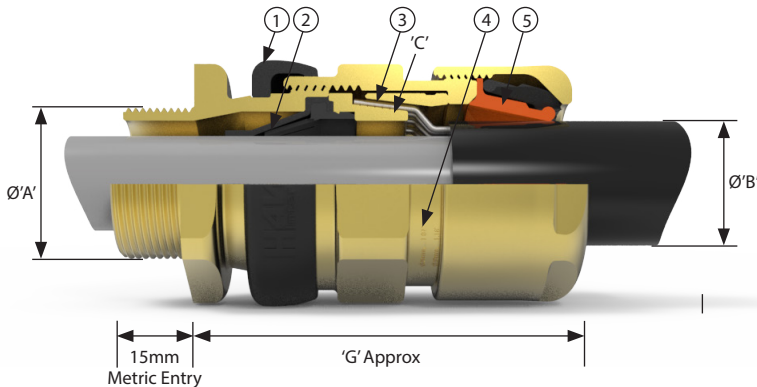




# 501/453/UNIV

Flameproof, Increased Safety, Dust Protection & Restricted Breathing  
Class - Zones  
Certified ATEX / IECEx / UKEX / c CSA us



- 1 Inspectable Deluge Seal  
- Offering IP66, IP67, IP68 & IP69 Ingress Protection
- 2 Passive diaphragm seal  
- Suitable for cables exhibiting 'Cold Flow.' Fully inspectable
- 3 Reversible Armour Clamp - For all types of armour and braid
- 4 Patented Cable Gland Tightening Guide  
- Helps prevent damage caused by over tightening
- 5 Unique Rear Seal - Offering ultimate sealing over an extremely wide cable acceptance range

The 501/453 Universal Cable Gland is dual certified Exe/Exd, robust and for use with single wire armour 'W', wire braid 'X', steel tape armour 'Z', elastomer and plastic insulated cables. For particular use with cables that exhibit 'Cold Flow' characteristics. This cable gland is the first and only cable gland capable of being upgraded to a barrier type solution in the field. See below for more details. See technical section for installation rules and regulations.

### Cable Gland Selection Table

| Size Ref. | Entry Thread Size 'A' |            | Cable Acceptance Details |                          |                  |       |                    |               | 'G'   | Hexagon Dimensions |                |
|-----------|-----------------------|------------|--------------------------|--------------------------|------------------|-------|--------------------|---------------|-------|--------------------|----------------|
|           | Metric                | NPT*       | Inner Sheath             |                          | Outer Sheath 'B' |       | Armour / Braid 'C' |               |       | Across Flats       | Across Corners |
|           |                       |            | Min.                     | Max.                     | Min.             | Max.  | Orientation 1      | Orientation 2 |       |                    |                |
| Os        | M20 <sup>2</sup>      | ½"         | 3.5                      | 8.1                      | 5.5              | 12.0  | 0.8 / 1.25         | 0.0 / 0.8     | 58.4  | 24.0               | 26.5           |
| O         | M20 <sup>2</sup>      | ½"         | 6.5                      | 11.4                     | 9.5              | 16.0  | 0.8/ 1.25          | 0.0 / 0.8     | 58.4  | 24.0               | 26.5           |
| A         | M20                   | ¾" or ½"   | 8.4                      | 14.3                     | 12.5             | 20.5  | 0.8 / 1.25         | 0.0 / 0.8     | 59.6  | 30.0               | 32.5           |
| B         | M25                   | 1" or ¾"   | 11.1                     | 19.7                     | 16.9             | 26.0  | 1.25 / 1.6         | 0.0 / 0.7     | 66.4  | 36.0               | 39.5           |
| C         | M32                   | 1¼" or 1"  | 17.6                     | 26.5                     | 22.0             | 33.0  | 1.6 / 2.0          | 0.0 / 0.7     | 71.2  | 46.0               | 50.5           |
| C2        | M40                   | 1½" or 1¼" | 23.1                     | 32.5                     | 28.0             | 41.0  | 1.6 / 2.0          | 0.0 / 0.7     | 75.2  | 55.0               | 60.6           |
| D         | M50                   | 2" or 1½"  | 28.9                     | 44.4 / 42.3 <sup>1</sup> | 36.0             | 52.6  | 1.8 / 2.5          | 0.0 / 1.0     | 98.0  | 65.0               | 70.8           |
| E         | M63                   | 2½" or 2"  | 39.9                     | 56.3 / 54.3 <sup>1</sup> | 46.0             | 65.3  | 1.8 / 2.5          | 0.0 / 1.0     | 94.4  | 80.0               | 88.0           |
| F         | M75                   | 3" or 2½"  | 50.5                     | 68.2 / 65.3 <sup>1</sup> | 57.0             | 78.0  | 1.8 / 2.5          | 0.0 / 1.0     | 102.0 | 95.0               | 104.0          |
| G         | M80                   | 3½"        | 67.0                     | 73.0                     | 75.0             | 89.5  | 2.0 / 3.5          | 0.0 / 1.0     | 90.6  | 106.4              | 115.0          |
| H         | M90                   | 3½"        | 67.0                     | 77.6                     | 75.0             | 89.5  | 2.0 / 3.5          | 0.0 / 1.0     | 90.6  | 115.0              | 130.0          |
| J         | M100                  | 4"         | 77.0                     | 91.6                     | 88.0             | 104.5 | 2.5 / 4.0          | 0.0 / 1.0     | 90.6  | 127.0              | 142.0          |

All dimensions in millimetres (except \* where dimensions are in inches).

Os - F size metric entry threads are 1.5mm pitch as standard, 15mm length of thread.

G - J size metric entry threads are 2mm pitch as standard, 20mm length of thread.

G - J size are only available in the 501/453/RAC design style.

<sup>1</sup> Smaller value is applicable when selecting reduced NPT entry option.

2 Sizes Os and O are available with an M16 thread size. For O size with M16 thread, the maximum cable inner sheath diameter is 10.9mm.

### Technical Data

|                       |                                                                                                           |
|-----------------------|-----------------------------------------------------------------------------------------------------------|
| Material Options      | Manufactured in Brass, Nickel Plated Brass or 316L Stainless Steel                                        |
| Ingress Protection    | IP66, IP67 IP68 (30 metres for 7 days, special conditions may apply) and IP69 to IEC/EN 60529 and NEMA 4X |
| Deluge Protection     | to DTS01                                                                                                  |
| Enclosure Protection  | IK10 to IEC 62262                                                                                         |
| Operating Temperature | -60°C to +80°C                                                                                            |
| Applications          | Suitable for use in Zone 1, Zone 21, Zone 2 and Zone 22                                                   |

#### Approvals

|                               |                                                                                                                                                                                                              |
|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Protection Class              | Ex II 2GD Ex db IIC Gb; Ex eb IIC Gb; Ex nR IIC Gc; Ex tb IIIC Db                                                                                                                                            |
| ATEX Certificate No           | CML 18ATEX1268X<br>CML 19ATEX4507 (Ex nR)                                                                                                                                                                    |
| IECEx Certificate No          | CML 18.0131X<br>CML 21.0012X (Ex nR)                                                                                                                                                                         |
| UKEX Certificate No           | CML 21UKEX1132X<br>CML 21UKEX4133X (Ex nR)                                                                                                                                                                   |
| Construction & Test Standards | IEC/EN 62444 (Anchorage Type D), IEC/EN 60079-0, 1, 7, 15, 31                                                                                                                                                |
| Marine Approvals              | ABS: 19-LD1876514-1-PDA<br>BV: 43523/B0<br>DNV: TAE0000BS                                                                                                                                                    |
| Additional Certifications     | CCC: 2020312313000318<br>EAC: No EA3C RU C-GB-HA91.B.00264/21<br>EQM: 20-11-27224/Q20-11-000979/NB0007<br>Inmetro: IEx 14.0272X<br>KCs: 17-KA4BO-0138X to 0149X<br>PESO: P450038<br>SONCAP: LCOGB049552-0500 |

#### NEC/CEC

|                               |                                                                                                                                              |
|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| NEC Protection Class          | Class I, Zone I, AEx eb IIC Gb; Zone 21, AEx tb IIIC Db                                                                                      |
| CEC Protection Class          | Class I Div 2 ABCD, Class II Div 2 EFG and Class III<br>Ex db IIC Gb; Ex eb IIC Gb                                                           |
| c CSA us Certificate          | 1015065                                                                                                                                      |
| Construction & Test Standards | UL2225, UL1203, UL514B, CSA C22.2 NO. 0-10, CSA C22.2 NO. 174-18, CSA 22.2 60079-0, CSA 22.2 60079-1, CSA 22.2 60079-7 and CSA 22.2 60079-31 |

### Alternative Reversible Armour Clamping Ring Size Selection

| Size Ref | Orientation 1 | Orientation 2 |
|----------|---------------|---------------|
| B        | 0.9 - 1.25    | 0.5 - 0.9     |
| C        | 1.2 - 1.6     | 0.6 - 1.2     |
| C2       | 1.2 - 1.6     | 0.6 - 1.2     |
| D        | 1.45 - 1.8    | 1.0 - 1.45    |
| E        | 1.45 - 1.8    | 1.0 - 1.45    |
| F        | 1.45 - 1.8    | 1.0 - 1.45    |

### Ordering Information

Format for ordering is as follows: Alternative Clamping Ring (AR), add suffix AR to ordering information

| Cable Gland Type | Size | Thread  | Material | (Optional) |
|------------------|------|---------|----------|------------|
| 501/453/UNIV     | C    | M32     | Brass    | AR         |
| 501/453/UNIV     | C    | 1¼" NPT | NP Brass | AR         |

Example Code: 501/453/UNIV C M32 Stainless

## Barrier Gland Upgrade Kit

The Barrier gland upgrade kit comes with everything needed to turn the 501/453/UNIVERSAL into the ICG/653/UNIVERSAL barrier gland.

The kit, available in ExPress injectable self-mixing barrier resin and QSP 2-part hand mix putty both offer a barrier cure time from 30 minutes, are both fully inspectable and offer full visibility through the clear silicone flameproof seal during installation and inspection.



## Cable Gland Tightening Guide

Whilst Hawke International goes to great lengths to ensure products are designed to be as simple to install, inspect and maintain as is possible, differing levels of competency, training and understanding can lead to glands being incorrectly installed. With hazardous area products, any poor installation issues can not only lead to expensive equipment failure, but also potential explosion risks and associated risk to life.

To help address issues with the overtightening of cable glands and the resultant damage to cables and seals, Hawke International has developed the patented **INBUILT TIGHTENING GUIDE**. Without the need for fiddly measuring systems, the guide provides a permanent visual indication of the gland tightness through installation, inspection and maintenance.

### How it works

The gland is permanently marked with various lines/numbers indicating the correct tightening level related to the cable diameter. Following the relevant cable gland Installation Instructions, the back seal should be tightened until a seal is formed on the cable outer sheath and then tightened one further turn.



Follow cable gland installation instructions until final stage – tightening of rear seal



Tighten backnut until a seal is formed onto the cable, then tighten one further turn



The backnut should be level with the marking guide corresponding to its diameter – this can be visually inspected and adjusted as necessary

*Note: The cable gland installation instructions have a printed cable OD measure for if the cable OD is not known*



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