



Type Examination Certificate CML 18ATEX4317X Issue 1

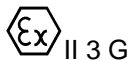
- 1 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU
- 2 Equipment **Type PX** Cable Glands**
- 3 Manufacturer **CMP Products Limited**
- 4 Address 36 Nelson Way, Nelson Park East,
 Cramlington,
 Northumberland NE23 1WH,
 United Kingdom
- 5 The equipment is specified 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.
- 7 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.
- 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 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:



II 3 G

Ex nR IIC Gc

-60°C to +85°C



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11 Description

The PX Range of Barrier Cable Glands are designed for explosive atmospheres consisting of a male-threaded front entry component and fitted with a barrier tube forming a spigot/combination joint, which is intended to screw into an entry point of an associated enclosure. The barrier tube can be filled with either, a putty compound or RapidEx resin material, creating a flameproof barrier seal around the cable cores. An optional O-Ring may be fitted to the enclosure entry thread to provide improved ingress protection. This range is comprised of the PX2K, PXSS2K, PXRC, PXL, and PXB2K models, with a choice of variants; W, X, HC, VAR, PB, FF, COMBO and REX. See 'type designation code' flow chart on pages 5 and 6 for the model variant combinations and 'Design Options' for additional components specific to each model.

Materials for manufacture

The PX** Cable Gland ranges are manufactured in brass, aluminium, stainless steel, and mild steel. All brass manufactured component parts can be optionally nickel-plated. All mild steel manufactured components can be optionally zinc plated. Stainless steel cable glands may be fitted with nickel-plated brass internal components.

Design Options

PX2K models

- Standard:
Gland entry device generally as stated above, but, supplied with the putty compound only, for barrier tube filling. Clamping of the armour or braid/screen of a cable; achieved by a combination of the front entry item, the supplied armour or braid cone, and clamping ring when combined with the main body component. An outer seal nut, which consists of an elastomeric seal and nylon identification ferrule, threads onto the main body and creates an environmental seal between the gland and the cable outer sheath.
- 'W' variant:
As the PX2K model but is fitted with the armour cone only.
- 'X' variant:
As the PX2K model but is fitted with the braid cone only.
- 'REX' variant
As the PX2K model but is supplied with the RapidEx resin only, for barrier tube filling. Fitted with an additional resin dam component to retain the resin in the barrier tube while curing.
- 'PB' variant:
As the PX2K model but is fitted with an additional metallic continuity device for use with inner lead sheathed, S.W.A. strip armoured and braided cables. The continuity device is clamped between a spacer and cone (armour or braid). The spacer has two design options depending on barrier compound used; RapidEx resin ('REX' variant) or putty compound (standard option).
- 'VAR' variant:
As the PX2K model but is fitted with an additional metallic continuity device for use with Variable Speed Drive (VSD) / Variable Frequency Drive (VFD) cable and similar screened cables. Fitted with the standard armour cone with variant 'W' and fitted with a modified braid cone with variant 'X'.
- 'FF' variant:
As the PX2K model but fitted with an outer sealing ring suitable for use with flat form cables instead of the standard seal. Only available in sizes 20s and 20.



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PXB2KX models

- **Standard:**
As the PX2K model, excluding the main body, seal nut, seal, and ferrule; these components are replaced by a PXB2K armour nut, for braided cables without an outer sheath sealing function.
- **'REX'**
As the PXB2K model but is supplied with the RapidEx resin only, for barrier tube filling. Fitted with an additional resin dam component to retain the resin while curing.

PXSS2K models

- **Standard:**
Gland entry device generally as stated above, but, supplied with the putty compound only, for barrier tube filling. Sealing of the unarmoured or braided/screened cable is via the outer seal nut, which consists of an elastomeric seal and nylon skid washer, threaded onto the main body and creates an environmental seal.
- **'REX' variant**
As the PXSS2K model but is supplied with the RapidEx resin only, for barrier tube filling. Fitted with an additional resin dam component to retain the resin in the barrier tube while curing.
- **'HC' variant:**
As the PXSS2K model but the seal nut is replaced with a hose connector seal nut.
- **'PB' variant:**
As the PXSS2K model but fitted with an additional metallic continuity device for use with inner lead sheathed S.W.A. strip armoured and braided cables.
- **'VAR' variant:**
As the PXSS2K model but is fitted with an additional metallic continuity device for use with Variable Speed Drive (VSD) / Variable Frequency Drive (VFD) and similar screened cables. The standard main body is replaced by an alternative design, which has an additional internal groove, machined to provide retention for the continuity device.
- **'FF' variant:**
As the PXSS2K model but fitted with an outer sealing ring suitable for use with flat form cables instead of the standard seal. Only available in sizes 20s and 20.
- **'COMBO' variant:**
As the PXSS2K model but fitted with an alternative main body designed to fit cables with a larger outer sheath diameter than the standard option permits. The size of the sealing nut assembly - nut, seal, and skid washer - depends on the diameter of the outer sheath of the cable required.

PXRC models

- **Standard:**
Gland entry device intended to terminate circular braided or unarmoured cables and individual cores into enclosures without compromising the explosion protection. Generally as stated above, but, supplied with the putty compound only, for barrier tube filling. A compression nut is threaded into the entry item retaining the compound tube and tube spacer, the coupler is retained via a circlip and provides, by way of a female thread, connection for rigid conduits, and, by way of a conduit fitting, flexible conduits.



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- 'M'
As the PXRC standard model but the retained coupler provides connection for rigid conduits by way of a male thread, instead of a female thread.
- 'REX'
As the PXRC / PXRCM models but is supplied with the RapidEx resin only, for barrier tube filling. Fitted with an additional resin dam component to retain the resin in the barrier tube while curing.

PXFC models

- Standard:
Gland entry device intended to terminate circular braided or unarmoured cables and individual cores into enclosures without compromising the explosion protection. Generally as stated above, but, supplied with the putty compound only, for barrier tube filling. A compression nut is threaded into the entry item retaining the compound tube and tube spacer, the coupler is retained via a circlip and provides, by way of conduit thread, connection for flexible conduits only.
- 'REX'
As the PXFC model but is supplied with the RapidEx resin only, for barrier tube filling. Fitted with an additional resin dam component to retain the resin while curing.

PXLT models

- Standard:
Gland entry device generally as stated above, but, supplied with the putty compound only, for barrier tube filling. Intended to terminate circular braided or unarmoured cables and individual cores into enclosures without compromising the explosion protection. Clamping of the flexible conduit is achieved by a combination of the entry item assembly, tube spacer, conduit anchor, compression sleeve/olive, and compression nut. The compression sleeve/olive is bound to the conduit during assembly when the entry item and compression nut are tightened; thus providing an environmental seal onto the conduit outer sheath.
- 'REX'
As the PXLT model but is supplied with the RapidEx resin only, for barrier tube filling. Fitted with an additional resin dam component to retain the resin while curing.

Additional Design Options

- The front entry component can be manufactured with a profiled groove to captivate an O-Ring seal, which locates on the mating face with the associated enclosure. This option having the gland type designation prefixed with the letter 'R'.
- Alternative entry component thread forms; Metric, ET (conduit), PG, BSPP, BSPT, ISO, NPT, and NPSM.
- Alternative material of manufacture of the ferrule and/or skid washer to be the same as the gland material, or nickel-plated brass.
- PXSS2K range can be fitted with the outer seal nut assembly from the PX2K range as an alternative.
- PX2K range glands can be fitted with the outer seal nut assembly from the PXSS2K range as an alternative.



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- PX2K, PX2KX, PX2KW, PXB2K, PXB2KX, and PXB2KW range glands can be fitted with armour cones with alternative diameters to allow for the clamping of smaller or larger armour wires, or braids.
- Cable glands can be supplied with larger entry threads than those detailed, provided the wall section is not compromised and IP protection is maintained at the interface.
- An alternative RapidEx resin formulation is available, where slower curing is required for use at higher ambient installation temperatures.
- Intermediate thread sizes are permitted, e.g. M28

Type designation code:

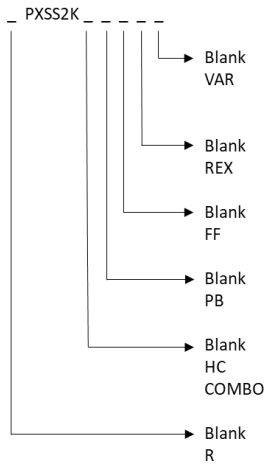
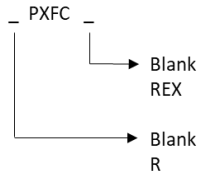
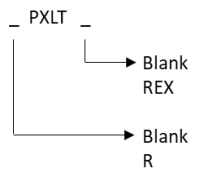
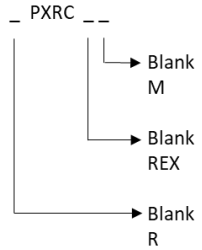
PX Armoured / Braided Cables

PX2K	Armoured cable gland with outer sheath sealing function.
Blank VAR	No additional option applied. Fitted with an additional metallic continuity device for use with Variable Speed Drive (VSD) / Variable Frequency Drive (VFD) and similar screened cables.
Blank REX	Supplied with epoxy putty sealing solution. Supplied with RapidEx resin sealing solution.
Blank FF	No additional option applied. Fitted with a seal suitable for use with flat form cables.
Blank PB	No additional option applied. Fitted with an additional metallic continuity device for use with inner lead sheathed S.W.A., strip armoured and braided cables.
Blank W	Supplied with both armour and braid cone options.
X	Supplied with armour cone only. Supplied with braid cone only.
Blank R	No additional option applied. Additional profiled groove and O-Ring seal applied to the entry item.
PXB2KX	Armoured cable gland without outer sheath sealing function, supplied with braid cone.
Blank REX	Supplied with epoxy putty sealing solution. Supplied with RapidEx resin sealing solution.
Blank R	No additional option applied. Additional profiled groove and O-Ring seal applied to the entry item.



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PX Unarmoured Cables

<p>— PXSS2K —</p> 	<p>Unarmoured cable gland.</p> <p>Blank VAR No additional option applied. Fitted with an additional metallic continuity device for use with Variable Speed Drive (VSD) / Variable Frequency Drive (VFD) and similar screened cables.</p> <p>Blank REX Supplied with epoxy putty sealing solution. Supplied with RapidEx resin sealing solution.</p> <p>Blank FF No additional option applied. Fitted with a seal suitable for use with flat form cables.</p> <p>Blank PB No additional option applied. Fitted with an additional metallic continuity device for use with inner lead sheathed S.W.A., strip armoured and braided cables.</p> <p>Blank HC COMBO No additional option applied. Replaces standard seal nut with a hose connector seal nut. Replaces main body and seal nut assembly with alternative design for cables with larger outer sheaths.</p> <p>Blank R No additional option applied. Additional profiled groove and O-Ring seal applied to the entry item.</p>
<p>— PXFC —</p> 	<p>Unarmoured cable gland with flexible conduit facility.</p> <p>Blank REX Supplied with epoxy putty sealing solution. Supplied with RapidEx resin sealing solution.</p> <p>Blank R No additional option applied. Additional profiled groove and 'O-Ring seal applied to the entry item.</p>
<p>— PXLT —</p> 	<p>Unarmoured cable gland with Liquid Tight outer seal onto flexible conduit sheath.</p> <p>Blank REX Supplied with epoxy putty sealing solution. Supplied with RapidEx resin sealing solution.</p> <p>Blank R No additional option applied. Additional profiled groove and O-Ring seal applied to the entry item.</p>
<p>— PXRC —</p> 	<p>Unarmoured cable gland with rigid and flexible conduit connection facility.</p> <p>Blank M Supplied with female rear thread. Supplied with male rear thread.</p> <p>Blank REX Supplied with epoxy putty sealing solution. Supplied with RapidEx resin sealing solution.</p> <p>Blank R No additional option applied. Additional profiled groove and O-Ring seal applied to the entry item.</p>



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Gland size	Entry thread	Max no. of cores (RAPIDEX)	Max. no. of cores (EP2122)	Max Ø over cores (mm)	SWA (mm)		SWA, STA, Strip armour, pliable wire armour ¹ & wire braid (mm)		PXSS2K ² outer seal sheath range Ø (mm)		PX ^{**2} outer seal sheath range Ø (mm)	
					Min	Max	Min	Max	Min	Max	Min	Max
20s/16	M20 x 1.5	21	21	11.7	0.8	1.25	0.3	1.0	3.1	8.6	6.1	13.1
20s	M20 x 1.5	21	21	11.7	0.8	1.25	0.3	1.0	6.1	11.7	9.5	15.9
20	M20 x 1.5	21	21	12.6	0.8	1.25	0.4	1.0	6.5	14.0	12.5	20.9
20L	M20 x 1.5	21	21	12.6	0.8	1.25	0.4	1.0	10.0	15.9	N/A	N/A
25s	M25 x 1.5	30	30	17.5	1.25	1.6	0.4	1.2	NA	NA	14.0	22.0
25	M25 x 1.5	30	30	17.5	1.25	1.6	0.4	1.2	11.1	20.0	18.2	26.2
32	M32 x 1.5	50	38	23.6	1.6	2.0	0.4	1.2	17.0	26.3	23.7	33.9
32L	M32 x 1.5	50	38	23.6	1.6	2.0	0.4	1.2	20.0	27.4	N/A	N/A
40	M40 x 1.5	59	59	30.0	1.6	2.0	0.4	1.6	22.0	32.1	27.9	40.4
50s	M50 x 1.5	89	89	36.6	2.0	2.5	0.4	1.6	29.5	38.2	35.2	46.7
50	M50 x 1.5	115	115	41.0	2.0	2.5	0.6	1.6	35.6	44.0	40.4	53.0
63s	M63 x 1.5	115	115	47.9	2.0	2.5	0.6	1.6	40.1	49.9	45.6	59.4
63	M63 x 1.5	115	115	53.7	2.0	2.5	0.6	1.6	47.2	55.9	54.6	65.8
75s	M75 x 1.5	140	140	59.9	2.0	2.5	0.6	1.6	52.8	61.9	59.0	72.0
75	M75 x 1.5	140	140	64.3	2.5	3.15	0.6	1.6	59.1	67.9	66.7	78.4
90	M90 x 2.0	140	140	75.3	3.15	4.0	0.8	1.6	66.6	79.4	76.2	90.3
100	M100 x 2.0	200	200	83.6	3.15	4.0	0.8	1.6	76.0	90.9	86.1	101.4

¹ '2KX' and '2K' variants; see below.

² Not PXRC variant.

PX**-FF in these sizes only.

Gland size	Entry thread	Entry thread 'B' version	PXSS2K seal sheath range (mm)		Other PX* seal sheath range (mm)	
			Min	Max	Min	Max
20s	M20 x 1.5	M25 x 1.5	4.0 x 6.2	6.8 x 11.7	20s	M20 x 1.5
20	M20 x 1.5	M25 x 1.5	5.7 x 8.0	8.7 x 13.5	20	M20 x 1.5

PXLT in these sizes only.

Gland size	Entry thread	Max No. of cores	Max dia over cores (mm)
20	M20 x 1.5	21	12.6
25	M25 x 1.5	30	17.5
32	M32 x 1.5	50	23.6
40	M40 x 1.5	59	30.0
50	M50 x 1.5	89	41.0
63	M63 x 1.5	115	53.7

The PXFC-LTPB range of barrier cable glands is intended for anchoring flexible braided conduit and terminating braided or unarmoured cable.



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Variation 1

This variation introduced the following changes:

- i. Dimensional changes to part piece drawings.
- ii. Non-technical corrections to clarify product description.
- iii. Review and update against the latest technical standards.
- iv. To recognise a change to the manufacturer's address.
- v. To include reference to R12922A/00 as associated report.

12 Certificate history and evaluation reports

Issue	Date	Associated report	Notes
0	29 Mar 2019	R12060F/00	Issue of prime certificate.
1	02 Jun 2021	R13114A/00 R13114B/00 R12922A/00	Introduction of Variation 1

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

13 Conditions of Manufacture

The following conditions are required of the manufacturing process for compliance with the certification.

- i. Where the product incorporates certified parts or safety critical components the manufacturer shall ensure that any changes to those parts or components do not affect the compliance of the certified product that is the subject of this certificate.

14 Specific Conditions of Use (Special Conditions)

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

- i. The glands when used for terminating braided cables are only suitable for fixed installations.
- ii. When assembled for fitting to flexible conduit, the conduit shall be effectively clamped to prevent twisting and pulling.

Certificate Annex

Certificate Number CML 18ATEX4317X
Equipment Type PX** Cable Glands
Manufacturer CMP Products Limited



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

Issue 0

Drawing No	Sheets	Rev	Approved date	Title
GA207	1 of 1	04	29/03/2019	PXFC-LT GA
GA352	1 of 1	02	29/03/2019	PX2K, PX2KW, PX2KX General Arrangement
GA353	1 of 1	02	29/03/2019	PXRC GA Drawing
GA354	1 to 2	02	29/03/2019	PXSS2K, PXSS2K Combination Gland and PXSS2K-HC GA
SCH0322	1 of 1	02	29/03/2019	Outer seal details
SCH0327	1 of 1	01	29/03/2019	PX & PXSS2K Entry item details
SCH0388	1 of 1	00	29/03/2019	Resin diaphragm seal
SCH0395	1 of 1	02	29/03/2019	TMCX compound tubes – NPT
SCH0396	1 of 1	02	29/03/2019	TMCX compound tubes – Metric

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Drawing No	Sheets	Rev	Approved date	Title
GA2096	1 of 1	00	02 Jun 2021	PX Range GA
GA2097	1 of 1	00	02 Jun 2021	PXSS2K Range GA
GA2098	1 of 1	00	02 Jun 2021	PXRC / PXFC Range GA
GA2099	1 of 1	00	02 Jun 2021	PXLT Range GA
GA2193	1 of 1	00	02 Jun 2021	P-Series GA Notes
SCH0452	1 of 1	01	02 Jun 2021	PXSS2K Combination Main Item
SCH0453	1 of 1	01	02 Jun 2021	PXRC / A2RC & PXFC / A2FC Coupler
SCH0465	1 of 1	01	02 Jun 2021	PXLT Compression Nut
SCH0538	1 to 2	00	02 Jun 2021	PX2K / C2K Series Entry Item - Metric and NPT
SCH0539	1 to 2	00	02 Jun 2021	PXSS2K / PXRC Entry Item - Metric and NPT
SCH0542	1 of 1	00	02 Jun 2021	Sleeve
SCH0543	1 of 1	00	02 Jun 2021	Tube Spacer - PXSS2K
SCH0544	1 of 1	00	02 Jun 2021	PXSS2K Main Item
SCH0548	1 of 1	00	02 Jun 2021	PX2K / C2K Body
SCH0549	1 to 2	00	02 Jun 2021	PXRC / PXLT Tube Spacer
SCH0551	1 of 1	00	02 Jun 2021	Washer

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SCH0552	1 of 1	00	02 Jun 2021	A2 Seal
SCH0555	1 of 1	00	02 Jun 2021	Outer Seal
SCH0556	1 of 1	00	02 Jun 2021	Ferrule
SCH0557	1 of 1	00	02 Jun 2021	Outer Seal Nut
SCH0558	1 to 2	00	02 Jun 2021	PXSS2K Outer Seal Nut & HC Option Outer Seal Nut
SCH0559	1 of 1	00	02 Jun 2021	A2RC / PXRC Compression Nut
SCH0560	1 of 1	00	02 Jun 2021	PX2K / C2KX & C2KW Cone
SCH0562	1 of 1	00	02 Jun 2021	PXLT Compression Sleeve
SCH0568	1 of 1	00	02 Jun 2021	PXLT Conduit Anchor
SCH0569	1 to 2	00	02 Jun 2021	PXLT Entry Item - Metric and NPT
SCH0570	1 of 1	00	02 Jun 2021	PX2KPB / C2KPB Armour and Braid Cone
SCH0571	1 to 2	00	02 Jun 2021	PX2KPB Resin and Putty Tube Spacers
SCH0572	1 of 1	00	02 Jun 2021	B2KX/PXB2KX Armour Nut