

E1EX-U-VS

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

CAPTIVE COMPONENT GLAND® Multi Armoured Copper Tape or Lead Sheathed Cable



Features and Benefits

- For indoors, outdoors, Group I, II, III, Zone 1, 2, 21 and 22 hazardous areas.
- Two-part handling, no loose parts.
- Freely rotating captive cone and inspectible cone ring an armour clamp and a earth bond for steel wire, aluminium, braid and tape armour.
- Patented disconnect system that allows inspection of armour clamp and inner seal after assembly.
- Provides 360° earthing to copper tape or lead sheath.
- Factory fitted captive elastomeric seals for Built-in Safety™. Seals on both inner and outer sheaths to IP65/66/68.
- Precision manufactured from high-quality brass (Marine Grade Electroless Nickel Plated™) available in stainless steel 316/316L on request.
- Supplied with a thread sealing gasket (parallel threads only).



Technical Data

| | |
|--------------------------|---|
| Type: | E1EX-U-VS |
| Gland Material: | Brass (Marine Grade Electroless Nickel Plated™), Stainless Steel 316/316L |
| Seal Material: | Standard Thermoset Elastomer or Extreme Temperature Seals |
| Sealing Gasket Material: | HDPE, Nylon 66 or PTFE |
| Cable Type: | Steel Wire, Aluminium, Braided, Tape Armour and Copper Tape used for VSD (Variable Speed Drives) or Lead Sheathed |
| Armour Clamping: | Rotating Captive Cone and Inspectible Cone Ring |
| Sealing Area: | Inner Sheath and 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. |

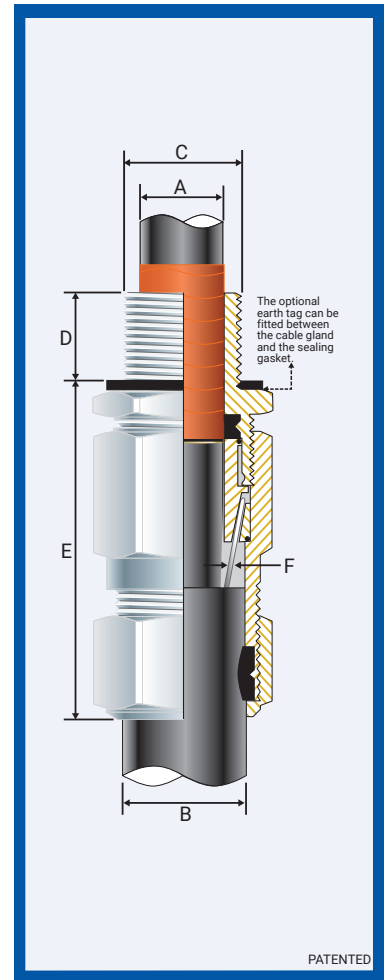
Standards and Certifications

| | | |
|------------------------------------|--|---|
| Equipment Protection Levels: | IECEX/INMETRO: Ex d I Mb/ IIC Gb, Ex e I Mb/IIC Gb, Ex nR IIC Gc, Ex tb IIIC Db ATEX/UKEX: Ex I M2, Ex II 2/3G 1D, Ex db I Mb/IIC Gb, Ex eb I Mb/ IIC Gb, Ex ta IIIC Da TR CU: Ex I Ex 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) | |
| Conformance: | Standard: | Certificate: |
| IEC/BS EN | IEC/BS EN 62444 | CML 14CA364 |
| IECEX | IEC 60079 Part 0, 1, 7, 15, 31 | IECEX TSA 22.0011X |
| ATEX | EN 60079 Part 0, 1, 7, 31 EN 60079 Part 0, 15 | CML 16ATEX1001X CML 16ATEX4002X |
| UKEX | BS EN 60079 Part 0, 1, 7, 31 BS EN 60079 Part 0, 15 | CML 21UKEX1011X CML 21UKEX4006X |
| INMETRO (Brazil) | ABNT NBR IEC 60079 Part 0, 1, 7, 15, 31 | TUV 15.0483X |
| TR CU (Russia) | ГОСТ 31610-0, 15, ГОСТ IEC 60079-1 ГОСТ P MЭК 60079-7, 31 | EAЭC RU C-ZA.HA91.B.00245/21 |
| CCC/CNEx (Chinese) | GB/T3836.1, 2, 3, 31-2021 | CNEX 21.3387X CCG 2021312313000396 CML 15Y728 |
| IP66/68 100m - Parallel | IEC 60529 | |
| IP65/66 - Tapered | IEC 60529 | |
| IP68 - Tapered and approved grease | IEC 60529 | |
| Deluge Protection | DTS-01 | IECEX CML 18.0018X CML 14CA370-2 |
| Corrosion Protection | ASTM B117-11, BS EN ISO 3231 | EXOVA N968667 |
| Marine ABS | IEC/EN 60079 Part 0, 1, 7, 15, 31 | ABS 20-SG1952706-PDA |
| EMC Compatible | EN 55011, + A1, EN 55022 | SGS EMC305079/1 |



Conditions for Safe Use - X

- The cable glands shall only be used where the temperature, at the point of entry, is between -60°C to +95°C (standard seal & HDPE sealing gasket), -60°C to +100°C (standard seal and Nylon sealing gasket) or -60°C to +160°C (extreme temp. seal & PTFE sealing gasket) depending on seal and gasket used.
- Braided cables are only suitable for Group II or III applications with this gland and the user shall ensure adequate clamping of the cable.
- 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® barrier gland should be used.



| Product Code | Gland Size Reference | Metric Entry Thread | | NPT Entry Thread | | Cable Detail | | | | Max Length 'E' | Armour Dia | | Hexagonal Detail | | Install. Torque Value Nm |
|--------------|----------------------|---------------------|---------|------------------|---------|--------------|---------|---------|---------|----------------|------------|---------|------------------|------------|--------------------------|
| | | 'C' | Min 'D' | 'C' | Min 'D' | Min 'A' | Max 'A' | Min 'B' | Max 'B' | | Min 'F' | Max 'F' | Max 'Flats' | Max 'Crns' | |
| 058500-16 | 00s-16ss | M16x1.5 | 15 | - | 15 | 3.0 | 8.5 | 5.0 | 10.5 | 60.0 | 0.20 | 0.90 | 25/27 | 28/30 | 21.0 |
| 058500S | 00s-20ss | M20x1.5 | 15 | 1/2 3/4 | 15 | 3.0 | 8.5 | 5.0 | 10.5 | 60.0 | 0.20 | 0.90 | 25/27 | 28/30 | 21.0 |
| 058500 | 00-20ss | M20x1.5 | 15 | 1/2 3/4 | 15 | 3.0 | 8.5 | 8.0 | 13.5 | 60.0 | 0.20 | 0.90 | 25/27 | 28/30 | 21.0 |
| 0585-0S | 0s-20s | M20x1.5 | 15 | 1/2 3/4 | 15 | 7.0 | 12.0 | 8.0 | 13.5 | 60.0 | 0.20 | 1.25 | 25/27 | 28/30 | 21.0 |
| 0585-0 | 0-20s | M20x1.5 | 15 | 1/2 3/4 | 15 | 7.0 | 12.0 | 11.5 | 16.0 | 60.0 | 0.20 | 1.25 | 25/27 | 28/30 | 21.0 |
| 058501 | 1-20 | M20x1.5 | 15 | 1/2 3/4 | 15 | 9.0 | 15.0 | 12.5 | 20.5 | 73.0 | 0.20 | 1.25 | 30 | 34 | 21.0 |
| 058522 | 2s-25s | M25x1.5 | 15 | 3/4 1 | 15/19 | 11.0 | 17.5 | 16.0 | 24.5 | 82.4 | 0.20 | 1.60 | 38 | 43 | 30.0 |
| 058502 | 2-25 | M25x1.5 | 15 | 3/4 1 | 15/19 | 14.0 | 20.0 | 18.0 | 27.0 | 82.0 | 0.20 | 1.60 | 38 | 43 | 30.0 |
| 058533 | 3s-32s | M32x1.5 | 15 | 1 1/4 | 19 | 15.0 | 22.0 | 20.0 | 30.5 | 91.0 | 0.20 | 2.00 | 45 | 51 | 42.0 |
| 058503 | 3-32 | M32x1.5 | 15 | 1 1/4 | 19 | 19.0 | 26.5 | 23.0 | 33.5 | 91.0 | 0.20 | 2.00 | 45 | 51 | 42.0 |
| 058544 | 4s-40s | M40x1.5 | 15 | 1 3/4 1 1/2 | 19/21 | 22.0 | 31.5 | 26.5 | 39.5 | 105.0 | 0.30 | 2.00 | 55 | 62 | 52.0 |
| 058504 | 4-40 | M40x1.5 | 15 | 1 3/4 1 1/2 | 19/21 | 26.0 | 34.0 | 28.0 | 40.0 | 105.0 | 0.30 | 2.00 | 55 | 62 | 52.0 |
| 058555 | 5s-50s | M50x1.5 | 15 | 1 1/2 2 | 21 | 29.0 | 38.0 | 35.2 | 46.7 | 123.0 | 0.40 | 2.50 | 65 | 73 | 57.0 |
| 058505 | 5-50 | M50x1.5 | 15 | 1 1/2 2 | 21 | 34.0 | 44.5 | 44.4 | 53.0 | 123.0 | 0.40 | 2.50 | 65 | 73 | 57.0 |
| 058566 | 6s-63s | M63x1.5 | 15 | 2 1/2 2 1/2 | 21/30 | 38.0 | 50.0 | 45.5 | 59.4 | 147.0 | 0.40 | 2.50 | 85 | 96 | 66.0 |
| 058506 | 6-63 | M63x1.5 | 15 | 2 1/2 2 1/2 | 21/30 | 44.0 | 56.5 | 54.6 | 65.9 | 147.0 | 0.40 | 2.50 | 85 | 96 | 66.0 |
| 058577 | 7s-75s | M75x1.5 | 15 | 2 3/4 3 | 30/32 | 50.0 | 62.0 | 59.0 | 72.5 | 149.0 | 0.40 | 3.15 | 96 | 108 | 72.0 |
| 058507 | 7-75 | M75x1.5 | 15 | 2 3/4 3 | 30/32 | 56.0 | 67.5 | 65.0 | 78.0 | 149.0 | 0.40 | 3.15 | 96 | 108 | 72.0 |
| 058508 | 8-80 | M80x2.0 | 20 | 3 | 32 | 59.0 | 69.0 | 65.0 | 77.5 | 195.0 | 0.40 | 3.15 | 96 | 108 | 80.0 |
| 058599 | 9s-90s | M90x2.0 | 20 | 3 3/4 3 1/2 | 32/33 | 66.0 | 75.0 | 73.0 | 86.5 | 204.0 | 0.40 | 3.50 | 111 | 125 | 89.0 |
| 058509 | 9-90 | M90x2.0 | 20 | 3 3/4 3 1/2 | 32/33 | 74.0 | 81.5 | 82.0 | 91.0 | 204.0 | 0.40 | 3.50 | 111 | 125 | 89.0 |
| 058510 | 10-100 | M100x2.0 | 20 | 3 3/4 4 | 33/34 | 81.0 | 91.0 | 90.0 | 100.0 | 209.0 | 0.40 | 3.50 | 125 | 141 | 98.0 |

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. E1EXUVS-HMG280323E

E1EX-U-VS GLAND

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 <math>< Ra 6.3 \mu m</math>.
- 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

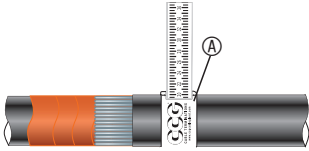
- The same thread size as the cable gland. (Thread adapters should be used to correct

any mismatch).

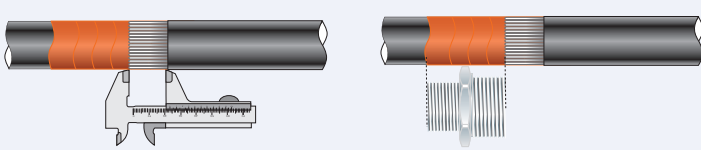
- With a thread tolerance of metric class '6H' or equivalent.
- Where the thread length is a minimum of 10mm for Ex d applications or 3mm for all other applications

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.)

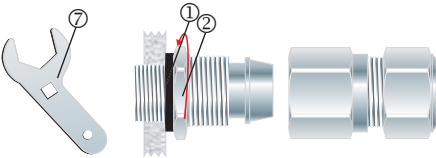


1. For accurate sizing, use a CCG Dimension Tape (A) on the inner and outer cable sheath.



| Gland Size | Armour Length | Gland Size | Armour Length | Gland Size | Armour Length | Gland Size | Armour Length |
|------------|---------------|------------|---------------|------------|---------------|------------|---------------|
| 00-16ss | 20.0 | 3s-32s | 30.0 | 6s-63s | 45.0 | 9-90 | 50.0 |
| 00-20ss | 20.0 | 3-32 | 30.0 | 6-63 | 45.0 | 10-100 | 60.0 |
| 0-20s | 20.0 | 4s-40s | 30.0 | 7s-75s | 50.0 | 11-115 | 60.0 |
| 1-20 | 25.0 | 4-40 | 30.0 | 7-75 | 50.0 | 12-120 | 60.0 |
| 2s-25s | 25.0 | 5s-50s | 35.0 | 8-80 | 50.0 | 13-130 | 60.0 |
| 2-25 | 25.0 | 5-50 | 35.0 | 9s-90s | 50.0 | | |

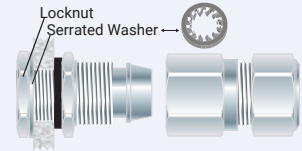
2. Cut back the cable outer sheath to expose the armour to a length as per the table above. Cut the PVC sheath exposing the copper tape to the length of the inner (2).



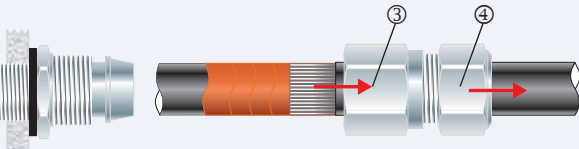
3. To maintain IP66/68 ensure the gasket (1) is in place. Screw the inner (2) into the apparatus. Tighten the inner (2) to the installation torque using a CCG Spanner (7).

Alternative installation through an unthreaded entry.

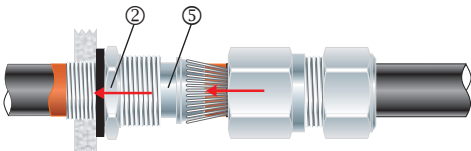
If the apparatus is untapped use a locknut.



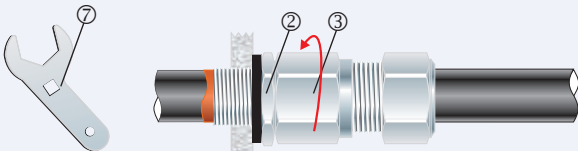
If the gland has NPT entry threads fitted to a threaded entry then IP68 (2m) can be achieved by applying one of the following tested and approved grease types to the thread:- Renolit Lubrene CA700 or LX220 EP2, Renolit LC-WP2 or Moly LX2, or Dow Corning 4 Electrical Compound.



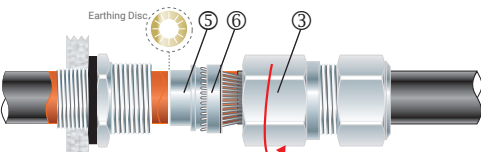
4. Pass the outer nut (3) and the body (4) over the cable.



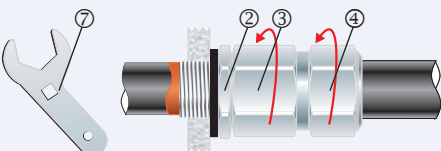
5. Pass the cable end through the inner (2), ensure the copper tape does not unravel. Splay the armour wires over the cone (5).



6. Tighten the body (3) onto the inner (2) until hand tight, then tighten with a CCG Spanner (7) with 3/4 turn to lock the armour between the cone (5) and the cone ring (6).



7. Unscrew the body (3). Check that the armour has locked between the cone (5) and cone ring (6). (O-Ring on the cone ring (6) is sacrificial). Check the copper tape has passed through and makes 360° contact with the earthing disc.



8. Tighten the body (3) onto the inner (2) to the installation torque using a CCG Spanner (7). Tighten the outer nut (4) to produce a moisture proof seal by turning until the seal makes contact with the outer sheath of cable and then make one full turn.

YouTube Instruction Video: <http://youtu.be/Lw-LxOyyoV0>