

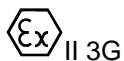


Type Examination Certificate **CML 19ATEX4093U Issue 0**

- 1 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU
- 2 Component **ARMR and ARFR Range of 90° Adaptors and Reducers
AEMF and AEFM Range of 45° Adaptors and Reducers
ATMF and ATFF Range of 30° Adaptors and Reducers**
- 3 Manufacturer **Peppers Cable Glands Limited**
- 4 Address **Stanhope Road,
Camberley, Surrey,
GU15 3BT
United Kingdom**
- 5 The component is specified in the description of this certificate and the documents to which it refers.
- 6 CML B.V., Chamber of Commerce No 6738671, Hoogoorddreef 15, Amsterdam, 1101 BA, The Netherlands, certifies that this component has been found to comply with the Essential Health and Safety Requirements relating to the design of equipment intended for use in potentially explosive atmospheres given in Annex II of Directive 2014/34/EU.
- 7 The 'U' suffix after the certificate number indicates that the component is subject to conditions of installation (affecting correct installation or safe use). These are specified in Section 14.
- 8 This Type Examination certificate relates only to the design and construction of the specified equipment or component. Further requirements of Directive 2014/34/EU Annex VIII apply to the manufacture of the equipment or component.
- 9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the confidential report, has been demonstrated through compliance with the following documents:

EN 60079-0:2018 IEC 60079-15:2017

- 10 The equipment shall be marked with the following:



Ex nR IIC Gc

* Refer to description for ambient



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11 Description

The ARMR and ARFR Range of 90° Adaptors and Reducers are manufactured from a metallic block body with a male thread at one end and a female thread machined into the body at 90° to the male thread. The AEMF and AEFF Range of 45° Adaptors and Reducers are manufactured from a metallic block body with a male thread at one end and a female thread machined into the body at 45° to the male thread. The ATMF and ATFF Range of 30° Adaptors and Reducers are manufactured from a metallic block with a male thread at one end and a female thread machined into the body at 30° to the male thread.

They are intended to provide cable entry options where space is limited or to avoid cable damage, additionally, they may be used to convert an existing cable entry aperture to a different threadform and/or size. Male thread forms may be replaced with an internal female thread. The products may additionally be metallic plated, and the male thread may also be fitted with an optional O-ring seal.

The products are manufactured with the following threadform options:

| | |
|--------------|---|
| ISO Metric | ISO 965-1:2013 and ISO 965-3:1998 - M16 to M100 |
| NPT and NPSM | ANSI/ASME B1.20.1:1983 (R2001) - ¼" to 4" |
| BSPP | BS EN ISO 228-1 - ¼" to 4" |
| BSPT | BS21:1985 - ¼" to 4" |
| PG | DIN 40430 – 7 / 9 / 11 / 13.5 / 16 / 21 / 29 / 36 / 42 / 48 |
| PG48F | NF C 68-312 |

Note: All threads are manufactured in accordance with EN 60079-1:2014 clauses 5.3 and C.2.2 (as applicable).

Note: The Angled Adapters and Reducers may be manufactured with other threadforms and pitches, provided that they are in accordance with the applicable requirements of EN 60079-1:2014 clause 5.3 and C.2.2.

Design Options:

O-Ring seals

O-Ring seal materials fitted to male thread forms may be provided in the following materials to suit the application:

| |
|----------------|
| Nitrile |
| Silicone |
| Viton |
| Neoprene |
| Fluorosilicone |
| EPDM |



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Material of manufacture and marking

The Stopping Plugs may be manufactured from the following materials:

| | |
|-----------------|---|
| Brass | CW614N (CuZn 39Pb3)/ CZ121 3Pb, Ecobrass C69300/ C87850 |
| Aluminium* | AW6082 T6 AISI 1MgMn |
| Stainless Steel | 1.4404/ 316L S11, 1.4401/ 316 S31, 1.4301/ 304, 1.4305/ 303 |

*Not suitable for Group I use

Surface coating

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



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Product Type Reference

The product type reference is derived from the following options:

| A-B-C-D-E-F-G | | |
|---|-----------------------------------|--------------------|
| A - Product Type | | |
| ARMR | 90° Male/Female Adaptor/Reducer | |
| ARFR | 90° Female/Female Adaptor/Reducer | |
| AEMF | 45° Male/Female Adaptor/Reducer | |
| AEFF | 45° Female/Female Adaptor/Reducer | |
| ATMF | 30° Male/Female Adaptor/Reducer | |
| ATFF | 30° Female/Female Adaptor/Reducer | |
| 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 - Protection concept code | | |
| E - Plating | | |
| -- | Not plated | |
| AN | Anodised | |
| NP | Nickel Plated | |
| ZP | Zinc | |
| F - Male thread (female for ARFR, AEFF and ATFF) size and type | | |
| G - Female thread size and type | | |

Degree of protection

The Adaptors and Reducers, when installed in accordance with the manufacturer's instructions, are capable of providing, with an enclosure on which they are fixed, an ingress protection rating of IP 66.

The Adaptors and Reducers with parallel threads and fitted with sealing rings, when installed in accordance with the manufacturer's instructions, are capable of providing, with an enclosure on which they are fixed, an ingress protection rating of IP 66 / IPX8 to 100 m for 7 days.

The Adaptors and Reducers with tapered threads, fitted with sealing rings and installed in clearance holes, when installed in accordance with the manufacturer's instructions, are capable of providing, with an enclosure on which they are fixed, an ingress protection rating of IP 66 / IPX8 to 100 metres for 7 days



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| | | Female Thread | | | | | | | | | | | | | | | | | | | | |
|-------------|--------------------------|--------------------------|------|------|----|--------|--------|----|--------|----|--------|---|---|--|--|--|--|--|--|--|--|--|
| | | NPT / NPSM / BSPT / BSPP | | | | | | | | | | | | | | | | | | | | |
| | | " | 1/2" | 3/4" | 1" | 1 1/4" | 1 1/2" | 2" | 2 1/2" | 3" | 3 1/2" | | | | | | | | | | | |
| Male Thread | Metric | M16 | A | A | | | | | | | | | | | | | | | | | | |
| | | M20 | R | A | A | | | | | | | | | | | | | | | | | |
| | | M25 | R | R | A | A | | | | | | | | | | | | | | | | |
| | | M32 | R | R | R | A | A | | | | | | | | | | | | | | | |
| | | M40 | R | R | R | R | A | A | | | | | | | | | | | | | | |
| | | M50 | R | R | R | R | R | A | A | | | | | | | | | | | | | |
| | | M63 | R | R | R | R | R | R | A | A | | | | | | | | | | | | |
| | | M75 | R | R | R | R | R | R | R | A | A | | | | | | | | | | | |
| | | M80 | R | R | R | R | R | R | R | R | A | A | | | | | | | | | | |
| | | M85 | R | R | R | R | R | R | R | R | A | A | | | | | | | | | | |
| | | M90 | R | R | R | R | R | R | R | R | R | A | A | | | | | | | | | |
| | M100 | R | R | R | R | R | R | R | R | R | R | A | | | | | | | | | | |
| | NPT / NPSM / BSPT / BSPP | 1/2" | A | A | | | | | | | | | | | | | | | | | | |
| | | 3/4" | R | A | A | | | | | | | | | | | | | | | | | |
| | | 1" | R | R | A | A | | | | | | | | | | | | | | | | |
| | | 1 1/4" | R | R | R | A | A | | | | | | | | | | | | | | | |
| | | 1 1/2" | R | R | R | R | A | A | | | | | | | | | | | | | | |
| | | 2" | R | R | R | R | R | A | A | | | | | | | | | | | | | |
| | | 2 1/2" | R | R | R | R | R | R | A | A | | | | | | | | | | | | |
| | | 3" | R | R | R | R | R | R | R | A | A | | | | | | | | | | | |
| | | 3 1/2" | R | R | R | R | R | R | R | R | R | A | A | | | | | | | | | |
| | 4" | R | R | R | R | R | R | R | R | R | R | R | A | | | | | | | | | |
| | PG | PG9 | A | | | | | | | | | | | | | | | | | | | |
| | | PG11 | A | A | | | | | | | | | | | | | | | | | | |
| | | PG13.5 | A | A | A | | | | | | | | | | | | | | | | | |
| | | PG16 | A | A | A | | | | | | | | | | | | | | | | | |
| | | PG21 | R | A | A | A | | | | | | | | | | | | | | | | |
| | | PG29 | R | R | A | A | A | | | | | | | | | | | | | | | |
| | | PG36 | R | R | R | A | A | A | | | | | | | | | | | | | | |
| | | PG42 | R | R | R | R | R | A | A | | | | | | | | | | | | | |
| PG48 | | R | R | R | R | R | R | A | A | | | | | | | | | | | | | |



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Notes:

-) Sira 10ATEX1132U, Sira 10ATEX4133U and IECEx SIR 10.0068U are superseded by certificates CML 19ATEX1091U, CML 19ATEX4093U and IECEx CML 19.0023U.
-) The product covered by Issue 0 of this certificate remains identical to that previously covered by Sira 10ATEX1132U, Sira 10ATEX4133U and IECEx SIR 10.0068U.
-) Where Sira 10ATEX1132U and/or Sira 10ATEX4133U and/or IECEx SIR 10.0068U is specified in other product certification, or other technical specifications, this certificate reference for the product shall be used in its place; updating of the other product certificate or technical specification is not required.

12 Certificate history and evaluation Reports

| Issue | Date | Associated report | Notes |
|--------------|-------------|--------------------------|----------------------------|
| 0 | 15 Apr 2019 | R12298A/00 | Issue of Prime Certificate |

Note: Drawings that describe the equipment or component are listed in the Annex.

13 Conditions of Manufacture

None.



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14 Schedule of Limitations

The following conditions relate to safe installation and/or use of the equipment.

- i. Blanking elements shall not be used in conjunction with an adapter or reducer when installed into a flameproof 'Ex d' applications.
- ii. The Ingress Protection rating that is required to ensure compliance with the standards used in this certificate was determined by testing the devices fitted into a representative enclosure having a smooth flat mounting surface. In practice, the interface between the male thread of the adapters/reducers and their 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 parallel threaded entry component threads will be suitably sealed using a method that is applicable to the associated equipment to which the adapters/reducers will be attached. This will be in accordance with the relevant installation code of practice and will ensure that any ingress protection requirements are maintained.

The threaded entry component threads without interface O-ring seals installed in an explosive dust atmosphere, within threaded entries, shall only be fitted into enclosures with either:

-) Parallel entries that will ensure that a minimum of 5 full threads of contact will be maintained, this is in accordance with clause 5.3.2 of EN 60079-31:2014.
-) Tapered entries that will 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.

- iii. Adaptors and Reducers shall not be used for the direct inter-connection of enclosures.
- iv. Only one adaptor or reducer is to be used with any single cable entry on the associated equipment.
- v. The products are approved for a temperature range at their point of mounting based upon the interface seal:

| | | |
|---|-----------------------|--------------------|
| 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) |

- vi. The adapters/reducers may be provided with the following, but not limited to, alternative thread forms, complying with the requirements of EN 50018:2000. For replacement of entry devices into equipment in existing installations only, that incorporate thread types that are no longer permitted by the current edition of EN 60079-1.
 -) NPSM: ANSI/ASME B1.20.1: 1983
 -) BSPT: BS21: 1995 (ISO 7/1; BS EN 10226-1: 2004)
 -) BSPP: BS EN ISO 228-1: 2003; BS EN ISO 228-1: 2003
 -) PG: DIN 40430: 1971

Certificate Annex



Certificate Number CML 19ATEX4093U

Equipment ARMR and ARFR Range of 90° Adaptors and Reducers
AEMF and AEFM Range of 45° Adaptors and Reducers
ATMF and ATFF Range of 30° Adaptors and Reducers

Manufacturer Peppers Cable Glands Limited

The following documents describe the equipment or component defined in this certificate:

Issue 0

| Drawing No | Sheets | Rev | Approved date | Title |
|---------------|--------|-----|---------------|---|
| PCG/ATX/90 | 1 of 1 | 3 | 15 Apr 2019 | Marking and drawing notes |
| PCG/ATX/90M-1 | 1 of 1 | 4 | 15 Apr 2019 | 90° ADAPTORS & REDUCERS (METRIC X METRIC) |
| PCG/ATX/90M-2 | 1 of 1 | 3 | 15 Apr 2019 | 90° ADAPTORS & REDUCERS (METRIC X PIPE) |
| PCG/ATX/90M-3 | 1 of 1 | 3 | 15 Apr 2019 | 90° ADAPTORS & REDUCERS (PIPE X METRIC) |
| PCG/ATX/90M-4 | 1 of 1 | 3 | 15 Apr 2019 | 90° ADAPTORS & REDUCERS (PIPE X PIPE) |
| PCG/ATX/45 | 1 of 1 | 2 | 15 Apr 2019 | Marking and drawing notes |
| PCG/ATX/45M-1 | 1 of 1 | 1 | 15 Apr 2019 | 45° ADAPTORS & REDUCERS (METRIC X METRIC) |
| PCG/ATX/45M-2 | 1 of 1 | 1 | 15 Apr 2019 | 45° ADAPTORS & REDUCERS (METRIC X PIPE) |
| PCG/ATX/45M-3 | 1 of 1 | 1 | 15 Apr 2019 | 45° ADAPTORS & REDUCERS (PIPE X METRIC) |
| PCG/ATX/45M-4 | 1 of 1 | 1 | 15 Apr 2019 | 45° ADAPTORS & REDUCERS (PIPE X PIPE) |
| PCG/ATX/30 | 1 of 1 | 2 | 15 Apr 2019 | Marking and drawing notes |
| PCG/ATX/30M-1 | 1 of 1 | 1 | 15 Apr 2019 | 30° ADAPTORS & REDUCERS (METRIC X METRIC) |
| PCG/ATX/30M-2 | 1 of 1 | 1 | 15 Apr 2019 | 30° ADAPTORS & REDUCERS (METRIC X PIPE) |
| PCG/ATX/30M-3 | 1 of 1 | 1 | 15 Apr 2019 | 30° ADAPTORS & REDUCERS (PIPE X METRIC) |
| PCG/ATX/30M-4 | 1 of 1 | 1 | 15 Apr 2019 | 30° ADAPTORS & REDUCERS (PIPE X PIPE) |
| PCG/ETOR | 1 of 1 | 12 | 15 Apr 2019 | Entry Thread O-ring seal |
| PCG/ETRO | 1 of 1 | 3 | 15 Apr 2019 | Entry Thread Components Run Out Specification |
| PCG/ORGD | 1 of 1 | 6 | 15 Apr 2019 | Component Entry Body O-Ring Groove Detail |
| PCG/MATS/AL | 1 of 1 | 3 | 15 Apr 2019 | Material specifications – Aluminium |
| PCG/MATS/SB | 1 of 1 | 5 | 15 Apr 2019 | Material specifications – Brass |
| PCG/PRE-PLT | 1 of 1 | 2 | 15 Apr 2019 | Pre-plate dimensions |
| PCG/ATX/PEXMP | 1 of 1 | 4 | 15 Apr 2019 | Marking plan |