided.
6. Assembly and Recommended Installation Torque – In order to maintain the integrity of the enclosure it is important to ensure that the 'O' ring seal is properly seated in the groove provided. A maximum installation torque of 10Nm is recommended.

Assembly

The Breather Drain should be installed as shown in Fig 1. (Clearance Holes) and Fig 2. (Threaded Entries).



Routine Checking and Maintenance

The component should be checked during routine maintenance of the enclosure. Any surface debris that may accumulate on the internal dust seal should be removed with compressed air. Should the exterior drainage holes become blocked, then again this can be cleared with compressed air.

Special Notes

- These Breather Drains are only suitable for bottom entry applications.
- The Breather Drains with three 3mm drain holes shall only be used with increased safety enclosures that have a minimum wall thickness of 2mm; there is no restriction on the wall thickness for Breather Drains with two 5mm holes.
- The products shall be selected for a temperature range at their point of mounting based upon the combination of interface seal and material of construction.
- Operating temperatures are limited by either the moisture seal material or 'O' ring material.
- Breather Drains supplied with Hydrophilic Polyethylene moisture seal are capable of operating at the following temperatures:- Standard Nitrile 'O' ring: -30°C to +85°C, Silicone 'O' ring: -50°C to +85°C.
- Breather Drains supplied with Sintered Bronze moisture seal are capable of operating at the following temperatures:- Standard Nitrile 'O' ring: -30°C to +100°C, Silicone 'O' ring: -50°C to +180°C.
- Non-metallic Breather Drains are capable of operating at -50°C to +125°C.
- 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.
- The clearance holes for metric male threaded products, suitable for clearance hole applications of increased safety enclosures are to have a diameter of 0.3 to 0.5mm larger than the major diameter of the male thread.
- It is recommended non-metallic Breather Drains only be used in clearance holes (secured with Locknut) and G.R.P. threaded entries. When installed into clearance holes, care should be taken to avoid over-tightening. A maximum torque as shown above should be applied.
- Should a Breather Drain be required for use in metallic threaded entries, it is recommended that a metallic version be used.
- DP-E Breather Drains should not be used in flameproof or explosion proof equipment.

For further assistance or details on Redapt's range of products, please contact:

FAX: +44 (0) 121 526 5076
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Thread Conversion Specialists

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Installation Instructions for Redapt Flameproof and Increased Safety Breather Drain

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Product Certification

Series	Material	ATEX Certification	IECEX Certification
BD-U	Metallic Brass-S/Steel	I M2 II 2GD	Exe I/IIc Mb Gb Ex tb IIIC Db
		II 2GD	Exe II Gb Ex tb IIIC Db

Product Information

Series	ATEX Certificate No.	IECEX Certificate No.	Basic IP/ CSA NEMA	Impact Resistance	Operating Temp
BD-U	Sira 08ATEX1240U	IECEX SIR 08.0096U	IP66 / 4X	20Nm	-50°C to +150°C

Product Description and Part Number Designation

Product		Certification		Material		Plating		Thread Size		
BD	Breather Drain	U	Exd I&IIc & Exe I&IIc	1	Brass (CZ121)	0	Unplated	04	M20	16mm
				3	S. Steel	1	Electroless Nickel	05	M25	16mm
						2	Zinc	29	1/2" NPT	19.85mm
								30	3/4" NPT	20.15mm
BD-U-3-0-04-??		Sinter		'O' Ring Material		Limiting Temperature				
D1				Silicone		-30°C to +150°C				
D2				Fluorosilicone		-50°C to +150°C				
D3				Viton		-5°C to +150°C				
D4				EPDM		-30°C to +125°C				
D5				Neoprene		-20°C to +100°C				
D6				Nitrile		-20°C to +80°C				

Example: BD-U-3-0-04-D1

Breather Drain, Certified Exd I&IIc & Exe I&IIc, Material Stainless Steel, Plating None, Size M20, Silicone 'O' ring.

Selection

- Products should be selected in accordance with all relevant Standards and Codes of Practice.
 - Maximum reference pressure of enclosure is limited to 4000kPa
- Ensure that the Breather Drain is certified to the same method of protection as the equipment to which it is to be installed.
- Ensure that the correct size Breather Drain is selected for the threaded entry hole of the enclosure.
- Ensure that the Breather Drain material is suitable to the enclosure material and to the surrounding environmental conditions. Available Materials and Plating as detailed above.
- Ensure that the surrounding conditions do not exceed the stated Limiting Temperatures of the 'O' ring supplied.
- Ensure that the Breather Drain is certified to the same Ingress Protection levels as the equipment into which it is to be installed.
- Ensure that the impact resistance of the Breather Drain is suitable to that of the equipment to which it is to be installed.

Installation

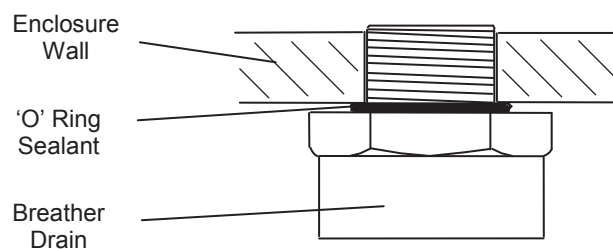
1. All Redapt products should be installed in accordance with all relevant Installation Standards and Codes of Practice. BS EN 60079-7:2007.
2. Installation of the product should only be carried out by an engineer trained in cable gland installation.
3. Positioning - The Breather Drain is to be fitted onto the bottom face at the lowest point to facilitate optimum drainage.
4. Maintaining IP Rating – In order to ensure the effectiveness of the 'O' ring seal and to maintain the IP Rating of the component, the surface of the enclosure should be clean and free from dust or moisture before assembly. The installer should also ensure that the 'O' ring seal is seated in the groove provided.
5. Assembly and Recommended Installation Torque – In order to maintain the integrity of the enclosure it is important to ensure that the 'O' ring seal is properly seated in the groove provided. An installation torque as detailed in the table below should then be applied.

Material Type	Thread Size	Recommended Installation Torque
Brass-Stainless Steel	M20, 1/2" NPT	32.5Nm
Brass-Stainless Steel	M25, 3/4" NPT	47.5Nm

Assembly

The Breather Drain should be installed as shown in Fig 1.

Fig 1. Assembly arrangement for Threaded Entries



Routine Checking and Maintenance

The component should be checked during routine maintenance of the enclosure. Any surface debris that may accumulate on the internal dust seal should be removed with compressed air. Should the exterior drainage holes become blocked, then again this can be cleared with compressed air.

Declaration

The Cooper Bronze Alloy integrated seal will have a nominal pore size of 21µm with a maximum pore size of 80µm. The minimum density will be 31%.

For further assistance or details on Redapt's range of products, please complete 'Faxback' details:

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