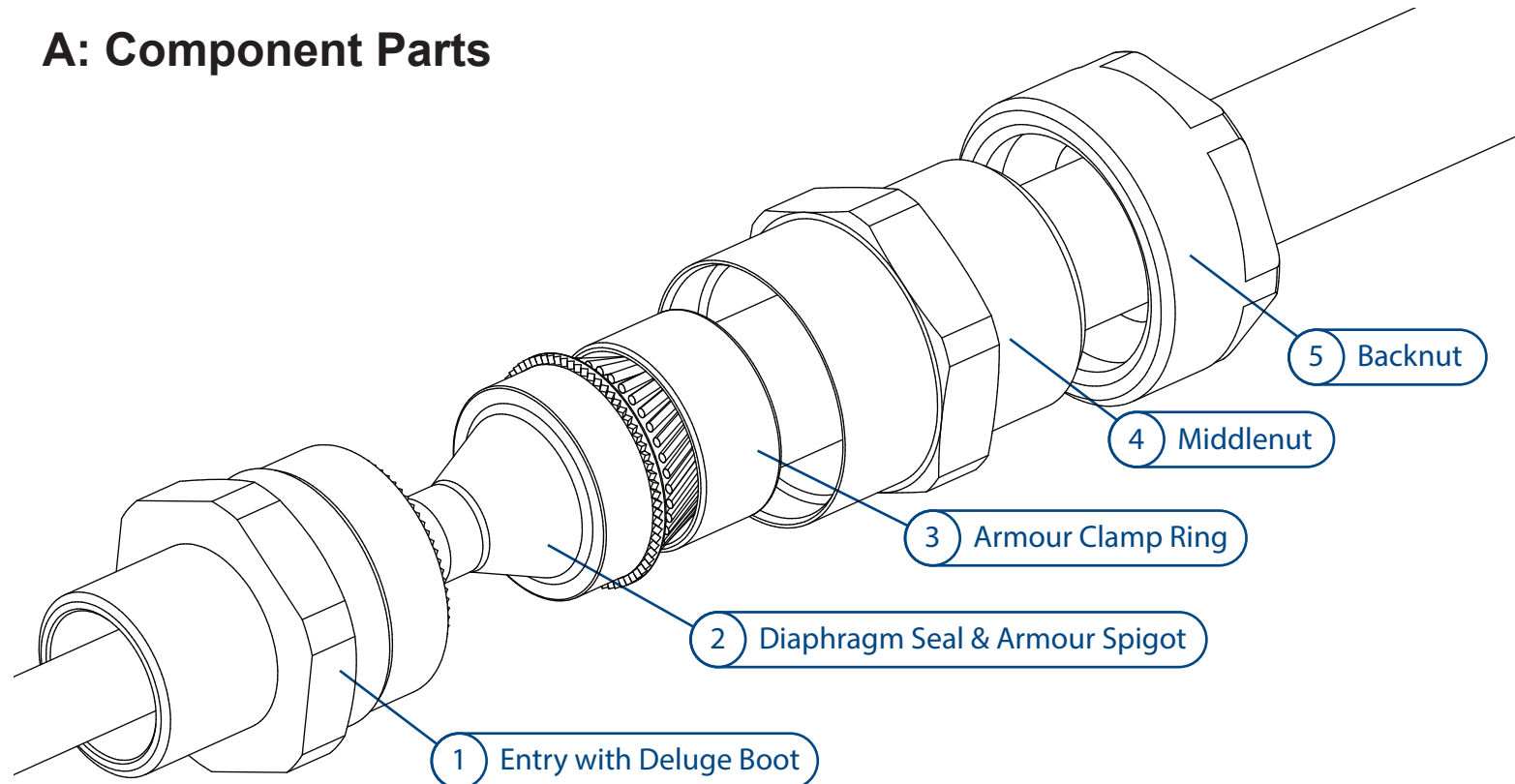
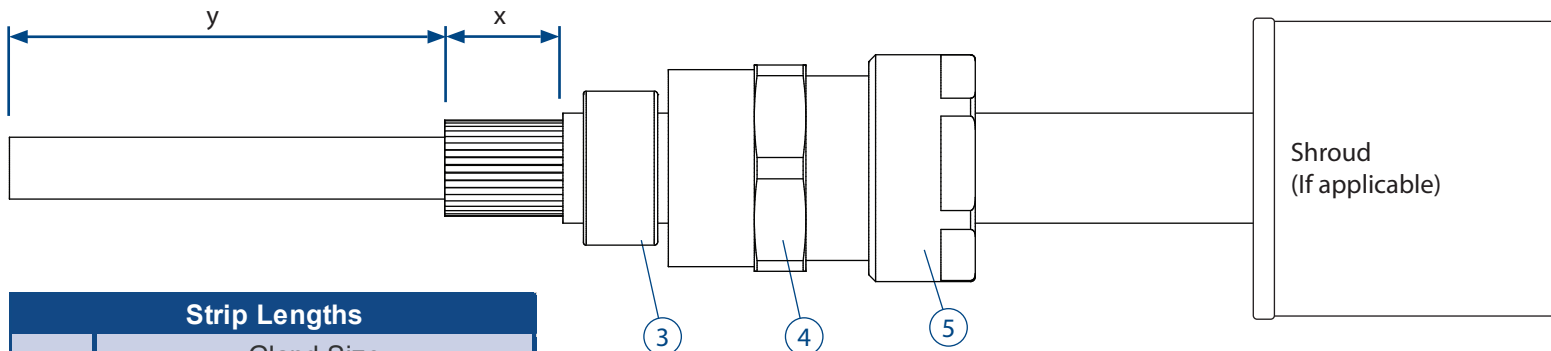


### A: Component Parts



### B: Cable Preparation

Slide shroud (if included), backnut ⑤, middlenut ④ and armour clamp ring ③ onto cable. Confirm orientation of armour clamp ring is correct (see table below). Cut cable length, strip outer sheath and cut armour to lengths as shown in table below.



Strip Lengths				
Dim	Gland Size			
	O-B	C	C2-D	E-F
x	20mm	25mm	30mm	35mm
y	To suit equipment			

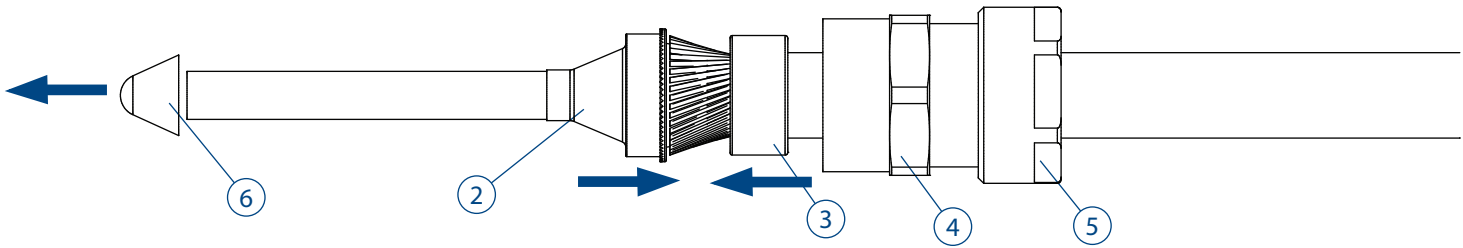
Armour Clamp Ring Orientation		
Gland Size	Orientation	
	Equipment Side	Equipment Side
O-A	0.8 - 1.25mm	0 - 0.8mm
B	1.25 - 1.6mm	0 - 0.8mm
C-C2	1.6 - 2.0mm	0 - 0.8mm
D-F	1.8 - 2.5mm	0 - 1.0mm

**Tape Armour**  
After tape is spread, ensure ends are trimmed at 90° as shown

# C: Installing Cable Gland

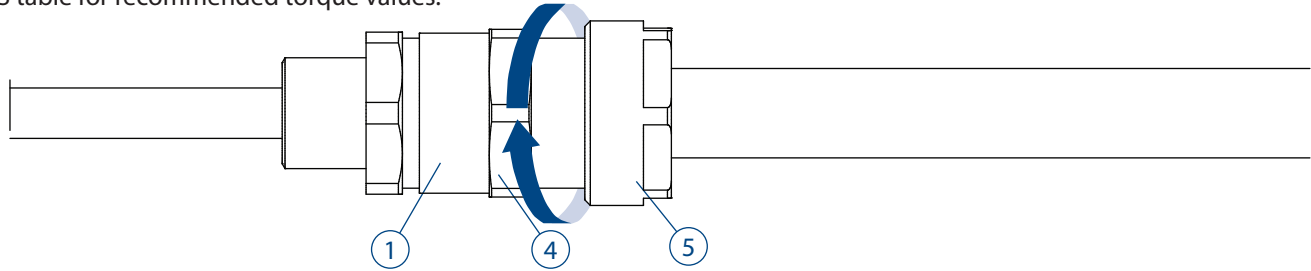
## STEP 1: Install Diaphragm Seal

Push the cable through the diaphragm seal ②. Discard protective cap ⑥.  
Push armour/braid up to spigot shoulder. Slide clamping ring ③ up to the armour/braid by hand.



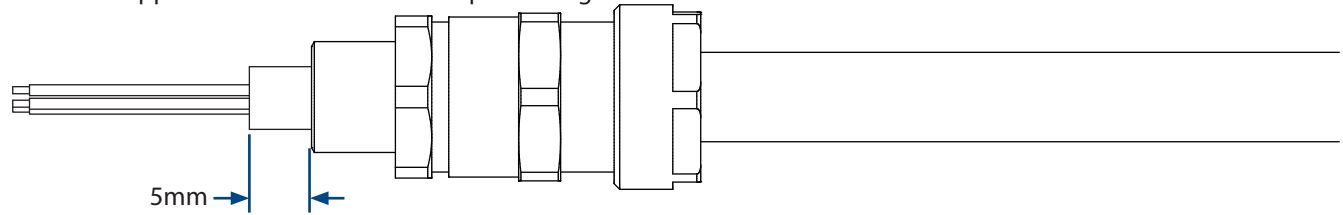
## STEP 2: Clamp Armour/Braid

Slide middlenut ④ up to entry and hand tighten. Support the cable to prevent it twisting.  
Grip the entry ① with a spanner/wrench. Use a second spanner/wrench to tighten with sufficient torque value. Please see TORQUE FIGURES table for recommended torque values.



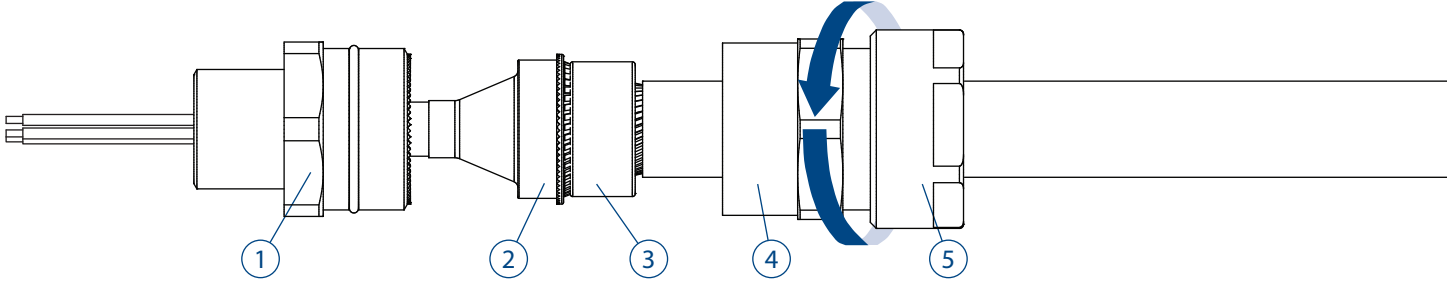
## STEP 3: Strip Inner Sheath

Strip inner sheath to suit application. Recommended exposed length of inner sheath is 5mm as shown below.



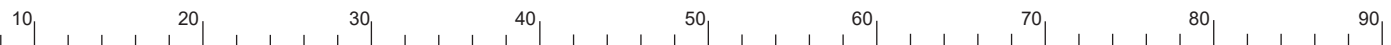
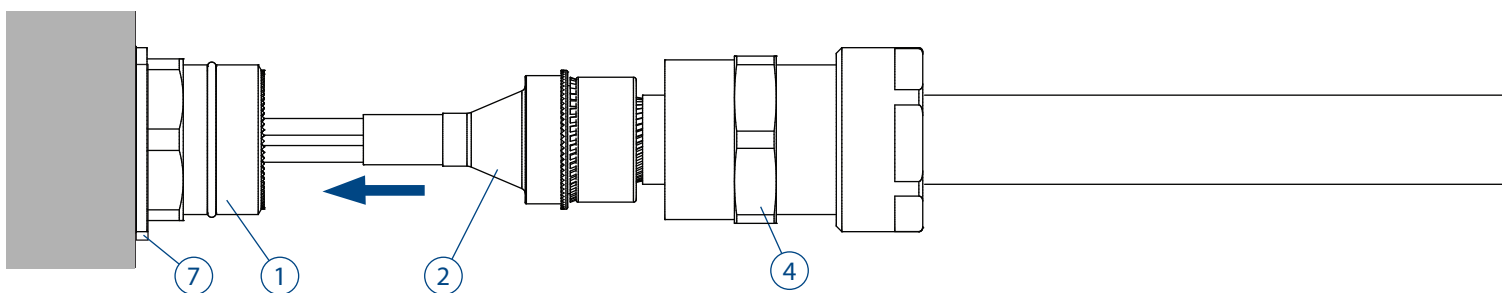
## STEP 4: Inspect Armour/Braid

Unscrew the middlenut ④. The armour clamp ring ③ should now be locked in place.  
Visually inspect that the armour/braid has been successfully clamped between the spigot ② and the armour clamp ring ③.  
If clamping is not satisfactory, repeat step 2.



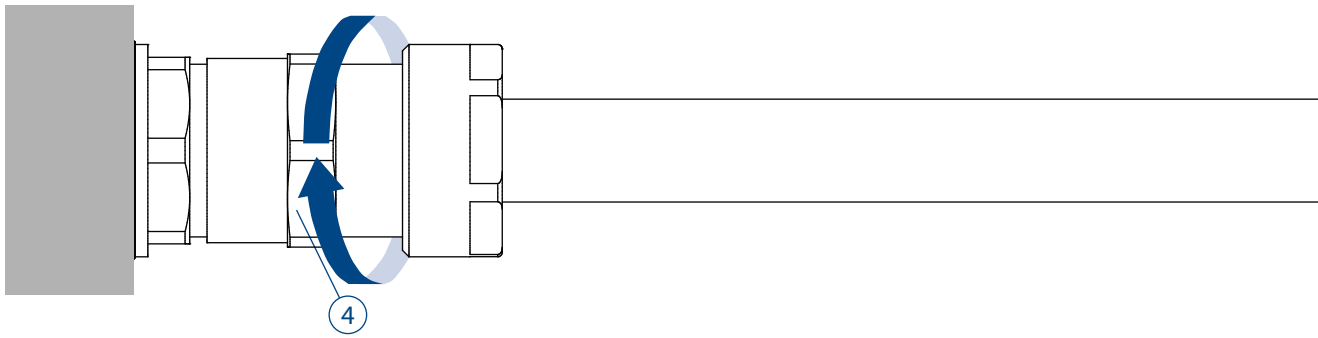
## STEP 5: Fit to Enclosure

Use a wrench to fit entry ① into enclosure. If required, use the appropriate IP washer ⑦.  
Slide cable through entry ① until diaphragm ② is seated in the entry.  
Hand tighten the middlenut ④ to entry.



### STEP 6: Install Middlednut

Tighten the middlenut ④ with torque value used in step 2.

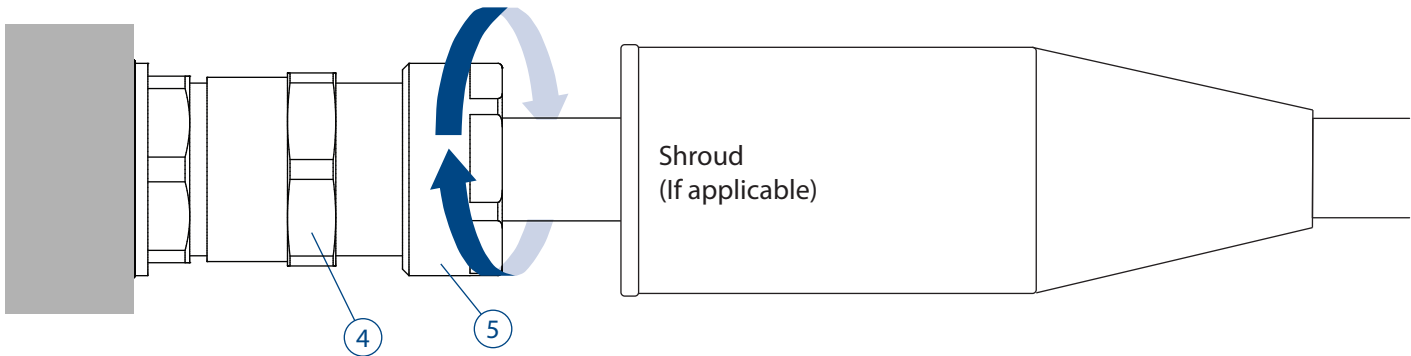


### STEP 7: Install Backnut

Use a wrench/spanner to grip the middlenut ④.

Tighten the backnut ⑤ according to UPPER SEAL TIGHTENING GUIDE.

Slide shroud over cable gland if applicable.



## 501/455 UPPER SEAL TIGHTENING GUIDE

Number of Turns To Tighten	GLAND SIZE							
	O	A	B	C	C2	D	E	F
	CABLE DIAMETER RANGE							
2			25.0 - 26.0					
2.5	15.0 - 16.0	19.0 - 20.0	24.0 - 25.0	31.0 - 33.0	39.0 - 41.0	51.0 - 52.0	63.0 - 65.0	76.0 - 78.0
3	13.0 - 15.0	18.0 - 19.0	22.0 - 24.0	29.0 - 31.0	37.0 - 39.0	49.0 - 51.0	61.0 - 63.0	74.0 - 76.0
3.5	11.0 - 13.0	16.0 - 18.0	21.0 - 22.0	28.0 - 29.0	35.0 - 37.0	47.0 - 49.0	59.0 - 61.0	72.0 - 74.0
4	9.0 - 11.0	14.0 - 15.0	19.0 - 21.0	26.0 - 28.0	34.0 - 35.0	45.0 - 47.0	57.0 - 59.0	70.0 - 72.0
4.5		13.0 - 14.0	18.0 - 19.0	24.0 - 26.0	33.0 - 34.0	42.0 - 44.0	55.0 - 57.0	69.0 - 70.0
5		12.0 - 13.0	16.0 - 18.0	23.0 - 24.0	32.0 - 33.0	41.0 - 42.0	53.0 - 55.0	68.0 - 69.0
5.5				22.0 - 23.0	31.0 - 32.0	40.0 - 41.0	51.0 - 53.0	67.0 - 68.0
6				21.0 - 22.0	30.0 - 31.0	39.0 - 40.0	50.0 - 51.0	66.0 - 67.0
6.5				20.0 - 21.0	29.0 - 30.0	38.0 - 39.0		65.0 - 66.0
7						37.0 - 38.0		64.0 - 65.0
7.5						36.0 - 37.0		63.0 - 64.0
8								62.0 - 63.0
8.5								61.0 - 62.0

## TECHNICAL DATA

**Cable Gland Type:** 501 455 USG  
**Equipment Type:** Group II Hazardous Area Cable Glands  
**Ingress Protection:** IP66, IP68 5 Bar  
**Operating Temp:** -60°C to +80°C

## CERTIFICATION DETAILS

Ex db IIC Gb / Ex eb IIC Gb / Ex tb IIIC Db  
 ATEX: CESI 19 ATEX 018X  
 IECx: IECEx CES 19.0013X

## INSTALLATION NOTES

1. All cable glands must be installed by a suitably trained and competent individual.
2. Entry threads are in accordance with Metric BS3643 or NPT B1.20.1
3. Installer must check material compatibility with enclosure and environment.
4. To maintain IP66/IP68 5 Bar, Hawke certified sealing washer or other approved sealing method must be used.
5. Sealing face surface must be smooth and free from damage
6. Wall thicknesses depended on thread length or retention type (locknut etc). Exd must maintain the requirements of IEC/EN 60079-1
7. All entries must be installed perpendicular to the mounting surface.

## ACCESSORIES

Hawke offer the following accessories to enable correct sealing and ground of cable gland.

**Shroud:** For additional corrosion protection  
**Locknut:** To secure gland into position  
**Sealing Washer:** For additional ingress protection  
**Earth Tag:** For external bonding point  
**Serrated Washer:** To prevent vibration loosening locknuts

## SCHEDULE OF LIMITATIONS

1. When the gland is used for increased safety, the entry thread shall be suitably sealed to maintain the ingress protection rating of the associated enclosure.

## TORQUE VALUES

All torque values below were generated on metallic mandrels. For cable, it is recommended that the assembly instructions are followed.

Torque Figures N/m								
Gland Size	O	A	B	C	C2	D	E	F
Backnut Torque	10	15	25	35	40	55	75	90
Middle Nut Torque								

CABLE GLAND SELECTION TABLE												
Size Ref.	Entry Thread Size		Cable Acceptance Details							Max Length	Hexagon Dimensions	
			Inner Sheath			Outer Sheath		Steel Wire Armour/ Tape/Braid			Across Flats	Across Corners
	Metric	NPT	Min.	Max.		Min.	Max.	Armour Wire Min. - Max.	Braid Wire Min. - Max.			
				Metric	NPT							
O	M20	½"	6.0	11.0		9.0	16.0	0.8 - 1.25	0-0.8	55.0	24.0	27.5
A	M20	½"	8.5	14.5		12.0	20.0	0.8 - 1.25	0-0.8	60.0	30.0	33.0
B	M25	¾"	12.0	20.0		16.0	26.0	1.25 - 1.6	0-0.8	63.1	36.0	40.0
C	M32	1"	17.0	26.0		20.0	33.0	1.6 - 2.0	0-0.8	77.3	46.0	52.5
C2	M40	1¼"	23.0	32.0		29.0	41.0	1.6 - 2.0	0-0.8	82.0	55.0	64.0
D	M50	1½"	29.0	41.0	39.0	36.0	52.0	1.8 - 2.5	0-1.0	94.5	65.0	74.0
E	M63	2"	44.0	56.0	52.0	50.0	65.0	1.8 - 2.5	0-1.0	101.0	80.0	92.0
F	M75	2½"	54.5	68.0	63.0	61.0	78.0	1.8 - 2.5	0-1.0	113.0	95.0	107.5

1 - Size O is available with an M16 thread size.

### EU Declaration of Conformity in accordance with European Directive 2014/34/EU

#### Provisions of the Directive fulfilled by the Equipment:

Group II Category 2/3 GD Ex eb IIC Gb, Ex db IIC Gb, Ex tb IIIC Db - IP66

**Notified Body for EU-Type Examination:** CML B.V. 2776 Amsterdam, NLD

**EU-type Examination Certificate:** CESI 19 ATEX 018X

**Notified Body for production:** SGS-Baseefa 1180 Buxton UK

**Harmonised Standards used:** EN 60079-0:2012 + A11:2013, EN60079-1:2014, EN60079-7:2015 & EN60079-31:2014

On behalf of the aforementioned company, I declare that, on the date the equipment accompanied by this declaration is placed on the market, the equipment conforms with all technical and regulatory requirements of the above listed directives.

Andrew Reid  
Design Engineer