

AR Range – Adaptors and Reducers – 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 give advice on the selection of the products. Further guidance can be found in the standards listed below.

Brief Description

The Peppers AR range of Adaptors and Reducers are intended for indoor or outdoor use in the appropriate hazardous area locations. Adaptors and Reducers designed to facilitate the installation of an entry device into an enclosure or housing where the entry threads on the equipment are dissimilar. They give environmental protection to IP66 and IP68 and are suitable for both mining and surface applications.

Installation

All Peppers adaptors and reducers should be installed and tightened to ensure the appropriate IP rating of the installation is maintained. The product should be hand-tightened and then suitably secured with a wrench.

Installation Guidance

Point	Advice
1	EN/IEC 60079-10 Classification of Hazardous Areas / EN/IEC 60079-14 Electrical Installations in hazardous areas / EN/IEC 60079-31 Ignitable dust – Protection by enclosure
2	Installation should only be carried out by a competent electrician, skilled in cable gland installation.
3	NO INSTALLATION SHOULD BE CARRIED OUT UNDER LIVE CONDITIONS.
4	Threaded entries: the product can be installed directly into threaded entries. Threaded entries should comply with clause 5.3 of IEC/EN 60079-1 and have a lead-in chamfer to allow for full engagement of the threads. For Ex d applications a minimum of 5 fully engaged parallel threads is required.
5	Clearance holes: these may be 0.1 to 0.7mm larger than the major diameter of the male thread. The product should be secured with a lock nut and the threads tightened to ensure the product is secure. A sealing washer and serrated washer may be used for additional installation and environmental protection.
6	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 cable gland is suitably sealed for the required application.
7	Whilst Peppers products with tapered threads, when installed into a threaded entry, have been tested to maintain IP66 without any additional sealant, due to the differing gauging tolerances associated with the use of tapered threads it is recommended to use a non-hardening thread sealant if an IP rating higher than IP64 is required.
8	Aluminium variants may not be used in Group I (Mining) applications
9	Restricted Breathing Requirements: - Adaptors and reducers with parallel threads and fitted with appropriate sealing rings provide a restricted breathing seal. Adaptors and reducers with tapered or parallel threads, installed into unthreaded entry holes and fitted with appropriate sealing rings provide a restricted breathing seal.

Product Ingress Protection / Enclosures Ratings

When installed in accordance with these instructions the Peppers AR range of adaptors and reducers will maintain the following IP ratings: -

Male Thread Type	Seal Type	IP Rating	Type
Parallel	No Seal	IP66	3, 4, 4X
Parallel	O-Ring	IP66 / IP68	4, 4X, 6, 6P
Parallel	Sealing Washer	IP66 / IP68	4, 4X, 6, 6P
Tapered	No Seal	IP66	3
Tapered	Thread Sealant	IP66 / IP68	4, 4X, 6, 6P
IP68 – Products tested to a depth of 100 metres for a period of 7 Days			

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Limitations on Usage

Be sure your installation complies with the following:-

Feature	Comment			
Stacking	Installing more than one adaptor/reducer in series (by “stacking”) is not permitted			
Temperature Limitations	Products are approved for a temperature range at their point of mounting based upon the interface seal as detailed below: -			
	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			
CSA Approval	Adaptors and Reducers shall not be used in any application where the operating temperature is below -50°C Class I conduit applications, for products with a female connection thread, the female thread must be NPT			

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

Cable Gland Type & Size AR-a-b-F-ccc-ddd

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	ddd =	Female Thread Size

Approvals

Approval	Certificate Number	Protection Concept / Type
ATEX	SIRA 09ATEX1322X / SIRA 09ATEX4323X	⊕ II 2/3 DG Ex d I& IIC Gb / Ex e I& IIC Gb/ Ex tb IIIC Db / Ex nR IIC Gc
IECEX	IECEX SIR 09.0131X	Ex d I& IIC Gb / Ex e I& IIC Gb/ Ex tb IIIC Db / Ex nR IIC Gc
CSA	2310046	Class I, Division 1 Groups A, B, C and D; Class II, Division 1 Groups E, F and G; Class III, Type 4X Ex d IIC and Ex e II
GOST-R	POCC GB.Г506.B01316	Ex dIU / Ex dIICU / Ex eIU / Ex eIIU / Ex nRIIU
EurAsEC	RU C-GB. Г506.B.00098	Ex dIU / Ex dIICU / Ex eIU / Ex eIIU / Ex nRIIU
UKRAINE	UA.TR.047.C.0408-13	Ex d IIC X / Ex e II X
NEPSI	GYJ111312X	Ex d IIC / Ex e II

Conditions for Safe Use

- Blanking elements shall not be used with the adaptors/reducers.
- Where adaptors/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 EN 60079-31:2009 clause 5.1.1.
- Adaptors/reducers shall not to be used for the direct inter-connection of enclosures.
- Only one adaptor/reducer is to be used with any single cable entry on the associated equipment.
- The products are approved for a temperature range at their point of mounting based upon the interface seal and material combinations of construction.

