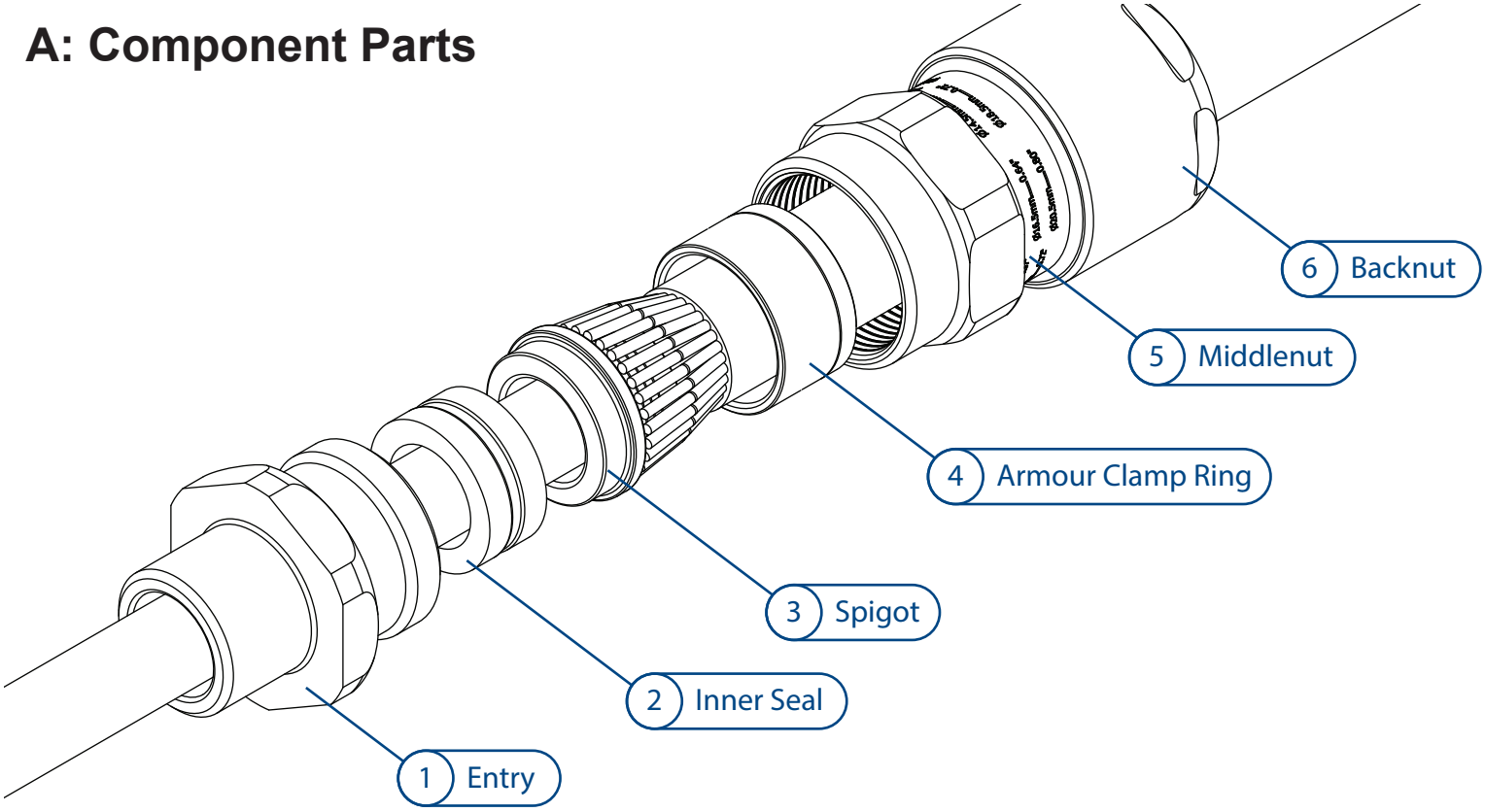
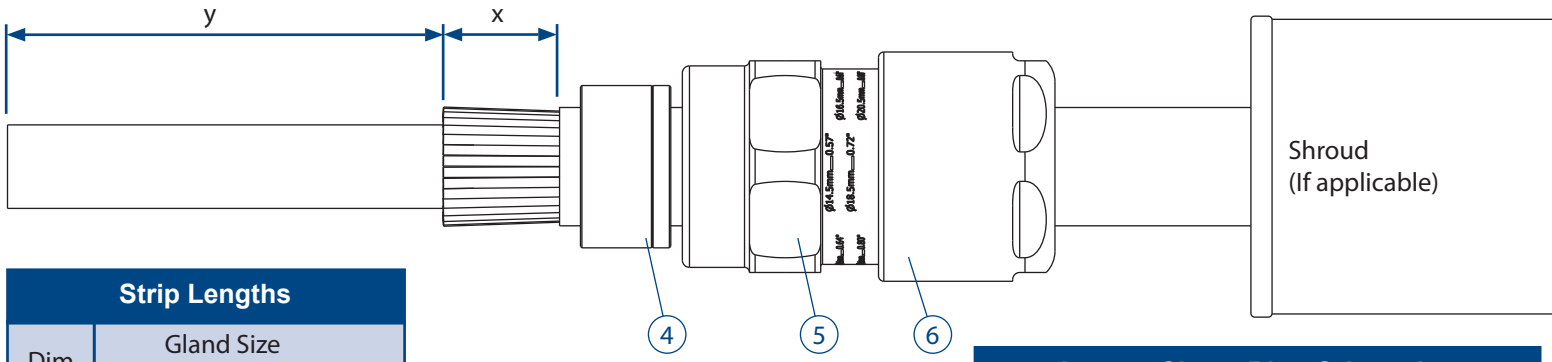
Cable Gland Assembly Instructions
453 RAC

A: Component Parts



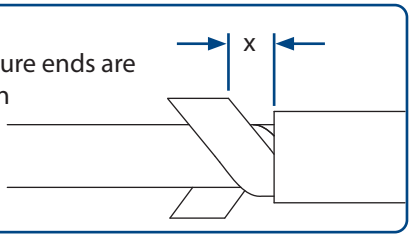
B: Cable Preparation

Slide shroud (if included), backnut ⑥, middlenut ⑤ and armour clamp ring ④ 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	
	Os-C	C2-F
x	20mm	25mm
y	To suit equipment	

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

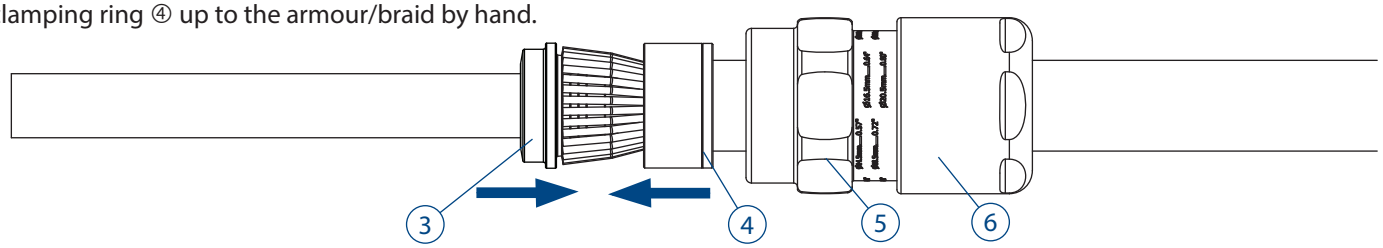


Armour Clamp Ring Orientation		
Gland Size	Orientation	
	Equipment Side ↑	Equipment Side ↑
Os-A	0.8 - 1.25mm	0 - 0.8mm
B	1.25 - 1.6mm	0 - 0.7mm
C-C2	1.6 - 2.0mm	0 - 0.7mm
D-F	1.8 - 2.5mm	0 - 1.0mm

C: Installing Cable Gland

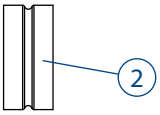
STEP 1: Fit Armour To Spigot

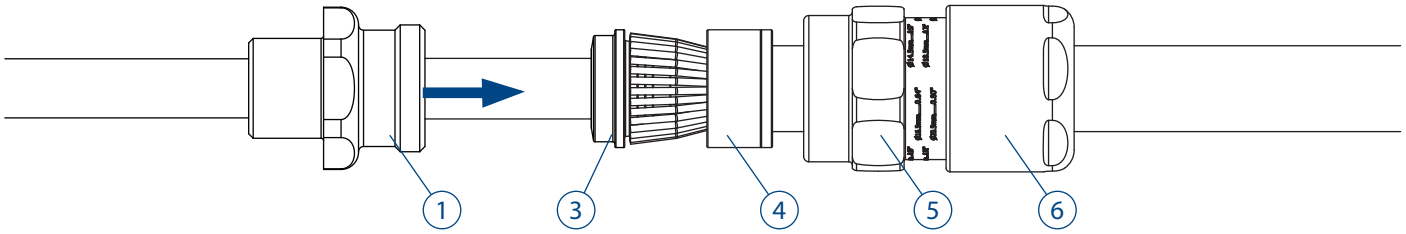
Slide spigot ③ over cable.
Push armour/braid up to spigot shoulder.
Slide clamping ring ④ up to the armour/braid by hand.



STEP 2: Prepare to Clamp Armour/Braid

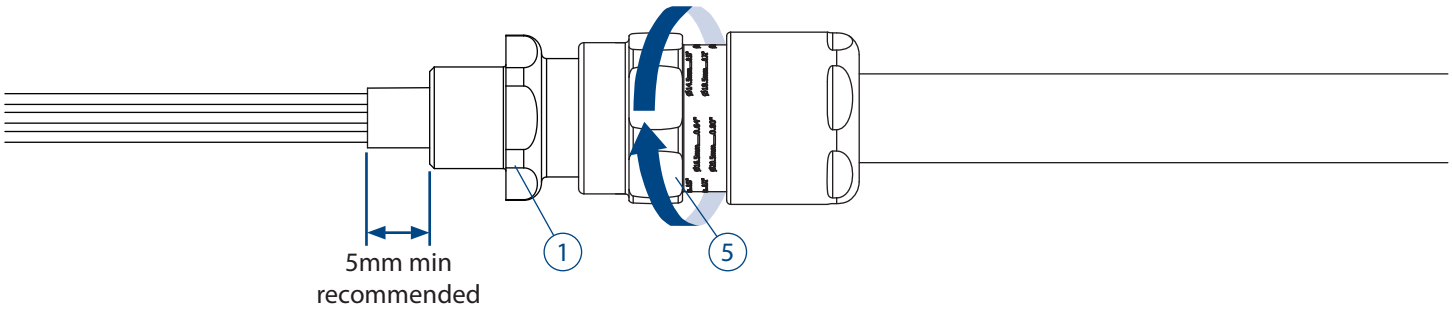
Ensure inner seal ② is removed from assembly.
Slide Entry ① over cable.





STEP 3: Clamp Armour/Braid

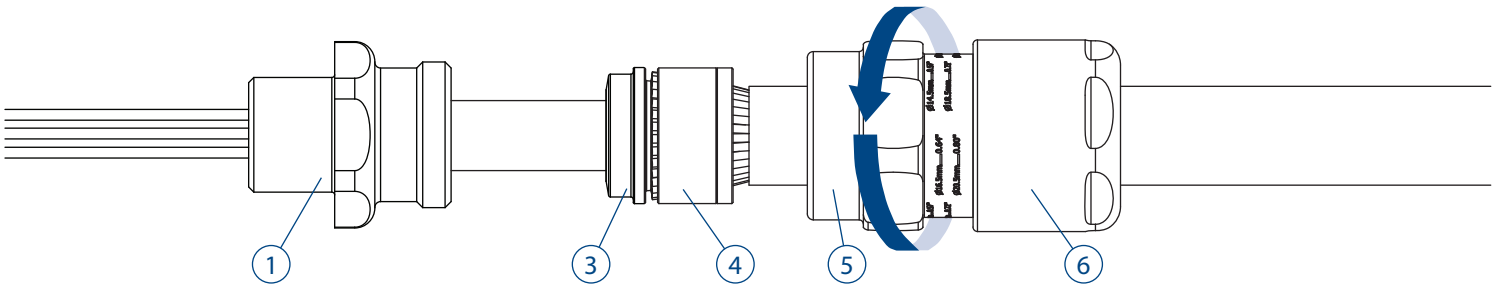
Slide middlenut ⑤ up to entry and hand tighten.
If not already screwed into equipment, grip the entry ① with a spanner/wrench.
Use a second spanner/wrench to tighten half to three quarters of a turn.



NOTE: Support the cable to prevent it twisting. To aid wiring inside the enclosure, it may be beneficial to strip the inner sheath as shown above.

STEP 4: Inspect Armour/Braid

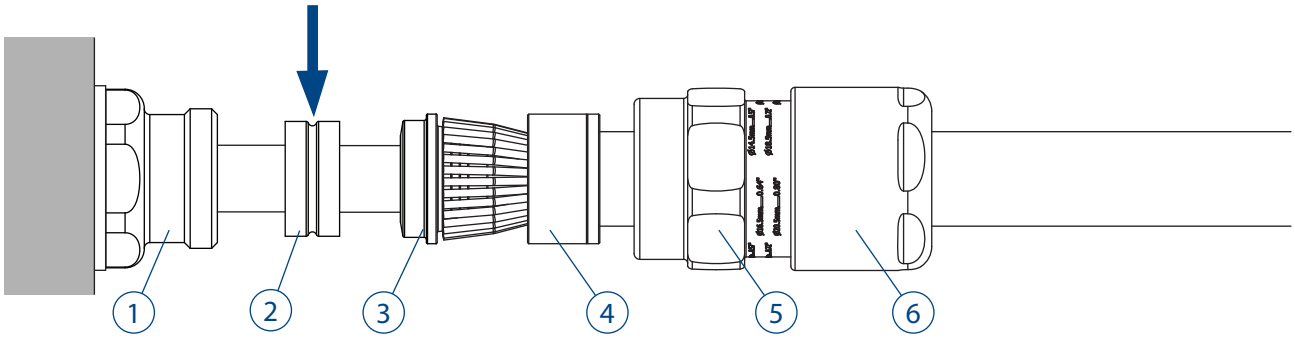
Unscrew the middlenut ⑤. The armour clamp ring ④ should now be locked in place.
Visually inspect that the armour/braid has been successfully clamped between the spigot ③ and the armour clamp ring ④.
If clamping is not satisfactory, repeat step 3.



Images for illustration purposes only.
Product supplied may differ from that shown.

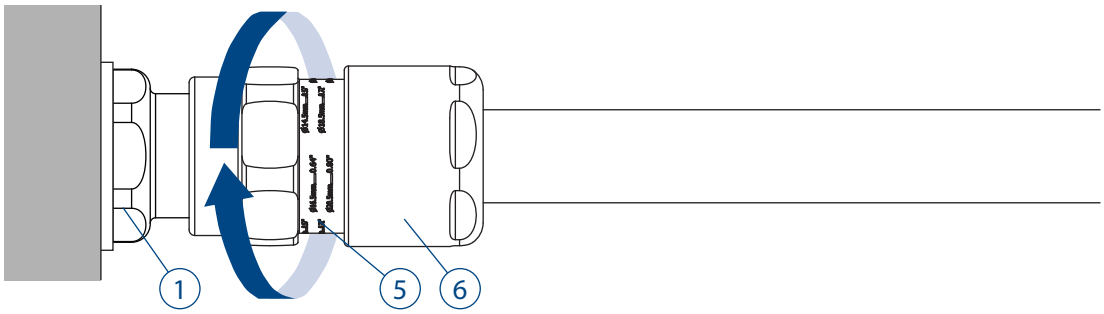
STEP 5: Install inner seal

Remove entry ① and refit inner seal ②. Replace entry ①.to enclosure. If required, use the appropriate IP washer.



STEP 6: Compress Inner Seal

With inner seal properly seated into the entry, tighten up the middle nut by hand.
Using a wrench/spanner tighten a further 1 -2 turns until fully tight.

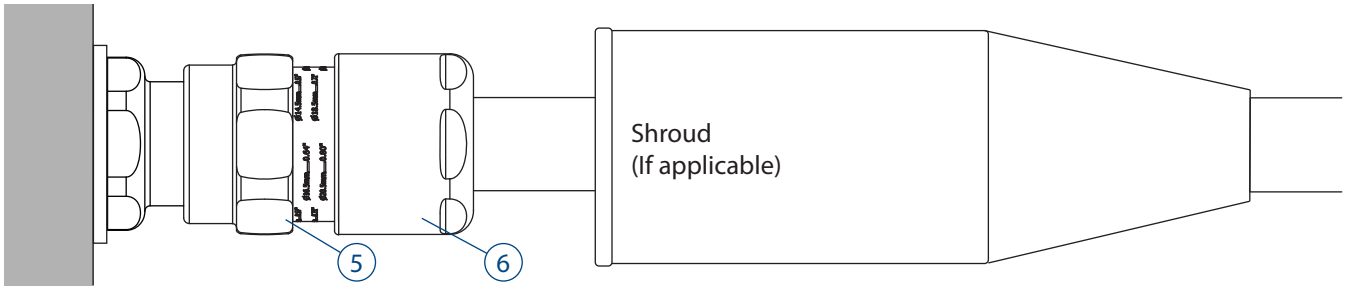


STEP 7: Install Backnut

Tighten the backnut ⑥ until a seal is formed around the cable.
Use a wrench/spanner to grip the middlenut ⑤.
While preventing the middlenut ⑤ turning, use a second wrench to apply one further full turn to the backnut ⑥.

STEP 8: Inspect Backnut

Use the middlenut ⑤ guide as an indication that the backnut ⑥ is in the correct position to suit cable diameter.
A diameter scale below is provided to assist this process.
Slide shroud over cable gland if applicable.



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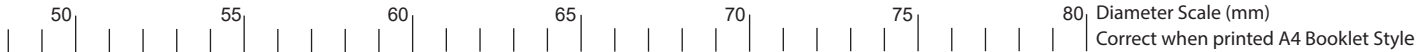

Technical Information
453 RAC

TECHNICAL DATA

Cable Gland Type: 453 RAC
Equipment Type: Group I Compression Cable Glands
Ingress Protection: IP66, IP67, IP68*, NEMA 4X
*30m for 7 days with thread sealant
Operating Temp: -60°C to +100°C

CERTIFICATION DETAILS

Ex db I Mb / Ex eb I Mb
ATex: CML19ATEX1165X
UKEx: CML21ATEX1159X
IECEx: CML19.0043X
EAC: No EA3C RU C-GB.HA91.B.00264/21

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	Os	O	A	B	C	C2	D	E	F
Middlenut Torque	6	6	8	8	10	15	15	28	35
Backnut Torque	12	12	20	30	35	45	56	60	75

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

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 compatability with enclosure and environment.
4. To maintain IP66/IP67, 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.
8. When used with steel basket weave armour or braided cable, the cable must be clamped and cleated to prevent pulling on the armour or braid of the cable.

CABLE GLAND SELECTION TABLE

Size Ref.	Entry Thread Size		Cable Acceptance Details								Compressed Length	Maximum Length	Hexagon Dimensions	
			Inner Sheath				Outer Sheath		Steel Wire Armour/ Tape/Braid					
			Standard Seal		Alternative Seal (S)									
	Metric	NPT	Min.	Max.	Min.	Max.	Min.	Max.	Orientation 1	Orientation 2			Across Flats	Across Corners
Os	M20•	½"	3.2	8.0	---	---	5.5	12.0	0.8/1.25	0/0.8	52.0	81.0	24.0	26.5
O	M20•	½"	6.5	11.9	---	---	9.5	16.0	0.8/1.25	0/0.8	52.0	81.0	24.0	26.5
A	M20	½" - ¾"	10.0	14.3	9.0	13.4	12.5	20.5	0.8/1.25	0/0.8	53.0	83.0	30.0	32.5
B	M25	¾" - 1"	13.0	20.2	9.5	15.4	16.9	26.0	1.25/1.6	0/0.7	59.5	95.0	36.0	39.5
C	M32	1" - 1¼"	19.5	26.5	15.5	21.2	22.0	33.0	1.6/2.0	0/0.7	64.0	98.0	46.0	50.5
• C2	M40	1¼" - 1½"	25.0	32.5	22.0	28.0	28.0	41.0	1.6/2.0	0/0.7	68.3	105.0	55.0	60.6
D	M50	1½" - 2"	31.5	42.3/44.4	27.5	34.8	36.0	52.6	1.8/2.5	0/1.0	79.0	133.0	65.0	70.8
E	M63	2" - 2½"	42.5	54.3/56.3	39.0	46.5	46.0	65.3	1.8/2.5	0/1.0	78.4	126.0	80.0	88.0
F	M75	2½" - 3"	54.5	65.3/68.2	49.5	58.3	57.0	78.0	1.8/2.5	0/1.0	83.7	134.0	95.0	104.0

Sizes Os and O are available with an M16 thread size. If M16 entry is used on O size cable glands the maximum cable inner sheath diameter is limited to 10.9mm.

EU Declaration of Conformity in accordance with European Directive 2014/34/EU and UK Statutory Instrument 2016/1107

Manufacturer: Hawke International, Oxford Street West, Ashton-under-Lyne, OL7 0NA, United Kingdom
Equipment: 453/RAC
Provisions of the Directive fulfilled by the Equipment: Group I Category 1M2 Ex eb I Mb, Ex db I Mb - IP66/IP67
Harmonized Standards used: EN 60079-0:2018, EN60079-1:2014, EN60079-7:2015+A1:2018

Notified Body for EU-Type Examination: CML B.V. 2776 Amsterdam, NLD
EU-type Examination Certificate: CML19ATEX1165X
Notified Body for production: 0598

Approved Body for UK-Type Examination: CML B.V. 2503 Chester, UK
UK-type Examination Certificate: CML21UKEX1159X
Approved Body for production: 1180

On behalf of the above named 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.

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