

## **Read all instructions before installation**

- 1. Special instructions for the installation.
  - a. There are two main parts in the gland assembly;
    - i. Reducer type 737 with ¾ NPT male threads.



ii. SS2K Gland assembly



b. Full assembly



- c. ¾ NPT male thread should be inserted into the ¾ NPT female thread of the load cell.
- d. To achieve better Ingress Protection (IP67/ IP68) apply thread sealant (Eg:-Loctite 567) on the male ¾ NPT thread.
- 2. Refer below documents for detailed information and general instructions for the installation of the gland.

Affected		Drawn by	DEN	Checked By	NYR	Released Date	18-Oct-2024	Page	1 of 1	
Area		-	Revised by		Checked By		Revised Date		гаде	1011

#### TECHNICAL DATA

CABLE GLAND TYPE INGRESS PROTECTION

: IP66, IP67 & IP68 (when fitted with CMP sealing accessories) see reverse for further guidance

PROCESS CONTROL SYSTEM	: ISO 9001 - ISO/IEC 80079-34:2011
EXPLOSIVE ATMOSPHERE	CLASSIFICATION
ATEX CERTIFICATION No.	: CML 18ATEX1320X
ATEX CERTIFICATION CODE	: Metallic: 🖾 II 2G Ex db IIC Gb. Ex eb IIC Gb

: 737 and 797

ATEX CERTIFICATION NO.	: CMIL 18ATEX1320X
ATEX CERTIFICATION CODE	: Metallic: 🐼 II 2G Ex db IIC Gb, Ex eb IIC Gb, II 1D Ex ta IIIC Da, IM2 Ex db I Mb, Ex eb I Mb
	: Non-metallic: 🐼 II 2G Ex eb IIC Gb, II 1D Ex ta IIIC Da
UKEX CERTIFICATION No.	: CML 21UKEX1238X
UKEX CERTIFICATION CODE	: Metallic: 🐼 II 2G Ex db IIC Gb, Ex eb IIC Gb, II 1D Ex ta IIIC Da, IM2 Ex db I Mb, Ex eb I Mb
	: Non-metallic: 🚯 II 2G Ex eb IIC Gb, II 1D Ex ta IIIC Da
IECEX CERTIFICATION No.	: IECEx CML 18.0177X
IECEX CERTIFICATION CODE	: Metallic: Ex db I Mb, Ex eb I Mb, Ex db IIC Gb, Ex eb IIC Gb, Ex ta IIIC Da
	: Non-metallic: Ex eb IIC Gb, Ex ta IIIC Da
cCSAus CERTIFICATION No.	: 1055233 (Metallic only)
cCSAus CERTIFICATION CODE	: Class I, Groups A,B,C and D; IP66,67 and 68, Enclosure Type 4X, Class II Groups E,F and G; Class III Ex de II, Class I, Zone 1, AEx de I
CERTIFICATION No.	: E214221 (Reducers with NPT or Metric Threads only)
UL CERTIFICATION CODE	: Class I Groups A,B,C,D, Class II Groups E,F,G, Class III

#### INSTALLATION INSTRUCTIONS

- Installation should only be performed by a competent person using the correct tools. Ensure thread type and size are compatible with the associated enclosure / fitting threads. Fully tighten threads
- 2 The interface between a cable entry device and its associated enclosure / cable entry will require additional sealing to achieve ingress protection (IP) ratings higher than IP54. The minimum protection level is IP54 for explosive gas atmospheres and IP6X for explosive dust atmospheres. Parallel threads (and tapered threads when using a non-threaded entry) require a CMP sealing washer or integral O-ring face seal (where available) to maintain IP66, 67 and 68 (when applicable). It is the installer's responsibility to ensure the IP rating is maintained at the interface.

Note: When fitted to a threaded entry, all tapered threads will automatically provide an ingress protection rating of IP66.

3 A CMP earth tag should be used when it is necessary to provide an earth bond connection. CMP earth tags have been independently tested to comply with Category B rating specified in IEC 62444 (there are no ratings stated in IEC 60079-0). Ratings are shown in the associated table. CMP earth tags slip over the cable gland or accessory entry thread from inside/outside the enclosure and must be secured with a locknut (if fitted internally).

CMP Earth Tag Size	Short Circuit Ratings Symmetrical Fault Current (kA) for 1 second
20	3.06
25	4.06
32	5.40
40	7.20
50	10.40
63	10.40
75	10.40

#### SPECIAL CONDITIONS FOR SAFE USE

- The following condition applies to all adaptors and reducers:
- a. Only one adaptor or reducer shall be used per cable entry. 2
- The following conditions apply to all adaptors, reducers and stopping plugs:
- a. The adaptors reducers and stopping plugs shall be assembled in such a way that their protrusion from an associated enclosure is not increased.
- b. The interfaces between a male thread of an adaptor/reducer and an associated enclosure, between a female thread of an adaptor/reducer and a cable entry device, and between a stopping plug and an associated enclosure cannot be defined. Therefore, it is the installers responsibility to ensure that the appropriate ingress protection level is maintained at these interfaces
- The following condition applies to non-metallic and aluminium adaptors, reducers and stopping plugs: 3
  - a. Non-metallic and aluminium adaptors, reducers and stopping plugs shall not be used in group I applications
- The following conditions apply to non-metallic adaptors, reducers and stopping plugs:
  - a. Non-metallic adaptors, reducers & stopping plugs shall not be used in enclosures where the temperature, at the point of mounting, is outside the range of -20°C to +60°C
- b. Refer to the manufacturers instructions for the action necessary regarding electrostatic risk 5.
- The following condition applies to non-metallic adaptors and reducers:
  - a. Any cable gland used with the non-metallic adaptors and reducers shall be non-metallic and of the A2 type.

#### ELECTROSTATIC DISCHARGE HAZARD

If cleaning is necessary then non-metallic parts can be cleaned with a damp cloth and allowed to dry naturally. Do not clean using a dry cloth.

#### 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

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 UK statutory requirements SI 2016 No. 1107 (as amended). This is shown in the following harmonised/designated standards;

- EN60079-0:2018, EN60079-1:2014, EN60079-7:2015+A1:2018, EN 60079-15:2017, EN 60079-31:2014, BS 6121:1989, EN 62444:2013



Malcolm Webber - Product Engineering Manager - (Authorised Person) CMP Products Limited, Cramlington, NE23 1WH, UK EU Economic Operator: CMP Products Germany GmbH. Address: Lukasstraße 25a, 52070 Aachen 17th March 2020

CE 2776 **부참 2503** 

Notified Body: CML B.V., Koopvaardijweg 32, 4906CV Oosterhout, The Netherlands

Approved Body: Eurofins E&E CML Limited, Newport Business Park, New Port Road, Ellesmere Port, CH65 4LZ



# INSTALLATION INSTRUCTIONS FOR CMP ADAPTORS/REDUCERS TYPE 737 AND 797

ADAPTORS AND REDUCERS FOR USE IN EXPLOSIVE ATMOSPHERES TO CHANGE THE SIZE, TYPE OR GENDER OF A THREADED COMPONENT.

INCORPORATING EU DECLARATION OF CONFORMITY TO DIRECTIVE 2014/34/EU AND UK STATUTORY REQUIREMENTS SI 2016 No. 1107 (AS AMENDED)



#### **TYPE 737 ADAPTOR**

Female thread size is the same size or larger than the male thread

#### **TYPE 737 REDUCER**

. Female thread size is smaller than the male thread

#### TYPE 737R

ш

737 Adaptor or Reducer incorporating an O ring thread seal

#### **TYPE 797 ADAPTOR**

- Adaptor to change a thread gender ٠
- The 737 Adaptors and Reducers, and 797 Adaptors are available in metal for use in Ex d and Ex e environments.
- The 737 Adaptors and Reducers are also available in nylon for Ex e environments only.

#### Product Selection table

Male Thread (mm)	Female Thread (mm)	737	797 (Female to Female)	797 (Male to Male)	Metallic Products Recommended Tightening Torque (Nm)
	M10		797DM1ABFM1ABF		10
M12	M12	737DM1AM1A	797DM1AFM1AF	797DM1AMM1AM	10
M16	M16	737DM1M1	797DM1FM1F	797DM1MM1M	20
M20	M20	737DM2M2	797DM2FM2F	7797DM2MM2M	25
M25	M25	737DM3M3	797DM3FM3F	797DM3MM3M	30
M32	M32	737DM4M4	797DM4FM4F	797DM4MM4M	35
M40	M40	737DM5M5	797DM5FM5F	797DM5MM5M	45
M50	M50	737DM6M6	797DM6FM6F	797DM6MM6M	65
M63	M63	737DM7M7	797DM7FM7F	797DM7MM7M	95
M75	M75	737DM8M8	797DM8FM8F	797DM8MM8M	120
M90	M90	737DM9M9	797DM9FM9F	797DM9MM9M	155
M100	M100	737DM10M10	797DM10FM10F	797DM10MM10M	170
M115	M115	737DM11M11	797DM11FM11F	797DM11MM11M	195
M130	M130	737DM12M12	797DM12FM12F	797DM12MM12M	205

Note: Other materials and thread types are available, consult the CMP website (www.cmp-products) for details.



Glasshouse Street • St. Peters • Newcastle upon Tyne • NE6 1BS Tel: +44 191 265 7411 • Fax: +44 1670 715 646 F-Ma

ail: custom	erservices@	Cmp-product	ts.com • Web:	www.cmp-products	.com

	FI435	
Certificate	Revision	Date
UKEX	0	04/21
IFS	17	03/24
ATEX / IECEx	8	04/19
CSA / cCSAus	6	-
UL	6	-

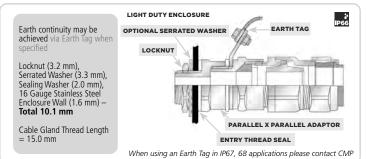
## www.cmp-products.com

## **INSTALLATION INSTRUCTIONS FOR CMP 737 AND 797**

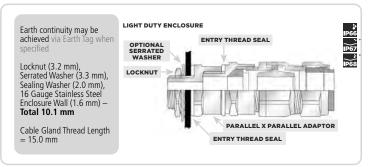
The illustrations provided below are indicative of some of the common methods of installation configurations adopted. These are for informative guidance only and relevant site conditions and Engineering Specification along with any specified National or International Codes of Practice must always take precedence.

Images show typical CMP Cable Gland

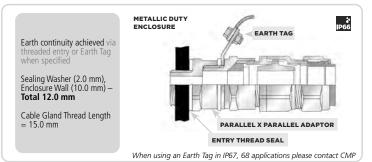
## PARALLEL X PARALLEL ADAPTOR THROUGH CLEARANCE HOLE



## PARALLEL X PARALLEL ADAPTOR THROUGH CLEARANCE HOLE



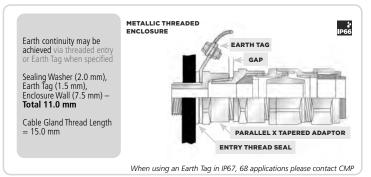
## PARALLEL X PARALLEL ADAPTOR INTO THREADED ENCLOSURE



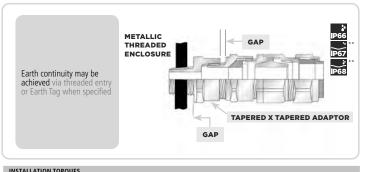
## PARALLEL X TAPERED ADAPTOR THROUGH CLEARANCE HOLE



## PARALLEL X TAPERED ADAPTOR INTO THREADED ENCLOSURE



## TAPERED X TAPERED ADAPTOR INTO THREADED ENCLOSURE



INSTALLATION TORQUES			
Male Thread Metric	Metallic Products Recommended Tightening Torque (Nm)		
M16	20		
M20	25		
M25	30		
M32	35		
M40	45		
M50	65		
M63	95		
M75	120		
M90	155		
M100	170		
M115	195		
M130	205		

\* IP67, IP68 Rating with deluge seal \*\* IP67, IP68 Rating with deluge seal and appropriate thread grease on tapered threads

## www.cmp-products.com

## www.cmp-products.com

TECHNICAL DATA
CABLE GLAND TYPE
INGRESS PROTECTION
PROCESS CONTROL SYSTEM

EXPLOSIVE ATMOSPHERES C	LASSIFICATION
ATEX CERTIFICATION No	: CML 18ATEX1322X, CML 18ATEX4314X
ATEX CERTIFICATION CODE	: 🐼 I 2G, II 1D, Ex db IIC Gb, Ex eb IIC Gb, Ex ta IIIC Da
	🐼 II 3G Ex nR IIC Gc, 🐼 IM2 Ex db I Mb, Ex eb I Mb
(SS2K/TA is not Ex db IIC Gb)	
	: I M2 Ex db I Mb / Ex eb I Mb (not SS2K/TA)
UKEX CERTIFICATION No	: CML 21UKEX1256X, CML 21UKEX4257X
UKEX CERTIFICATION CODE	: 🖾 I 2G, II 1D, Ex db IIC Gb, Ex eb IIC Gb, Ex ta IIIC Da
	🖾 II 3G Ex nR IIC Gc, 🖾 IM2 Ex db I Mb, Ex eb I Mb
(SS2K/TA is not Ex db IIC Gb)	
	: I M2 Ex db I Mb / Ex eb I Mb (not SS2K/TA)
IECEx CERTIFICATION No	: IECEx CML 18.0178X
IECEX CERTIFICATION CODE	: Ex db IICC Gb, Ex eb IIC Gb, Ex nR IIC Gc, Ex ta IIIC Da, Ex db I Mb, Ex eb I Mb
	(Ex eb IIC Gb / Ex nR IIC Gc / Ex ta IIIC Da only for SS2K/TA)
CSA CERTIFICATION No.	:1211841 (SS2K only)
CSA CERTIFICATION CODE	: Ex d IIC, Ex e II, Ex nR II, Enclosure Type 4X

: SS2K, SS2K/PB & SS2K/TA : IP66, IP67 IP68, NEMA 4X

: ISO/IEC 80079-34:2011

: ISO 9001

#### INSTALLATION INSTRUCTIONS

- Installation should only be performed by a competent person using the correct tools. Spanners should be used for tightening. Read all instructions before beginning installation.
- The interface between a cable entry device and its associated enclosure / cable entry will require additional sealing to achieve ingress protection (IP) ratings higher than IP54. The minimum protection 2 level is IP54 for explosive gas atmospheres and IP6X for explosive dust atmospheres. Parallel threads (and tapered threads when using a non-threaded entry) require a CMP sealing washer or integral O-ring face seal (where available) to maintain IP66, 67 and 68 (when applicable). It is the installer's responsibility to ensure the IP rating is maintained at the interface
- Note: When fitted to a threaded entry, all tapered threads will automatically provide an ingress protection rating of IP66.
- 3 A CMP earth tag should be used when it is necessary to provide an earth bond connection. CMP earth tags have been independently tested to comply with Category B rating specified in IEC 62444 (there are no ratings stated in IEC 60079-0). Ratings are shown in the associated table. CMP earth tags slip over the cable gland or accessory entry thread from inside/outside the enclosure and must be secured with a locknut (if fitted internally).
- Metric entry threads comply with ISO 965-1 and ISO 965-3 with a 6g tolerance as required by IEC 60079-1:2014. The CMP standard metric thread pitch is 1.5mm for threads up to M75, and 2.0mm from M90 and above. Special thread pitches between 0.7 - 2.0mm are available on all products on request. See certificate for details of other thread types. NPT threads are in accordance with ASME B1.20.1-2013 gauging to Cl 3.2 for external threads. For details of other thread types refer to IECEx certificate.
- Enclosures must be strong enough to support the cable and cable gland assembly. The enclosure surface finish must be smooth and flat to facilitate sealing with an O-ring or Entry Thread Sealing Washer for the required IP rating.
- Enclosure walls must be sufficiently strong enough to support the cable and cable gland assembly. Enclosure entries shall be perpendicular. Any draft angles from the casting/moulding process should have a perpendicular flat spot machined to facilitate sealing with an O-ring or Entry Thread Sealing Washer.
- CMP Products recommends that when using the cable gland with a through-hole, the hole must be circular, free of burrs and the diameter no larger than 0.7mm above the thread major diameter. A suitable CMP Products locknut shall be used to secure the product. See CMP Products catalogue for locknut options
- Cable glands do not have any serviceable parts and are therefore not intended to be repaired.

CMP Earth Tag Size	Short Circuit Ratings Symmetrical Fault Current (kA) for 1 second
20	3.06
25	4.06
32	5.40
40	7.20
50	10.40
63	10.40
75	10.40

#### SPECIAL CONDITIONS FOR SAFE USE

According to the CEC C22.1-98, Section 18-106 Part 3, Tapered Threads shall have five fully engaged threads and where non-tapered threads are used in Group IIC there must be eight fully engaged threads

#### 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

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 UK statutory requirements SI 2016 No. 1107 (as amended). This is shown in the following harmonised/designated standards;

EN IEC 60079-0:2018, EN 60079-1:2014, EN IEC 60079-7:2015 + A1:2018, EN IEC 60079-15:2019, EN 60079-31:2014, BS6121:1989, EN 62444:2013

Malcolm Webber - Product Engineering Manager - (Authorised Person) CMP Products Limited, Cramlington, NE23 1WH, UK

EU Economic Operator: CMP Products Germany GmbH. Address: Lukasstraße 25a, 52070 Aachen 17th March 2020



Notified Body: CML B.V., Koopvaardijweg 32, 4906CV Oosterhout, The Netherlands

Approved Body: Eurofins E&E CML Limited, Newport Business Park, New Port Road, Ellesmere Port, CH65 4LZ



# INSTALLATION INSTRUCTIONS FOR CMP CABLE GLAND TYPES SS2K, SS2K/PB & SS2K/TA

CABLE GLAND FOR USE IN EXPLOSIVE ATMOSPHERES WITH UNARMOURED AND BRAID ARMOURED CABLE (WITH LEAD SHEATH ON "PB" VERSIONS & TAPE ARMOUR WITH "TA" VERSIONS).

#### INCORPORATING EU DECLARATION OF CONFORMITY TO DIRECTIVE 2014/34/EU AND UK STATUTORY REQUIREMENTS SI 2016 No. 1107 (AS AMENDED)



SS2K	<ul> <li>For use with unarmoured</li> </ul>
	and braid armoured cable
SS2K/PB	- For use with unarmoured
	and braid armoured cables
	with lead sheaths
SS2K/TA	- For use with tape armour
	cable

Cable Gland Size	Available Entry Threads (Alternate Metric Thread Lengths Available)					Cable Bedding Diameter		Overall Cable Diameter		Across Flats	Across Corners		Combined Ordering Reference (*Brass Metric)				Cable
	Standard Option				Option	Diameter		Diameter		"D"	conners	Protrusion	( brass metric)			Shroud	Gland
	Metric	Thread Length (Metric)	NPT	Thread Length (NPT)	NPT	Min	Max	Min	Max	Max	Max	Length	Size	Туре	Ordering Suffix		Weight (Kgs)
20s16	M20	15.0	1/2"	19.9	3/4"	3.2	8.6	3.2	8.6	24.0	26.4	49.0	20516	SS2K	1RA	PVC04	0.140
20S	M20	15.0	1/2"	19.9	3/4"	6.1	11.7	6.1	11.7	24.0	26.4	49.0	205	SS2K	1RA	PVC04	0.130
20	M20	15.0	1/2"	19.9	3/4"	6.5	14.0	6.5	14.0	27.0	29.7	54.0	20	SS2K	1RA	PVC05	0.160
25	M25	15.0	3/4″	20.2	1″	11.1	20.0	11.1	20.0	36.0	39.6	66.0	25	SS2K	1RA	PVC09	0.300
32	M32	15.0	1″	25.0	1 1/4"	17.0	26.3	17.0	26.3	41.0	45.1	67.0	32	SS2K	1RA	PVC10	0.350
40	M40	15.0	1 1/4"	25.6	1 1/2"	23.5	32.1	23.5	32.1	50.0	55.0	70.0	40	SS2K	1RA	PVC13	0.500
50S	M50	15.0	1 1/2"	26.1	2″	31.0	38.2	31.0	38.2	55.0	60.5	65.0	50S	SS2K	1RA	PVC15	0.560
50	M50	15.0	2″	26.9	2 1/2"	35.6	44.0	35.6	44.0	60.0	66.0	70.0	50	SS2K	1RA	PVC18	0.590
63S	M63	15.0	2″	26.9	2 1/2"	41.5	49.9	41.5	49.9	70.5	77.6	70.0	63S	SS2K	1RA	PVC21	0.890
63	M63	15.0	2 1/2"	39.9	3″	47.2	55.9	47.2	55.9	75.0	82.5	71.0	63	SS2K	1RA	PVC23	0.850
75S	M75	15.0	2 1/2"	39.9	3″	54.0	61.9	54.0	61.9	80.0	88.0	70.0	75S	SS2K	1RA	PVC25	1.020
75	M75	15.0	3″	41.5	3 1/2"	61.1	67.9	61.1	67.9	84.0	92.4	75.0	75	SS2K	1RA	PVC26	0.990
90	M90	24.0	3 1/2"	42.8	4″	66.6	79.4	66.6	79.4	108.0	118.8	113.0	90	SS2K	1RA	PVC31	2.990
100	M100	24.0	4″	44.0	5″	76.0	90.9	76.0	90.9	123.0	134.2	106.0	100	SS2K	1RA	LSF33	3.390
115	M115	24.0	4″	44.0	5″	86.0	97.9	86.0	97.9	133.4	146.7	128.0	115	SS2K	1RA	LSF34	5.320
130	M130	24.0	5″	46.8	6″	97.0	114.9	97.0	114.9	152.4	167.6	129.0	130	SS2K	1RA	LSF35	6.350

\* Codes shown are for SS2K glands, for SS2K/PB add "PB" e.g. 20SS2KPB1RA, for SS2K/TA add "TA" e.g. 20SS2KTA1RA

E-Mail: customerservices@cmp-products.co.uk • Web: www.cmp-products.com

Glasshouse Street • St. Peters • Newcastle upon Tyne • NE6 1BS

Tel: +44 191 265 7411 • Fax: +44 1670 715 646

FI430						
Certification	Revision	Revision				
UKEX	0	04/21				
IFS	14	12/23				
ATEX / IECEx	8	04/19				
CSA / CSAus	7	-				

## www.cmp-products.com

## INSTALLATION INSTRUCTIONS FOR CMP CABLE GLAND TYPES SS2K, SS2K/PB & SS2K/TA

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

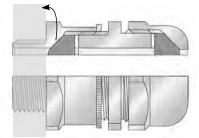
1. Entry Item	6. Skid Washer 2 3 4 5 6 7 8
2. Seal	7. Outer Seal
3. Skid Washer (Star Washer in PB versions)	8. Outer Seal Nut
4. Lock Ring	
5. Main Item	

## PLEASE READ ALL INSTRUCTIONS CAREFULLY BEFORE BEGINNING THE INSTALLATION

The SS2K and SS2K/PB cable gland can be used with all types of unarmoured cable and braid armoured cable where the braid is terminated inside the enclosure. The inner seal is used to provide a flameproof seal and cable anchor and the outer seal provides further anchoring and an additional environmental seal. An electrical earth connection is automatically made to the cable lead sheath through the star washer when "PB" versions are used, or to the tape when "TA" versions are used.

## NOTE: There is no need to dismantle the cable gland prior to installation

1. Fit the gland into the equipment and fully tighten the entry item (1).

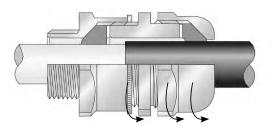


If installed in a clearance hole, fit a locknut and tighten.

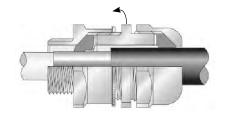
2. Determine the conductor length required to suit the geometry of the equipment and prepare the cable accordingly. Remove the outer sheath where required to reveal the insulated conductors, lead sheath, or tape where applicable.



3. Ensure the seals (2) and (7) are in a relaxed state by slackening the locking ring (4), main item (5) and outer seal nut (8) if necessary.



4. Pass the cable through the gland to the desired position. Tighten the main item (5) into the entry item (1) until the seal is felt to make contact with the cable and then tighten one further turn using a spanner. An electrical earth will automatically be made against lead sheath, or tape armour cable through the star washer (3).



Note: "PB" version shown

5. Tighten the outer seal nut (8) until the outer seal (7) contacts the cable and then tighten one full turn further using a spanner. Tighten the lock ring (4) against the entry item. This completes the installation.

