



# INSTALLATION INSTRUCTIONS FOR A2FRC CONDUIT GLAND

CONDUIT GLAND FOR USE WITH UNARMoured AND BRAID ARMoured CABLES

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



Cable Gland Size	Available Entry Threads (Alternate Metric Thread Lengths Available)					Standard Female Connection Thread	Overall Cable Diameter		Across Flats		Across Corners		Protrusion Length	Combined Ordering Reference (*Brass Metric male and female)			Shroud	Cable Gland Weight (Kgs)
	Standard		Option				Min	Max	Max	Max	Size	Type		Ordering Suffix				
	Metric	Thread Length (Metric)	NPT	Thread Length (NPT)	NPT													
20S/16	M20	15.0	1/2"	19.9	3/4"	M20	3.2	8.7	24.0	26.4	43.6	20S16	A2FRC	1RA	PVC04	0.110		
20S	M20	15.0	1/2"	19.9	3/4"	M20	6.1	11.7	24.0	26.4	43.6	20S	A2FRC	1RA	PVC04	0.110		
20	M20	15.0	1/2"	19.9	3/4"	M20	6.5	14.0	27.0	29.7	42.4	20	A2FRC	1RA	PVC05	0.110		
25	M25	15.0	3/4"	20.2	1"	M25	11.1	20.0	36.0	39.6	50.4	25	A2FRC	1RA	PVC09	0.200		
32	M32	15.0	1"	25.0	1 1/4"	M32	17.0	26.3	41.0	45.1	50.7	32	A2FRC	1RA	PVC10	0.240		
40	M40	15.0	1 1/4"	25.6	1 1/2"	M40	23.5	32.2	50.0	55.0	51.4	40	A2FRC	1RA	PVC13	0.330		
50S	M50	15.0	1 1/2"	26.1	2"	M50	31.0	38.2	55.0	60.5	55.2	50S	A2FRC	1RA	PVC15	0.430		
50	M50	15.0	2"	26.9	2 1/2"	M50	35.6	44.0	60.0	66.0	62.0	50	A2FRC	1RA	PVC18	0.440		
63S	M63	15.0	2"	26.9	2 1/2"	M63	41.5	49.9	70.5	77.6	58.4	63S	A2FRC	1RA	PVC21	0.720		
63	M63	15.0	2 1/2"	39.9	3"	M63	47.2	55.9	75.0	82.5	61.5	63	A2FRC	1RA	PVC23	0.640		
75S	M75	15.0	2 1/2"	39.9	3"	M75	54.0	61.9	80.0	88.0	63.2	75S	A2FRC	1RA	PVC26	0.960		
75	M75	15.0	3"	41.5	3 1/2"	M75	61.1	67.9	84.0	92.4	68.6	75	A2FRC	1RA	PVC26	0.860		
90	M90	24.0	3 1/2"	42.8	4"	M90	66.6	79.9	108.0	118.8	94.2	90	A2FRC	1RA	PVC31	2.250		
100	M100	24.0	4"	44.0	5"	M100	76.0	91.0	123.0	135.5	115.0	100	A2FRC	1RA	-	3.860		
115	M115	24.0	4"	44.0	5"	M115	86.0	97.9	133.4	146.7	118.6	115	A2FRC	1RA	-	4.500		
130	M130	24.0	5"	46.8	6"	M130	97.0	114.9	152.4	167.6	122.4	130	A2FRC	1RA	-	4.770		

*Dimensions are displayed in millimetres unless otherwise stated*

Note: Standard Seal (Black) Temperature Range = -60°C to +130°C,  
High Temperature Seal (Brown) Temperature Range = -20°C to +200°C for High Temperature Seal add 'HT' to Ordering Reference after Gland Type e.g. 20SA2FRCHT1RA.

- TECHNICAL DATA**  
**CABLE GLAND TYPE** : A2FRC  
**INGRESS PROTECTION** : IP66, IP67, IP68  
**PROCESS CONTROL SYSTEM** : ISO 9001  
 : ISO/IEC 80079-34:2011

- EXPLOSIVE ATMOSPHERES CLASSIFICATION**  
**ATEX CERTIFICATION No** : CML 18ATEX1321X, CML 18ATEX4313X  
**ATEX CERTIFICATION CODE** : Ⓜ II 2G Ex db IIC Gb, II 2G Ex eb IIC Gb, II 1D Ex ta IIIC Da IP66, 67, 68  
 : Ⓜ II 3G Ex nR IIC Gc IP66, 67, 68  
**IECEx CERTIFICATION No** : IECEx 18.0179X  
**IECEx CERTIFICATION CODE** : Ex db IIC Gb, Ex eb IIC Gb, Ex ta IIIC Da, Ex nR IIC Gc IP66, IP67, IP68  
**CSA CERTIFICATION No** : 1211841  
**CSA CERTIFICATION CODE** : Ex d IIC, Ex e II, Ex nR II, Enclosure Type 4X

**IMPORTANT NOTES FOR INSTALLERS**

- Read all instructions before beginning installation. Installation shall only be performed by competent, suitably trained personnel (in accordance with EN/IEC 60079-14) using the correct tools; spanners should be used for tightening.
- Inspection and maintenance shall only be performed by competent, suitably trained personnel (in accordance with EN/IEC 60079-14 (Initial Inspection) and EN/IEC 60079-17).
- 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 installers 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.  
 The standard product temperature range is -60°C to +130°C. The equipment should not be used outside of this range.
- Cable glands do not have any serviceable parts and are therefore not intended to be repaired.
- Cable glands are manufactured from Brass, Nickel Plated Brass, Stainless Steel, Mild Steel or Aluminium, with Silicone seals. The end user shall consider the performance of these materials with regard to attack by aggressive substances that may be present in the hazardous area. Consideration should be given to potential degradation due to galvanic corrosion at the interface of dis-similar metallic materials.
- It is the end user's responsibility to ensure the equipment materials are suitable for their final installation location. If in doubt consult CMP Products Limited.
- Once installed do not dismantle except for inspection. An inspection should be conducted as per IEC / EN 60079-17 by a qualified person. After inspection the gland should be re-assembled as instructed, ensuring the outer seal nut is correctly tightened to ensure the cable is secured.
- 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 CI 3.2 for external threads. For details of other thread types refer to IECEx certificate.
- 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 will need to be sufficiently strong to support the cable and cable gland assembly. Enclosure entries must 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 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.
- 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 (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

**SPECIFIC CONDITIONS OF USE**

- All cable gland types and sizes are only suitable for fixed installations. Cables must be effectively clamped to prevent pulling or twisting.
- The entry item component may be supplied with an alternative nearest equivalent recognised thread type and size to the metric thread, whilst maintaining a tolerance of fit, equal to or better than, a medium fit to ISO 965-1 & ISO 965-3. Intended for use within existing installations only, that incorporate female thread types that are no longer permitted by the current edition of EN/IEC 60079-1, but comply with the requirements of EN 50018:2000 & IEC 60079-1:2001
- When the cable glands are supplied with an entry thread that is one size up from the nominal gland size, designated with the letter 'B' after the gland size, e.g. 32B\*\*\*\*, they shall not be used with any adaptor device.
- The cable glands shall only be used where the temperature, at the point of entry, is in the following ranges:
  - EPDM (Black): -60°C +130°C
  - FKM (Red/Muddy Brown): -20°C +200°C
- For Ex d applications, cable gland types CA2F, CA2F-RC, CA2F-FC, CA2F-HC and CA2F-FF are to be installed in associated Ex d equipment having a minimum wall thickness as follows:
  - 10.5mm minimum for cable gland having entry thread sizes M16 x 1.5 to M75 x 1.5
  - 12.5mm minimum for cable gland having entry thread sizes M90 x 2.0 to M115 x 2.0
- Designed for appropriate Steel Tape Armour (STA), Steel Wire Armour (SWA), and appropriate braided cable. These cable must be extruded sealing (solid polymeric) completely surrounding the "core" (insulation and conductor), allowing for no holes or ventilation through the inner jacket or along the cores.
- IEC Canadian Standards may have either tapered or non-tapered threads which comply with ISO Standards.
- According to CEC C22.1 -98, Section 18-106 Part 3, Tapered Threads shall have 5 fully engaged threads, and where non-tapered threads are used in Groups IIC there must be 8 fully engaged threads.

**ACCESSORIES**

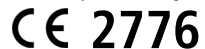
The following optional accessories are available to assist with fixing, sealing and earthing: Locknut, Earth Tag, Serrated Washer, Entry Thread (I.P.) Sealing Washer, Shroud

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

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 17th March 2020

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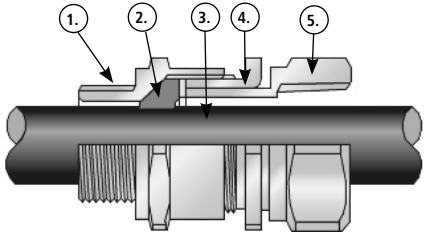
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F1448		
Certificate	Revision	Date
IFS	10	03/20
ATEX / IECEx	8	03/20
CSA / cCSAus	6	04/19

# INSTALLATION INSTRUCTIONS FOR CMP CABLE GLAND TYPES A2FRC

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

- 1. Entry Item
- 2. Seal
- 3. Skid Washer
- 4. Seal Nut
- 5. Conduit Coupling

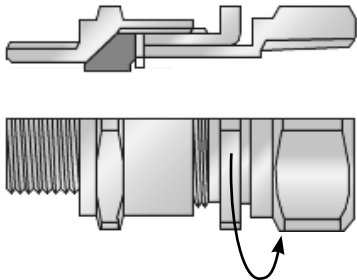


## PLEASE READ ALL INSTRUCTIONS CAREFULLY BEFORE BEGINNING THE INSTALLATION

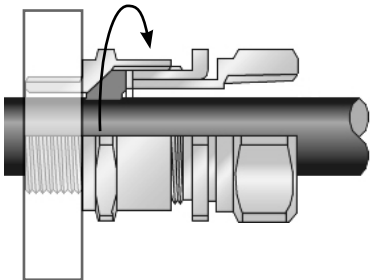
1. The A2FRC cable gland is suitable for all types of unarmoured cables, providing a flameproof seal on the outer sheath of the cable. It also has a rotating female-threaded coupling at the rear of the gland to allow the attachment of conduit.

This gland can also be used with braided cables where sealing is made on the cable outer sheath and the braid is earthed inside the equipment when this arrangement is allowed by the prevailing installation code of practice.

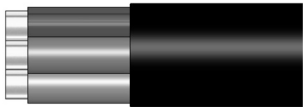
2. There is no need to dismantle the cable gland prior to installation. Simply slacken the Seal Nut (4) to relax the seal (2).



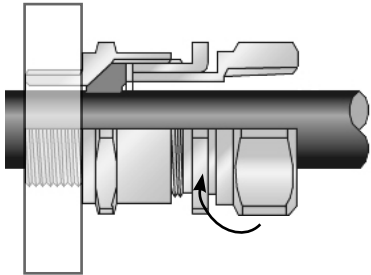
3. Fit the gland into the equipment and fully tighten the Entry Item (1).



4. Determine the conductor length required to suit the installation and prepare the cable accordingly, removing part of the outer sheath where required to reveal the insulated conductors.



5. Pass the cable through the gland to the desired position, then tighten the seal nut by hand until resistance is felt (when the seal contacts the cable). Tighten with a spanner one further turn.



6. Attach the conduit to the Conduit Coupler (5) and fully tighten. Ensure that the Seal Nut (4) does not come loose during this process by holding it with a spanner.

