

A2F-R

Ex db I/IIC, Ex eb I/IIC, Ex tb IIIC, Ex nR IIC

COMPRESSION GLAND for Unarmoured Cable / Tray Cable

Features and Benefits

- For indoor, outdoor, Group I,II,III, Zone 1, 2, 21 and 22 hazardous areas
- Fitted with a specially formulated elastomeric displacement seal, giving superior cable retention, explosion protection and IP rating.
- 100% cable retention load. No additional clamping required.
- Precision manufactured from high quality brass (Marine Grade Electroless Nickel Plated™) available in aluminium or stainless steel 316/316L on request. (Note: Aluminium not suitable for Group I applications.)
- Supplied with a thread sealing gasket (parallel threads only).



Technical Data

| | |
|--------------------------|---|
| Type: | A2F-R |
| Gland Material: | Brass (Marine Grade Electroless Nickel Plated™), Aluminium or Stainless Steel 316/316L |
| Seal Material: | Standard Thermoset Elastomer or Extreme Temperature Seals |
| Sealing Gasket Material: | HDPE, Nylon 66 or PTFE |
| Cable Type: | Unarmoured |
| Sealing Area: | Outer Sheath |
| Optional Accessories: | Adaptor, Reducer, Earth Tag, Locknut, Serrated Washer and Shroud |
| Note: | The installer should ensure that the materials are suitable for the installation environment. |

Standards and Certifications

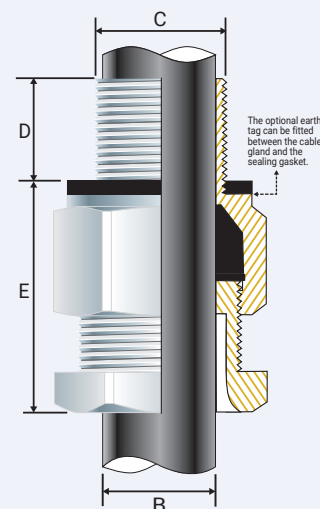
| | | |
|------------------------------------|--|--|
| Equipment Protection Levels: | IECEx: Ex db I/IIC Mb/Gb, Ex eb I/IIC Mb/Gb, Ex nR IIC Gc, Ex tb IIIC Db ATEX/UKEX: I M2, II 2/3 G D, II 3G, Ex db I/IIC Mb/Gb, Ex eb I/IIC Mb/Gb, Ex nR IIC Gc, Ex tb IIIC Db TR CU: 1Ex d I Mb X, 2Ex e I Mc X, 1Ex d IIC Gb X, 1Ex e IIC Gb X, 2Ex nR IIC Gc X, Ex tb IIIC Db X | |
| Continuous Operating Temp: | Standard Seals: 60°C to +95°C / 100°C (HDPE/ Nylon Sealing Gasket) Extreme Temp. Seals: -60°C to +160°C (PTFE Sealing Gasket) | |
| Conformance: | Standard: | Certificate: |
| IEC/BS EN | IEC/BS EN 62444 | CML 14CA364 |
| IECEX | IEC 60079 Parts 0, 1, 7, 15, 31 | IECEX MSC 20.0002 |
| ATEX | EN 60079 Parts 0, 1, 7, 31 EN 60079 Parts 0, 15 | CML 20ATEX1026 CML 16ATEX4002X |
| UKEX | BS EN 60079 Parts 0, 1, 7, 31 BS EN 60079 Parts 0, 15 | CML 21UKEX1013 CML 21UKEX4006X |
| TR CU (Russia) | ГОСТ 31610.0, 15 ГОСТ P MЭК 60079 Part 7, 31 | EA3C RU C-ZA HA91.B.00245/21 |
| CNEx (Chinese) | GB 3836.1, GB3936.2, GB3836.3 GB12476.1, GB12476.5 | CNEx 21.3389X CNEx CCC 2021312313000392 |
| SANS | SANS/IEC 60079 Parts 0, 1, 7, 15, 31 | MASC S/20-9022 |
| IP66/68 850m - Parallel | IEC 60529 | CML 15Y728 |
| IP65 - Tapered | IEC 60529 | |
| IP68 - Tapered and approved grease | IEC 60529 | IECEX CML 18.0018X |
| Corrosion Protection | ASTM B117-11, BS EN ISO 3231 | EXOVA N968667 |
| EMC Compatible | EN 55011:2009, EN 55022:2010, | SGS EMC197708/1 |



Conditions for Safe Use - X

- None

Note: According to IEC 60079-14, 10.6.2: An Ex d gland will only maintain Ex d integrity when used with substantially round, compact and filled cable. If not a CCG VORTEX® or QuickStop-Ex® barrier gland should be used.



| Product Code | Gland Size Reference | Metric Entry Thread | | NPT Entry Thread | | Cable Detail | | Maximum Length 'E' | Hexagonal Detail | | Installation Torque Value Nm |
|--------------|----------------------|---------------------|---------|------------------|---------|--------------|---------|--------------------|------------------|------------|------------------------------|
| | | 'C' | Min 'D' | 'C' | Min 'D' | Min 'B' | Max 'B' | | Max 'Flats' | Max 'Crns' | |
| 059000-16 | 00s-16ss | M16x1.5 | 15.0 | - | - | 3.0 | 8.5 | 25.0 | 24.0 | 27.0 | 32.5 |
| 059000 | 00s-20ss | M20x1.5 | 15.0 | 1/2 3/4 | 15.0 | 3.0 | 8.5 | 25.0 | 24.0 | 27.0 | 32.5 |
| 0590-16 | 0s-16s | M20x1.5 | 15.0 | - | - | 7.0 | 12.0 | 25.0 | 24.0 | 27.0 | 32.5 |
| 0590-0 | 0s-20s | M20x1.5 | 15.0 | 1/2 3/4 | 15.0 | 7.0 | 12.0 | 25.0 | 24.0 | 27.0 | 32.5 |
| 059001 | 1-20 | M20x1.5 | 15.0 | 1/2 3/4 | 15.0 | 11.0 | 15.0 | 30.0 | 27.0 | 30.0 | 32.5 |
| 059022 | 2s-25s | M25x1.5 | 15.0 | 3/4 1 | 15 / 19 | 11.5 | 17.5 | 30.0 | 35.0 | 39.0 | 47.5 |
| 059002 | 2-25 | M25x1.5 | 15.0 | 3/4 1 | 15 / 19 | 15.0 | 20.0 | 30.0 | 35.0 | 39.0 | 47.5 |
| 059033 | 3s-32s | M32x1.5 | 15.0 | 1 1/4 | 19.0 | 16.0 | 22.0 | 30.0 | 42.0 | 47.0 | 55.0 |
| 059003 | 3-32 | M32x1.5 | 15.0 | 1 1/4 | 19.0 | 20.0 | 26.5 | 30.0 | 42.0 | 47.0 | 55.0 |
| 059044 | 4s-40s | M40x1.5 | 15.0 | 1 1/4 1 1/2 | 19 / 21 | 22.0 | 31.5 | 38.0 | 52.0 | 59.0 | 65.0 |
| 059004 | 4-40 | M40x1.5 | 15.0 | 1 1/4 1 1/2 | 19 / 21 | 26.0 | 34.0 | 38.0 | 52.0 | 59.0 | 65.0 |
| 059055 | 5s-50s | M50x1.5 | 15.0 | 1 1/2 2 | 21.0 | 29.0 | 38.0 | 46.0 | 65.0 | 73.0 | 82.5 |
| 059005 | 5-50 | M50x1.5 | 15.0 | 1 1/2 2 | 21.0 | 34.0 | 44.5 | 46.0 | 65.0 | 73.0 | 82.5 |
| 059066 | 6s-63s | M63x1.5 | 15.0 | 2 2/2 1/2 | 21 / 30 | 38.0 | 50.0 | 52.0 | 80.0 | 90.0 | 97.5 |
| 059006 | 6-63 | M63x1.5 | 15.0 | 2 2/2 1/2 | 21 / 30 | 44.5 | 56.5 | 52.0 | 80.0 | 90.0 | 97.5 |
| 059077 | 7s-75s | M75x1.5 | 15.0 | 2 2/2 3 | 30 / 32 | 50.0 | 62.0 | 54.0 | 96.0 | 108.0 | 115.5 |
| 059007 | 7-75 | M75x1.5 | 15.0 | 2 2/2 3 | 30 / 32 | 56.0 | 67.5 | 54.0 | 96.0 | 108.0 | 115.5 |
| 059008 | 8-80 | M80x2.0 | 20.0 | 3" | 32.0 | 54.0 | 69.0 | 68.0 | 96.0 | 108.0 | 120.0 |
| 059099 | 9s-90s | M90x2.0 | 20.0 | 3 3/3 1/2 | 32 / 33 | 60.0 | 75.0 | 70.0 | 111.0 | 125.0 | 120.0 |
| 059009 | 9-90 | M90x2.0 | 20.0 | 3 3/3 1/2 | 32 / 33 | 73.0 | 81.5 | 70.0 | 111.0 | 125.0 | 120.0 |
| 059010 | 10-100 | M100x2.0 | 20.0 | 3 3/2 4 | 33 / 34 | 81.0 | 92.0 | 70.0 | 125.0 | 141.0 | 120.0 |
| 059011 | 11-110 | M110x2.0 | 20.0 | 4 | 34.0 | 91.0 | 101.0 | 70.0 | 135.0 | 152.0 | 175.0 |
| 059012 | 12-120 | M120x2.0 | 20.0 | - | - | 101.0 | 109.0 | 70.0 | 140.0 | 158.0 | 175.0 |
| 059013 | 13-130 | M130x2.0 | 20.0 | - | - | 109.0 | 116.0 | 70.0 | 146.0 | 164.0 | 175.0 |

All dimensions except NPT are in mm. Intermediate thread sizes are available on request. NPT threads should be tightened 'wrench tight'.

CCG reserves the right to make alterations to the technical data, dimensions, designs and products available without notice. The illustrations cannot be considered binding. Please contact CCG for assistance.

A2F-R-GH211021E

A2F-R COMPRESSION GLAND Ex db I/IIC, Ex eb I/IIC, Ex tb IIIC, Ex nR IIC

ENCLOSURES AND EQUIPMENT TO WHICH CABLE GLANDS ARE FITTED:-

- Must be made from materials which are compatible with the cable gland materials.
- Have a sealing area around the cable gland entry point with a surface roughness < Ra 6.3 µm
- Have entries that are perpendicular to the enclosure face in the area where the cable gland will seal to within 2.5°
- Are sealed using the supplied sealing gasket (parallel threads) or by fully tightening into a threaded entry (tapered threads). Note that for tapered threads the IP rating can be improved to IP68 with the use of a suitable thread sealant.

MUST HAVE THREADED ENTRIES

- The same thread as the cable gland. (Thread adaptors should be used to correct any

mismatch).

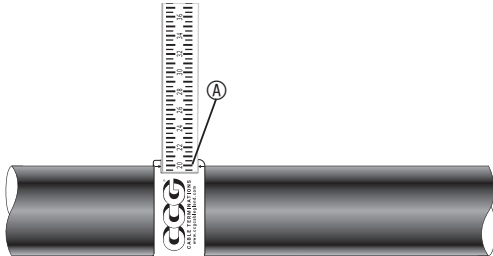
- With a thread tolerance of metric class '6H' or equivalent.

- Where the thread length is a minimum of 10mm for Ex d applications or 3mm for all other applications.

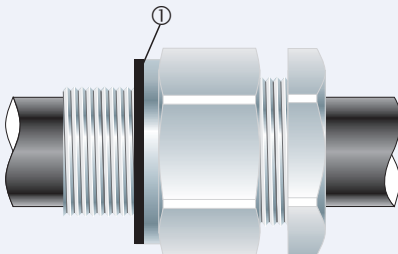
OR CLEARANCE HOLES (not Ex d)

- Where the hole size is the thread nominal size with a tolerance of +0.1 to +0.7mm. (e.g. the clearance hole for an M20 thread will have a diameter between 20.1mm and 20.7mm).

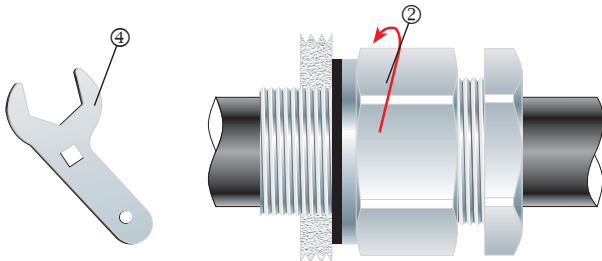
- Through material that is between 1mm and 12mm thick. (Thicker materials can be accommodated using glands with extended entry threads.)



1. For accurate sizing, use a CCG Dimension Tape ① on the outer cable sheath.

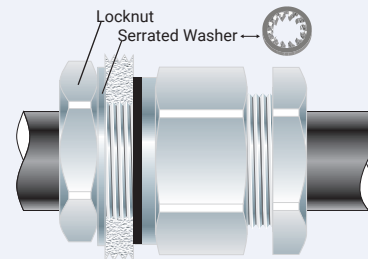


2. To maintain IP66/68 ensure the gasket ① is in place.

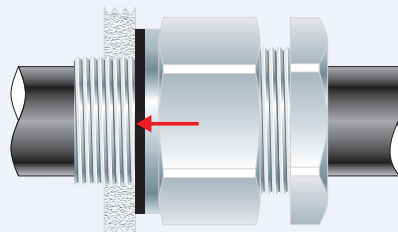


3. Screw the inner ② into the apparatus. Tighten the inner ② to the installation torque using a CCG Spanner ④.

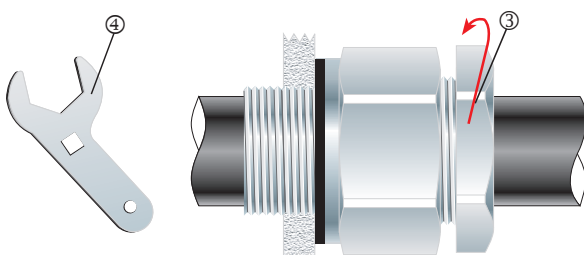
Alternative installation through an unthreaded entry.



If the apparatus is untapped use a locknut.



4. Pass the cable end through the gland assembly.



5. Tighten the outer nut ③ to the installation torque using a CCG Spanner ④ to produce a seal and grip on the cable. 100% cable retention load. No additional clamping required.