



Type Examination Certificate CML 19ATEX4331X Issue 2

1 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

2 Equipment RA** Range of Rotating Adaptors Reducers and Elbows

3 Manufacturer Peppers Cable Glands Limited

4 Address Stanhope Road,

Camberley, Surrey,

GU15 3BT, United Kingdom

- 5 The equipment is specified in the description of this certificate and the documents to which it refers.
- 6 CML B.V., Chamber of Commerce No 6738671, Koopvaardijweg 32, 4906CV Oosterhout The Netherlands, 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 of Directive 2014/34/EU.

The examination and test results are recorded in the confidential reports listed in Section 12.

- If an 'X' suffix appears after the certificate number, it indicates that the equipment is subject to conditions of safe use (affecting correct installation or safe use). These are specified in Section 14.
- 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 and are separately certified.
- 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 IEC 60079-0:2018 EN IEC 60079-15:2019

10 The equipment shall be marked with the following:



Ex nR IIC Gc

Ts = -60°C to +135°C

IP66 / IP68 (2 m for 24 hours)

R. C. Marshall

Operations Manager





11 Description

The RA** range of rotating adaptors, reducers and elbows are constructed from brass or stainless-steel hexagonal shape extrusion or block of material machined to form a 90° elbow. The ends are machined to form optional male and female entry thread connections as indicated below:

| KE' | γ. | | | | | N | IETR | IC | | | | | | N | PT, E | SPP | , BSF | т & | NPS | М | | | | | | P | G | | | | | | | | | ET | | | |
|------------------------|--------------|--------|--------|--------|--------|--------|--------|--------|--------|-----|-----|-----|--------|------|--------|--------|--------|----------|--------|--------|--------|--------|--------|--------|--------|--------|------|--------|--------|------|------|--------|--------|--------|--------|--------------------|--------|----|----------|
| = ADAPTOR = REDUCER | | M12 | M16 | M20 | M25 | M32 | M40 | M50 | M63 | M75 | M80 | M85 | 1/4" | 3/8" | 1/2" | 3/4" | 1" | 1-1/4" | 1-1/2" | 2" | 2-1/2" | PG7 | PG9 | PG11 | PG13.5 | PG16 | PG21 | PG29 | PG36 | PG42 | PG48 | 1/2" | 5/8" | 3/4" | 1" | 1-1/4" | 1-1/2" | 2" | 2-1/2" |
| | M12 | Α | Α | Α | | | | | | | | | Α | Α | Α | | | | | | | Α | Α | Α | Α | | | | | | | Α | Α | Α | | Н | | | |
| | M16 | R | Α | Α | Α | | | | | | | | Α | Α | Α | Α | | | | | | R | Α | Α | Α | | | | | | | Α | Α | Α | Α | | | | |
| | M20 | R | R | Α | Α | Α | | | | | | | R | Α | Α | Α | Α | | | | | R | R | Α | Α | Α | Α | | | | | R | R | Α | Α | Α | | | |
| 3C | M25 | R | R | R | Α | Α | Α | | | | | | R | R | R | Α | Α | Α | | | | R | R | R | R | Α | Α | Α | | | | R | R | R | Α | Α | Α | | |
| METRIC | M32 | R | R | R | R | Α | Α | Α | | | | | R | R | R | R | Α | Α | Α | | | R | R | R | R | R | Α | Α | Α | | | R | R | R | R | Α | Α | Α | |
| Σ | M40 | R | R | R | R | R | Α | Α | Α | | | | R | R | R | R | R | Α | Α | Α | | R | R | R | R | R | R | Α | Α | Α | | R | R | R | R | R | Α | Α | Α |
| | M50 | R | R | R | R | R | R | Α | Α | Α | | | R | R | R | R | R | R | Α | Α | Α | R | R | R | R | R | R | R | R | Α | Α | R | R | R | R | R | R | Α | Α |
| | M63 | R | R | R | R | R | R | R | Α | Α | Α | Α | R | R | R | R | R | R | R | Α | Α | R | R | R | R | R | R | R | R | R | Α | R | R | R | R | R | R | R | Α |
| | M75 | R | R | R | R | R | R | R | R | Α | Α | Α | R | R | R | R | R | R | R | R | Α | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R |
| | M80 | R | R | R | R | R | R | R | R | Α | Α | A | R | R | R | R | R | R | R | R | Α | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R |
| | M85 | R | R | R | R | R | R | R | R | R | Α | Α | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R |
| NPT, BSPP, BSPT & NPSM | M90 | R | R | R | R | R | R | R | R | R | R | Α | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R |
| | 1/4" | Α | Α | Α | | | | | | | | | Α | Α | Α | | | | | | | Α | Α | Α | Α | | | | | | | Α | Α | Α | | | | | |
| | 3/8" | R | Α | Α | Α | | | | | | | | Α | Α | Α | Α | | | | | | R | Α | Α | Α | | | | | | | R | Α | Α | Α | | | | |
| | 1/2" | R | R | Α | Α | Α | | | | | | | R | Α | Α | Α | Α | | | | | R | R | Α | Α | Α | Α | | | | | R | R | Α | Α | Α | | | |
| | 3/4" | R | R | R | Α | Α | Α | | | | | | R | R | R | Α | Α | Α | | | | R | R | R | R | Α | Α | Α | | | | R | R | R | Α | Α | Α | | |
| | 1" | R | R | R | R | Α | Α | Α | | | | | R | R | R | R | Α | Α | Α | | | R | R | R | R | R | Α | Α | Α | | | R | R | R | R | Α | Α | Α | |
| | 1-1/4" | R | R | R | R | R | Α | Α | Α | | | | R | R | R | R | R | Α | Α | Α | | R | R | R | R | R | R | Α | Α | Α | | R | R | R | R | R | Α | Α | Α |
| | 1-1/2" | R | R | R | R | R | R | Α | Α | Α | | | R | R | R | R | R | R | Α | Α | Α | R | R | R | R | R | R | R | Α | Α | Α | R | R | R | R | R | R | Α | Α |
| т, І | 2" | R | R | R | R | R | R | R | Α | Α | Α | Α | R | R | R | R | R | R | R | Α | Α | R | R | R | R | R | R | R | R | R | Α | R | R | R | R | R | R | R | Α |
| ž | 2-1/2" | R | R | R | R | R | R | R | R | Α | Α | Α | R | R | R | R | R | R | R | R | Α | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R |
| | 3" | R | R | R | R | R | R | R | R | R | Α | Α | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R |
| | PG7 | Α | Α | Α | | | | | | | | | Α | Α | Α | | | | | | | Α | Α | Α | Α | | | | | | | Α | Α | Α | | | | | |
| | PG9 | Α | Α | Α | | | | | | | | | Α | Α | Α | | | | | | | Α | Α | Α | Α | Α | | | | | | R | Α | Α | | | | | |
| | PG11 | R | Α | Α | Α | | | | | | | | R | Α | Α | Α | | | | | | R | Α | Α | Α | Α | Α | | | | | R | Α | Α | Α | $ldsymbol{\sqcup}$ | | | L |
| | PG13.5 | R | R | Α | Α | Α | | | | | | | R | R | Α | Α | Α | | | | | R | R | Α | Α | Α | Α | | | | | R | R | Α | Α | Α | | | L |
| PG | PG16 | R | R | Α | Α | Α | Α | | | | | | R | R | Α | Α | Α | | | | | R | R | R | Α | Α | Α | | | | | R | R | Α | Α | Α | | | L |
| _ | PG21 | R | R | R | Α | Α | Α | | | | | | R | R | R | Α | Α | Α | | | | R | R | R | R | R | Α | Α | | | | R | R | R | Α | Α | Α | | _ |
| | PG29 | R | R | R | R | R | Α | Α | Α | L. | | | R | R | R | R | Α | Α | Α | | | R | R | R | R | R | R | Α | Α | | | R | R | R | R | R | Α | Α | Α |
| | PG36 | R | R | R | R | R | R | Α | Α | Α | - | | R | R | R | R | R | Α | Α | Α | _ | R | R | R | R | R | R | R | Α | Α | Α | R | R | R | R | R | R | Α | Α |
| | PG42 | R | R | R | R | R | R | Α | Α | Α | | | R | R | R | R | R | R | R | Α | Α | R | R | R | R | R | R | R | R | Α | Α | R | R | R | R | R | R | Α | A |
| | PG48 | R | R | R | R | R | R | R | Α | Α | | | R | R | R | R | R | R | R | Α | Α | R | R | R | R | R | R | R | R | R | Α | R | R | R | R | R | R | R | Α |
| | 1/2" | Α | Α | Α | Ŀ | | - | | | | | | A | A | Α | Ļ | | | - | | | Α | Α | Α | Α | | _ | | | | | Α | Α | Α | - | | | | H |
| | 5/8" | Α | Α | Α | A | _ | | | | | | | Α | A | Α | Α | _ | | | | | Α | Α | Α | Α | | | | | | | Α | Α | Α | Ļ | | | | H |
| | 3/4" | R | A | Α | A | Α | _ | _ | | | | | R | Α | A | Α | A | . | - | | | R | R | Α | Α | Α | Α | | | | | R | A | Α | Α | Ļ | _ | | \vdash |
| _ | 1" | R | R | R | A | Α | A | _ | | | | | R | R | R | A | Α | A | _ | | | R | R | R | R | A | Α | Α | | | | R | R | R | A | Α | Α | _ | |
| E | 1-1/4" | R | R | R | R | A | Α | Α | _ | - | | | R | R | R | R | A | Α | Α | | | R | R | R | R | R | A | Α | Α | | • | R | R | R | R | A | Α | Α | - |
| | 1-1/2" 2" | R R | R R | R R | R R | R | A R | Α | Α | ^ | | | R R | R | R | R | R | A R | Α | Α | _ | R R | R R | R R | R R | R R | R | A R | Α | Α | Α | R R | R R | R R | R R | R | A R | Α | Α |
| | | - | | | R | _ | R | A | Α | Α | ^ | ^ | | R | _ | _ | _ | R | A | Α | Α | - | _ | _ | _ | R R | R | R | A | Α | Α | - | - | R | _ | - | R | A | A |
| | 2-1/2" | R R | R R | R R | R | R R | R | R R | A R | A | Α | A | R R | R | R R | R R | R R | R | R R | A R | Α | R | R | R | R | R R | R | R | R R | Α | Α | R | R | ĸ | R R | R | ĸ | R | A |

The equipment comprises of two parts, linked together in which they can rotate whilst are interlocked. Once the parts are linked together, they form a cylindrical flameproof joint coupled with O-ring and snap ring to hold the two parts together. The internal or external threads at each end may be provided with the above thread options and configurations. The assembly is rated for IP66 and IP68 (2 meters for 24 hours) ratings.





The Types and Model numbers of the RA** Range of Rotating Adaptors Reducers and Elbows are as follows:

| Туре | Adaptors/Reducers | Туре | Elbow |
|------|-------------------|---------|------------------------|
| RAFF | Female to Female | RAFF 90 | Female to Female Elbow |
| RAMF | Male to Female | RAMF 90 | Male to Female Elbow |
| RAMM | Male to Male | RAMM 90 | Male to Male Elbow |

Variation 1

This variation introduced the following modifications:

- i. To permit the use of an alternative internal O-ring seal material.
- ii. To permit modifications to the product length to accommodate design requirements for other approvals.
- iii. To recognise minor certification document modifications.

Variation 2

This variation introduced the following modifications:

- i. Changes to tolerance dimensions. Reduction of diameters 'K' on F1 and M1 options.
- ii. The option to leave a full hexagon form on components F1 & M1 in brass material.
- iii. Reduction to IPX8 depth and duration.
- iv. Re-introduction of silicone O-ring seal material 714177.

12 Certificate history and evaluation reports

| Issue | Date | Associated report | Notes |
|-------|-------------|-------------------|-----------------------------|
| 0 | 06 Sep 2019 | R12052A/00 | Issue of Prime Certificate |
| 1 | 18 Feb 2020 | R13039A/00 | Introduction of Variation 1 |
| 2 | 14 Dec 2021 | R14802A/00 | Introduction of Variation 2 |

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

13 Conditions of Manufacture

None

14 Specific Conditions of Use (Special Conditions)

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

i. The Adaptors, Reducers, and Elbows shall not be used outside their service temperature range of -60°C to +135°C.

Certificate Annex

Certificate Number CML 19ATEX4331X

Equipment RA** Range of Rotating Adaptors Reducers and Elbows

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/RAFF | 1 to 3 | 1 | 06 Sep 2019 | RA – Series Rotating Adaptors & Reducers Female – Female |
| PCG/ATX/RAFF 90 | 1 to 3 | 1 | 06 Sep 2019 | RA 90 – Series Rotating Adaptors & Reducers Female – Female |
| PCG/ATX/RAMF | 1 to 3 | 1 | 06 Sep 2019 | RA – Series Rotating Adaptors & Reducers Male – Female |
| PCG/ATX/RAMF 90 | 1 to 3 | 1 | 06 Sep 2019 | RA 90 – Series Rotating Adaptors & Reducers Male – Female |
| PCG/ATX/RAMM | 1 to 3 | 1 | 06 Sep 2019 | RA – Series Rotating Adaptors & Reducers Male – Male |
| PCG/ATX/RAMM 90 | 1 to 3 | 1 | 06 Sep 2019 | RA 90 – Series Rotating Adaptors & Reducers Male – Male |
| PCG/OR | 1 of 1 | 15 | 06 Sep 2019 | O-Ring Seal – CR & UL Barrier Cable Glands and RA Range Internal O-ring Seal |
| PCG/ATX/ARSNPRG | 1 of 1 | 1 | 06 Sep 2019 | Snap Ring |
| PCG/MATS/SB | 1 of 1 | 5 | 06 Sep 2019 | Standard Materials ATEX Certified Glands Using "M", "V" AND "N" Components |

Issue 1

| Drawing No | Sheets | Rev | Approved date | Title |
|-----------------|--------|-----|---------------|---|
| PCG/ATX/RAFF | 1 to 3 | 2 | 18 Feb 2020 | RA – Series Rotating Adaptors & Reducers Female – Female Options |
| PCG/ATX/RAFF 90 | 1 to 3 | 2 | 18 Feb 2020 | RA 90 – Series Rotating Adaptors & Reducers Female – Female Options |
| PCG/ATX/RAMF | 1 to 3 | 2 | 18 Feb 2020 | RA – Series Rotating Adaptors & Reducers Male – Female Options |
| PCG/ATX/RAMF 90 | 1 to 3 | 2 | 18 Feb 2020 | RA 90 – Series Rotating Adaptors & Reducers Male – Female Options |
| PCG/ATX/RAMM | 1 to 3 | 2 | 18 Feb 2020 | RA – Series Rotating Adaptors & Reducers Male – Male Options |
| PCG/ATX/RAMM 90 | 1 to 3 | 2 | 18 Feb 2020 | RA 90 – Series Rotating Adaptors & Reducers Male – Male Options |

Certificate Annex

Certificate Number CML 19ATEX4331X

Equipment RA** Range of Rotating Adaptors Reducers and Elbows

Manufacturer Peppers Cable Glands Limited



Issue 2

| Drawing No | Sheets | Rev | Approved date | Title |
|-----------------|--------|-----|---------------|--|
| PCG/ATX/RAFF | 1 to 3 | 3 | 14 Dec 2021 | RA - Series Rotating Adaptors & Reducers Female - Female |
| PCG/ATX/RAFF 90 | 1 to 3 | 3 | 14 Dec 2021 | RA 90 - Series Rotating Adaptors & Reducers Female - Female |
| PCG/ATX/RAM | 1 to 3 | 3 | 14 Dec 2021 | RA - Series Rotating Adaptors & Reducers Male - Female |
| PCG/ATX/RAMF 90 | 1 to 3 | 3 | 14 Dec 2021 | RA 90 - Series Rotating Adaptors & Reducers Male - Female |
| PCG/ATX/RAMM | 1 to 3 | 3 | 14 Dec 2021 | RA - Series Rotating Adaptors & Reducers Male - Male |
| PCG/ATX/RAMM 90 | 1 to 3 | 3 | 14 Dec 2021 | RA 90 - Series Rotating Adaptors & Reducers Male – Male |
| PCG/AROR | 1 of 1 | 2 | 14 Dec 2021 | Accessory Component – O-Ring Seal – RA Range Internal O-ring Seals |