

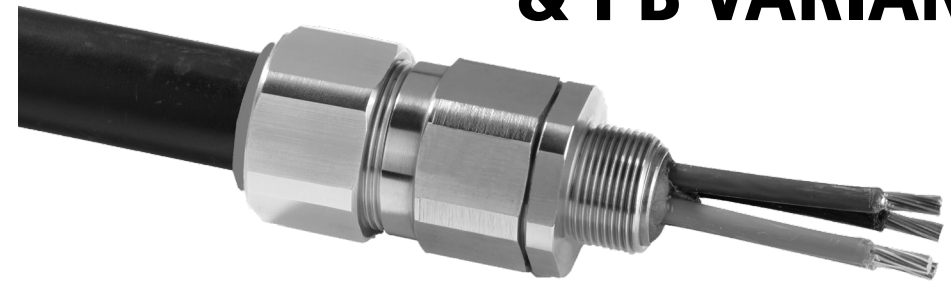


INSTALLATION INSTRUCTIONS FOR CMP CABLE GLAND TYPES PX2K, PX2KW & PX2KX

FOR TERMINATION OF CABLES WITH WIRE BRAID, TAPE ARMOUR (STA/DSTA), STRIP ARMOUR & SINGLE WIRE ARMOUR (SWA) (WITH LEAD INNER SHEATH ON PB VARIANTS). FOR USE IN HAZARDOUS LOCATIONS.

INCORPORATING EU DECLARATION OF CONFORMITY TO DIRECTIVE [2014/34/EU]

CABLE GLAND TYPES PX2K, PX2KW, PX2KX & PB VARIANTS



UL LISTED SHIPBOARD CABLE SEALING FITTING FOR USE IN HAZARDOUS LOCATIONS 462M

UL LISTED TYPE TC CABLE SEALING FITTING FOR USE IN HAZARDOUS LOCATIONS 5P07



Logo's shown for illustration purposes only. Please check certification for details

CMP Document No. F400 Issue 14, cCSAus Issue 12, IEC Issue 11, UL Issue 11

TECHNICAL DATA

CABLE GLAND TYPE : PX
INGRESS PROTECTION : IP66, IP67, IP68, Type 4X; Oil Resistant II
PROCESS CONTROL SYSTEM : BS EN ISO 9001
 : ISO/IEC 80079-34:2011

EXPLOSIVE ATMOSPHERES CLASSIFICATION

ATEX CERTIFICATION No. : SIRA 13ATEX1072X, SIRA 13ATEX4078X
ATEX CERTIFICATION CODE : II 2G, II 1D, Ex d IIC Gb, Ex e IIC Gb, Ex ta IIIC Da, Ex II 3G Ex nR IIC Gc, Ex II M2 Ex d I Mb, Ex e I Mb
IECEx CERTIFICATION No. : IEC Ex SIR 13.0027X
IECEx CERTIFICATION CODE : Ex d IIC Gb, Ex e IIC Gb, Ex nR IIC Gc, Ex ta IIIC Da, Ex d I Mb, Ex e I Mb
ccsAus CERTIFICATION No. : 2288626
ccsAus CERTIFICATION CODE : Class I Div 1, 2, Groups A, B, C, D; Class II, Div 1, 2, Groups E, F, G; Class III, Div 1, 2; Class I Zone 1, NEMA 4X, Oil Resistant II AEx d IIC Gb, Aex e IIC Gb, Class I, Zone 2 AEx nR IIC Gc, Class I, Zone 20 AEx ta IIIC Da : E201187, E161256C
UL CERTIFICATION No. : Class I, Div 2, Groups A,B,C,D; Class II, Div 2, Groups E,FG
UL CERTIFICATION CODE : (Code details depends upon application - please see certificate)

INSTALLATION INSTRUCTIONS

Installation should only be performed by a competent person using the correct tools. Read all instructions before beginning installation.

SPECIAL CONDITIONS FOR SAFE USE

- The cable glands used for terminating braided cable are only suitable for fixed installations. Cables must be effectively clamped to prevent twisting and pulling.
- According to the CEC wiring code, connectors with metric threads are only suitable for Areas Classified in ZONES unless fitted with an approved Metric to NPT thread conversion adaptor.
- Wiring method for type of cables that can be used in Class I, Div. 1, 2, and Class I, Zone 1, 2, Classified Areas according to 60079-14 installation wiring method restrictions.
- Shipboard Cables are for use on Marine Platform or shipboards only and are subject to local authorities having jurisdiction on the installation.
- CAUTION** - To reduce risk of flame propagation, fittings with ISO metric threads require:
 - 5 full threads engaged for gas groups C and D
 - 10 full threads engaged for gas groups A and B
- When the gland is supplied with metric entry threads, a CMP Entry Thread Washer should be fitted between the connector and the enclosure to prevent the ingress of moisture or dust into the enclosure. Thread tape must not be applied to the threads.
- Before installing the gland, ensure that the gland thread forms and the enclosure thread form are compatible.

ACCESSORIES

The following accessories are available from CMP Products, as optional extras, to assist with fixing, sealing and earthing :- Locknut, Earth Tag, Serrated Washer, Entry Thread (I.P.) Sealing Washer, Shroud

Number of turns to tighten	Outer Seal Tightening Guide												
	GLAND SIZE												
	20S16	20S	20	25S	25	32	40	50S	50	63S	63	75S	75
	CABLE DIAMETER												
0.5	13.2	15.9	20.9	22.0	26.2	33.9							
1	12.5	15.3	20.0	21.2	25.4	32.9	40.4	46.7	52.8	59.2	65.9	72.1	78.5
1.5	11.9	14.7	19.0	20.4	24.6	31.9	39.0	45.4	51.4	57.7	64.6	70.6	77.2
2	11.2	14.2	18.1	19.6	23.8	30.8	37.6	44.1	50.0	56.2	63.4	69.2	75.9
2.5	10.5	13.6	17.2	18.8	23.0	29.8	36.2	42.9	48.7	54.7	62.1	67.7	74.6
3	9.8	13.0	16.2	18.0	22.2	28.8	34.8	41.6	47.3	53.2	60.9	66.3	73.3
3.5	9.2	12.4	15.3	17.2	21.4	27.8	33.5	40.3	45.9	51.6	59.6	64.8	71.9
4	8.5	11.8	14.4	16.4	20.6	26.8	32.1	39.0	44.5	50.1	58.4	63.4	70.6
4.5	7.8	11.2	13.4	15.6	19.8	25.7	30.7	37.8	43.2	48.6	57.1	61.9	69.3
5	7.1	10.7	12.5	14.8	19.0	24.7	29.3	36.5	41.8	47.1	55.9	60.5	68.0
5.5	6.5	10.1	12.0	14.0	18.2	23.7	27.9	35.2	40.4	45.6	54.6	59.0	66.7
6	5.8	9.5											

Cable Gland Size	Available Entry Threads (Alternate Metric Thread Lengths Available)					Number of Cores	Diameter Over Conductors	Cable Bedding Diameter	Overall Cable Diameter	Armour Range †				Across Flats	Across Corners	Protrusion Length	Combined Ordering Reference (*Brass Metric)			Shroud	Cable Gland Weight (Kgs)	
	Standard		Option							Grooved Cone (X)		Stepped Cone (W)					Size	Type	Ordering Suffix			
	Metric	Thread Length (Metric)	NPT	Thread Length (NPT)	NPT					Min	Max	Min	Max									
20S/16	M20	15.0	1/2"	19.9	3/4"	11	11.7	11.7	6.1	13.1	0.3	1.0	0.8	1.25	30.5	33.6	62.0	20S16	PX2K	1RA	PVC06	0.24
20S	M20	15.0	1/2"	19.9	3/4"	11	11.7	11.7	9.5	15.9	0.3	1.0	0.8	1.25	30.5	33.6	62.0	20S	PX2K	1RA	PVC06	0.23
20	M20	15.0	1/2"	19.9	3/4"	11	12.6	12.9	12.5	20.9	0.4	1.0	0.8	1.25	30.5	33.6	63.0	20	PX2K	1RA	PVC06	0.24
25S	M25	15.0	3/4"	20.2	1"	21	17.5	17.9	14.0	22.0	0.4	1.2	1.25	1.6	37.5	41.3	69.5	25S	PX2K	1RA	PVC09	0.37
25	M25	15.0	3/4"	20.2	1"	21	17.5	17.9	18.2	26.2	0.4	1.2	1.25	1.6	37.5	41.3	69.5	25	PX2K	1RA	PVC09	0.37
32	M32	15.0	1"	25.0	1 1/4"	38	23.6	23.9	23.7	33.9	0.4	1.2	1.6	2.0	46.0	50.6	75.0	32	PX2K	1RA	PVC11	0.57
40	M40	15.0	1 1/4"	25.6	1 1/2"	59	30.0	30.3	27.9	40.4	0.4	1.6	1.6	2.0	55.0	60.5	75.0	40	PX2K	1RA	PVC15	0.80
50S	M50	15.0	1 1/2"	26.1	2"	89	36.6	36.9	35.2	46.7	0.4	1.6	2.0	2.5	60.0	66.0	77.0	50S	PX2K	1RA	PVC18	0.90
50	M50	15.0	2"	26.9	2 1/2"	89	41.0	41.3	40.4	53.0	0.6	1.6	2.0	2.5	70.0	77.0	77.0	50	PX2K	1RA	PVC21	1.19
63S	M63	15.0	2"	26.9	2 1/2"	115	47.9	48.4	45.6	59.4	0.6	1.6	2.0	2.5	75.0	82.5	79.7	63S	PX2K	1RA	PVC23	1.39
63	M63	15.0	2 1/2"	39.9	3"	115	53.7	54.0	54.6	65.8	0.6	1.6	2.0	2.5	80.0	88.0	80.3	63	PX2K	1RA	PVC25	1.41
75S	M75	15.0	2 1/2"	39.9	3"	140	59.9	60.2	59.0	72.0	0.6	1.6	2.0	2.5	90.0	99.0	86.8	75S	PX2K	1RA	PVC28	2.09
75	M75	15.0	3"	41.5	3 1/2"	140	64.2	64.2	66.7	78.4	0.6	1.6	2.5	3.0	100.0	110.0	88.3	75	PX2K	1RA	PVC30	2.54
90	M90	24.0	3 1/2"	42.8	4"	200	75.3	75.6	76.2	90.3	0.8	1.6	3.15	4.0	115.0	126.5	102.1	90	PX2K	1RA	PVC32	3.71
100	M100	24.0	4"	44.0	5"	200	85.6	85.9	86.1	101.4	0.8	1.6	3.15	4.0	127.0	139.7	114.0	100	PX2K	1RA	LSF33	4.31

Cable Gland Selection Table

* Codes shown are for PX2K glands, for PX2KW or PX2KX add "W" or "X" respectively, e.g. 20PX2KW1RA, 20PX2KX1RA
 *Please note that the overall maximum cable bedding diameter for "PB" variants should be reduced by 1mm to allow for the inner lead sheath. Stepped cone is for single wire armour and grooved cone is for all other armours.
 CMP Products Limited on its sole responsibility declares that the equipment referred to herein conforms to the requirements of the ATEX Directive 2014/34/EU and the following standards:- EN 60079-0:2012, EN 60079-1:2007, EN 60079-7:2007, EN 60079-15:2010, EN 60079-31:2009, BS 6121:1989, EN 62444:2013, EN 61241-0:2004, EN 61241-1:2004

David Willcock - Certification Engineer (Authorised Person)
 CMP Products Limited, Cramlington, NE23 1WH, UK
 24th June 2015

THORNE & DERRICK INTERNATIONAL
 Thorne & Derrick
 +44 (0) 191 410 4292
 www.powerandcables.com

CE 0518

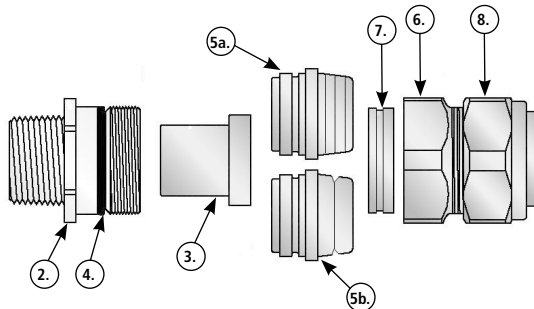
Notified Body: Sira Certification Service, Unit 6, Hawarden Industrial Park, Hawarden, CH5 3US, UK

www.cmp-products.com

INSTALLATION INSTRUCTIONS FOR CMP CABLE GLAND TYPES PX2K, PX2KW, & PX2KX

CABLE GLAND COMPONENTS - It is not necessary to dismantled the cable gland any further than illustrated below

- 1. Compound (not shown)
- 2. Entry Component
- 3. Compound Tube
- 4. "O" Ring
- 5a. Grooved Armour Cone (XYZ)
- 5b. Stepped Armour Cone (W)
- 6. Body
- 7. AnyWay Clamping Ring
- 8. Outer Seal Nut Assembly

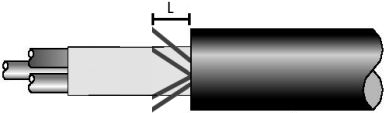


PLEASE READ ALL INSTRUCTIONS CAREFULLY BEFORE BEGINNING THE INSTALLATION

1. The PX2K type cable gland is supplied as a Universal Kit with two armour cones, the grooved armour cone (5a) is suitable for Strip Armour, Tape Armour and Braided Cables, and the stepped cone (5b) is suitable for Wire Armour (SWA) cables. The PX2KX gland only has one cone (5a) and the PX2KW only has one cone (5b). (PB Variants have an earthing device for the lead sheath).

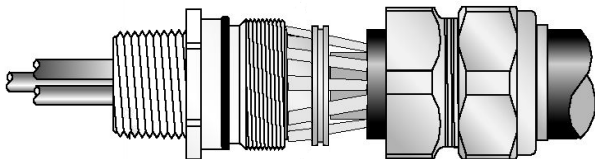
2. Separate the gland components by removing the body and outer seal nut assembly. Pass the body and outer seal nut assembly (6),(8), and the AnyWay clamping ring (7) over the cable, outer seal nut first.

3. Prepare the cable by stripping back the outer sheath and braid / armour to suit the equipment. Expose the braid or armour further so that it can be formed around the armour cone by cutting back the outer sheath by a length "L". This length varies slightly depending upon cable diameter, but typical values are shown below. The inner sheath should be long enough to just pass through the armour cone when installed. On lead sheathed cables, the lead sheath should be long enough to just pass through the armour cone when installed.



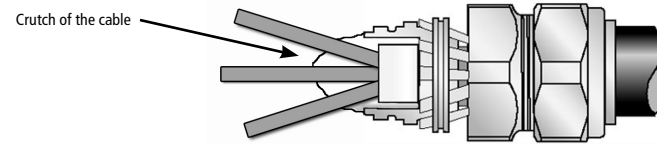
CABLE GLAND SIZE	20S/16, 20S, 20	25S, 25, 32, 40	50S, 50, 63S, 63	75S, 75, 90
CABLE STRIP LENGTH "L"	12 mm (0.472 inches)	15 mm (0.591 inches)	18 mm (0.709 inches)	20 mm (0.787 inches)

4. For direct make-off, fit the entry item to the equipment. Insert the armour cone (5a or 5b into the entry item (2) and pass the cable through them until the braid or armour contacts the cone and make sure that it is evenly spaced around it. Tighten the body (6) to lock the braid or armour and then slacken and remove the body again, withdrawing the cable with it. (On PB variants the earthing device automatically makes contact with the lead sheath).

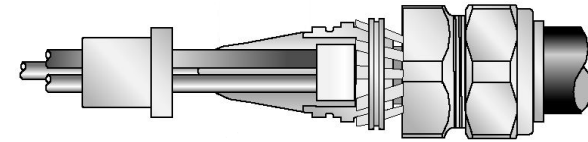


5. Remove any bedding or fillers from around the cable cores. If the cable cores have screens, these should be unravelled and then twisted together to form a single core. Wearing the protective gloves supplied, mix all of the two-part epoxy compound (1) until it is pliable and an even colour is achieved (minimum mixing temperature 10°C).

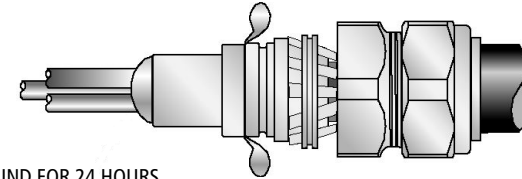
6. Separate the cores and apply the compound to the crutch of the cable for a distance of about 6mm and pack into place. If a drain wire is present then it should be sleeved using some heat shrink tubing which is pushed into the compound before shrinking with the application of some heat. If screens have been twisted together at stage 5, also be sleeved using heat shrink sleeving.



7. Bring the cores together again and pack more compound around them to a length and diameter sufficient to fill the compound tube, ending in a taper.



8. Pass the compound tube (3) over the conductors until the stepped end is fully located with the armour cone (5). Pack more compound into place until the compound tube is fully filled



DO NOT DISTURB THE COMPOUND FOR 24 HOURS

9. Re-install the cable assembly into the entry item making sure that the compound is not disturbed and fully tighten the body (6) onto the entry item (2).

Only using finger pressure, tighten the outer seal nut assembly (8) until light resistance to tightening is met.

Then either use the outer seal tightening guide tape or table on the rear of the page to determine how much further to tighten the seal using a spanner (using the outer seal tightening guide is recommended).

Wrap the outer seal tightening guide tape around the cable to show the amount of spanner turns needed (as shown here). Make sure the correct side of the outer seal tightening guide tape is used depending on the cable gland size.

