

ACDP Range – Breather Drain – INSTALLATION INSTRUCTIONS

Warning

PLEASE STUDY THESE INSTRUCTIONS CAREFULLY BEFORE INSTALLATION. These products should not be used in any application other than those mentioned here or in our Data Sheets, unless Peppers states in writing that the product is suitable for such application. Peppers can take no responsibility for any damage, injury or other consequential loss caused where the products are not installed or used according to these instructions. This leaflet is not intended to advise on the selection of the products. Further guidance can be found in the standards listed below.

Brief Description

The Peppers ACDP range of Breather Drains are intended for indoor or outdoor use in the appropriate hazardous area locations. The Breather Drain is primarily designed to allow an enclosure to breathe with its surrounding atmosphere to effectively prevent moisture build up inside the enclosure. The Breather Drain will also efficiently drain water from an enclosure to prevent damage to internal equipment. It gives environmental protection to IP66 and is suitable for both mining and surface applications.

Installation

In order to maintain an Ingress protection of IP66, Breather Drains should be hand-tightened and then suitably secured with a wrench. For threaded entries the entry thread should be fully engaged prior to tightening. For clearance holes the castellated locknut shall be used. See below for installation torques.

Installation Guidance

Point	Advice
1	EN/IEC 60079-10 EN/IEC 60079-14 National Electrical Code (NEC 500 – 505) Canadian Electrical Code (CSA C22.1)
2	Installation should only be carried out by a competent electrician, skilled in cable gland and electrical installations.
3	Comprehensive details of the compliance standards can be found on the product certificates which are available for download from our website
4	NO INSTALLATION SHOULD BE CARRIED OUT UNDER LIVE CONDITIONS.
5	The Breather Drain is only to be fitted on the bottom surface of the enclosure, aligned vertically with the thread upwards, and at the lowest point to permit proper drainage.
6	Threaded entries: it must NOT be used for Ex d applications. Products with parallel threads can be installed directly into threaded entries. Products with tapered threads and drain holes located in the thread should not be installed into threaded entries where the ingress protection of the enclosure may be compromised. Contact Peppers for further advice.
7	Clearance holes: these may be 0.1mm to 0.7mm larger than the major diameter of the male thread. The product should be secured with a castellated lock nut and the threads tightened as detailed below. The nut must be attached with castellation facing the enclosure wall.
8	To maintain the Ingress Protection rating of the product, the entry hole must be perpendicular to the surface of the enclosure. The surface should be sufficiently flat and rigid to make the IP joint. The surface must be clean and dry. It is the users/installers responsibility to ensure that the interface between the enclosure and breather drain is suitably sealed for the required application.
9	Aluminium variants may not be used in Group I (Mining) applications

Product Ingress Protection / Enclosures Ratings

Range	IP Protection
ACDP	IP66

Product Installation Torque

Installation Type	Torque (Nm)
Parallel or Tapered Thread in Clearance Hole	10
Parallel Thread in a Threaded Entry	10
Tapered Thread in a Thread Entry	32.5

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Limitations on Usage Be sure your installation complies with the following:-

Feature	Comment																				
Positioning in the Enclosure	The Breather Drain is only to be fitted on the bottom surface of the enclosure, aligned vertically with the thread upwards, and at the lowest point to permit proper drainage.																				
Temperature Limitations	Products are approved for a temperature range at their point of mounting based upon the interface seal and material combinations of construction as detailed below: -																				
	<table border="1" style="width: 100%;"> <thead> <tr> <th style="width: 25%;">Seal Material</th> <th style="width: 25%;">Temperature Range</th> <th style="width: 25%;">Seal Material</th> <th style="width: 25%;">Temperature Range</th> </tr> </thead> <tbody> <tr> <td>No Seal</td> <td>-100°C to +400°C</td> <td>Fluorosilicone O-Ring</td> <td>-55°C to +200°C</td> </tr> <tr> <td>Nitrile O-Ring</td> <td>-30°C to +100°C</td> <td>Viton O-Ring</td> <td>-20°C to +180°C</td> </tr> <tr> <td>Neoprene O-Ring</td> <td>-35°C to +95°C</td> <td>EPDM O-Ring</td> <td>-50°C to +110°C</td> </tr> <tr> <td>Silicone O-Ring</td> <td>-60°C to +200°C</td> <td></td> <td></td> </tr> </tbody> </table>	Seal Material	Temperature Range	Seal Material	Temperature Range	No Seal	-100°C to +400°C	Fluorosilicone O-Ring	-55°C to +200°C	Nitrile O-Ring	-30°C to +100°C	Viton O-Ring	-20°C to +180°C	Neoprene O-Ring	-35°C to +95°C	EPDM O-Ring	-50°C to +110°C	Silicone O-Ring	-60°C to +200°C		
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CSA Approval	Breather Drains shall not be used in any application where the operating temperature is below -50°C																				

Interpretation of Markings

Markings on the outside of this gland carry the following meanings:

Cable Gland Type & Size ACDP-a-b-E-ccc

a =	Seal Type 0 = No IP Seal 1 = Nitrile O-Ring Seal 3 = Silicone O-Ring Seal	ccc =	Male Thread Size
b =	Main component material A = Aluminium B = Brass S = Stainless steel		

Approvals

Approval	Certificate Number	Protection Concept / Type
ATEX	SIRA 09ATEX3321X	⊕ M2 II 1D 2G Ex eb I Mb / Ex eb IIC Gb / Ex ta IIIC Da
IECEx	IECEx SIR 09.0132X	Ex eb I Mb / Ex eb IIC Gb / Ex ta IIIC Da
CSA - Canada	2310046	Class I Zone 1 Ex eb IIC; Class II Ex ta IIIC; IP66 Type 4
CSA - US	2310046	Class I Zone 1 AEx eb IIC; Class II Zone 21 AEx ta IIIC; IP66 Type 4
INMETRO	NCC 13.2191 X	Ex eb I Mb / Ex eb IIC Gb / Ex ta IIIC Da IP66
EAC	RU C-GB. F506.B.00098	Ex e IU / Ex e IIU
UKRAINE	UA.TR.047.C.0408-13	Exe II U
NEPSI	GYJ111315	Ex e II
CCoE / PESO	P365300/8	Ex e IIC Gc (Zone 2)
ABS	14-LD1183401-PDA	Specified ABS Rules – See certificate
Lloyds Register	10/00056(E1)	Ex e I Mb / Ex e IIC Gb
Russian Maritime	14.02755.315	Ex e I Mb / Ex e IIC Gb

Conditions for Safe Use

- The breather drains are only suitable for bottom entry applications within associated Ex eb and Ex ta enclosures.
- The products are approved for a temperature range at their point of mounting based upon the interface seal and material combinations of construction. 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
- When used in explosive dust atmospheres, the breather drain must be fitted with sealing 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 / IEC 60079-14 Ed 2.
- 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.

