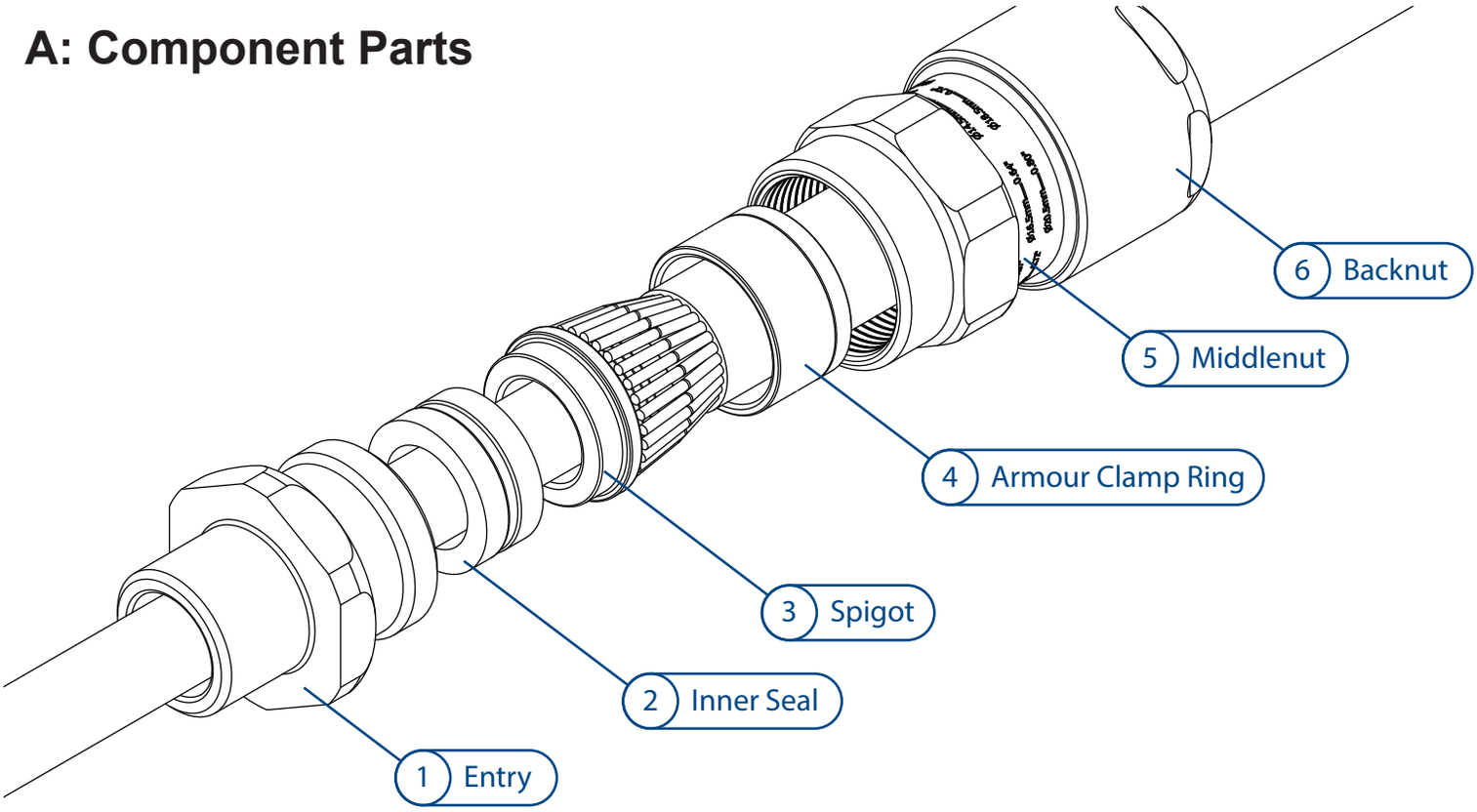
Cable Gland Assembly Instructions

153 RAC

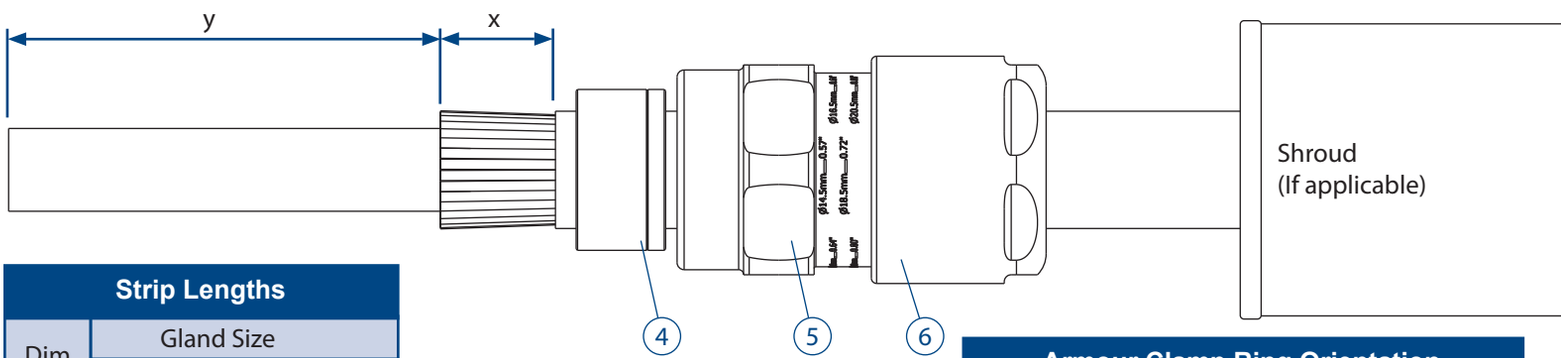
A: Component Parts



B: Cable Preparation

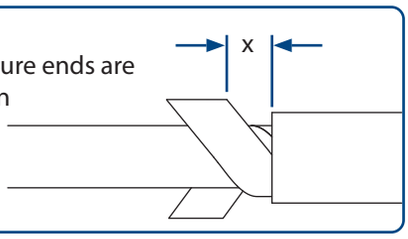
Slide shroud (if included), backnut ⑥, middlenut ⑤ and armour clamp ring ④ onto cable.
Confirm orientation of armour clamp ring is correct (see table below).
Cut cable length, strip outer sheath and cut armour to lengths as shown in table below.

Note: Ensure plastic wrapping is removed from inner sheath of cable.



Strip Lengths			
Dim	Gland Size		
	Os-C	C2-F	G-J
x	20mm	25mm	32mm
y	To suit equipment		

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

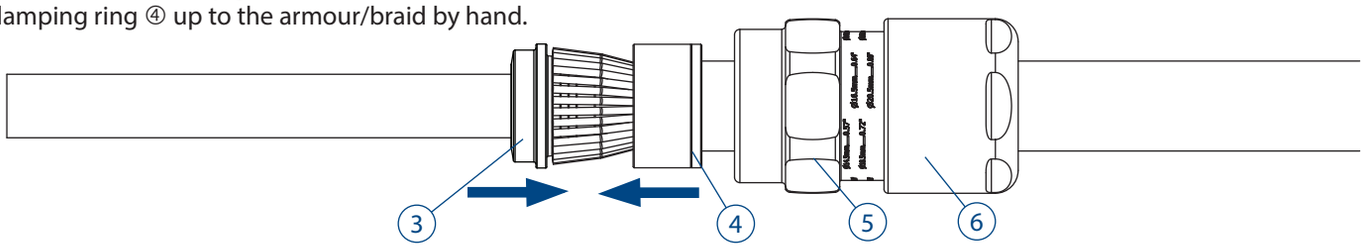


Armour Clamp Ring Orientation		
Gland Size	Orientation	
	Equipment Side ↑	Equipment Side ↑
Os-A	0.8 - 1.25mm	0 - 0.8mm
B	1.25 - 1.6mm	0 - 0.7mm
C-C2	1.6 - 2.0mm	0 - 0.7mm
D-F	1.8 - 2.5mm	0 - 1.0mm
G-H	2.0 - 3.5mm	0 - 1.0mm
J	2.5 - 4.0mm	0 - 1.0mm

C: Installing Cable Gland

STEP 1: Fit Armour To Spigot

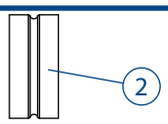
Slide spigot ③ over cable.
Push armour/braid up to spigot shoulder.
Slide clamping ring ④ up to the armour/braid by hand.

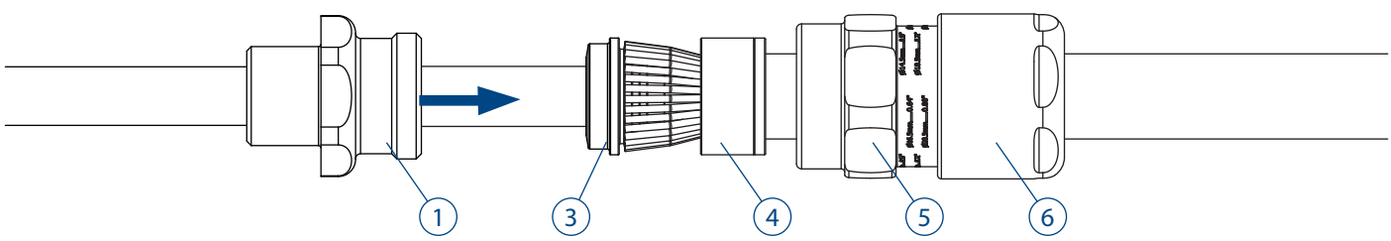


Note: Diaphragm seal must be in contact with cable inner sheath. Remove any plastic wrapping from inner sheath.

STEP 2: Prepare to Clamp Armour/Braid

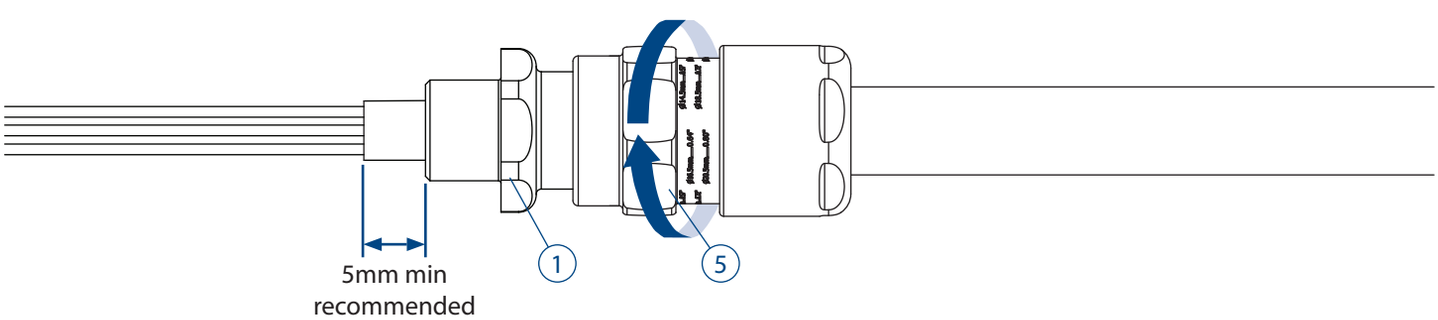
Ensure inner seal ② is removed from assembly.
Slide Entry ① over cable.





STEP 3: Clamp Armour/Braid

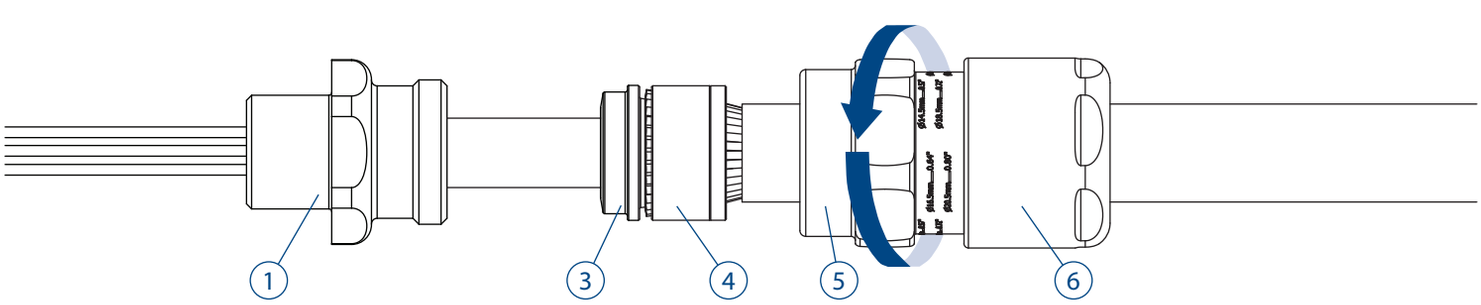
Slide middlenut ⑤ up to entry and hand tighten.
If not already screwed into equipment, grip the entry ① with a spanner/wrench.
Use a second spanner/wrench to tighten half to three quarters of a turn.



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.

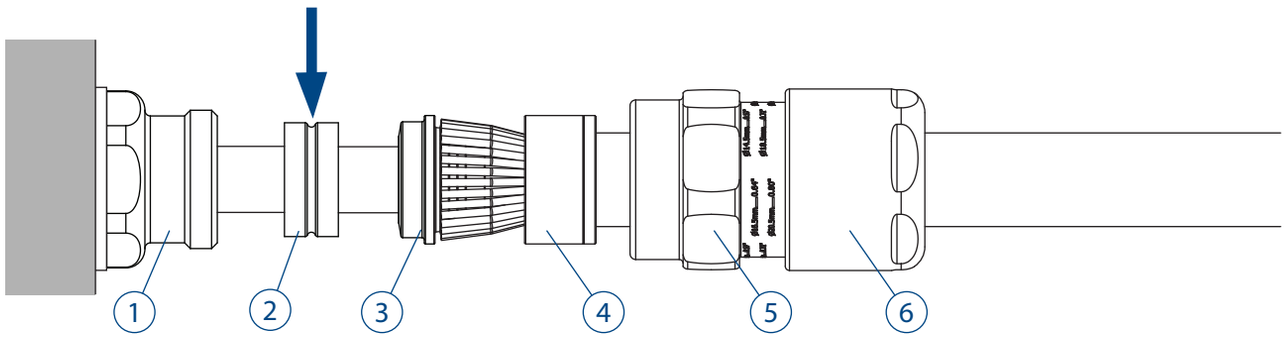
STEP 4: Inspect Armour/Braid

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.



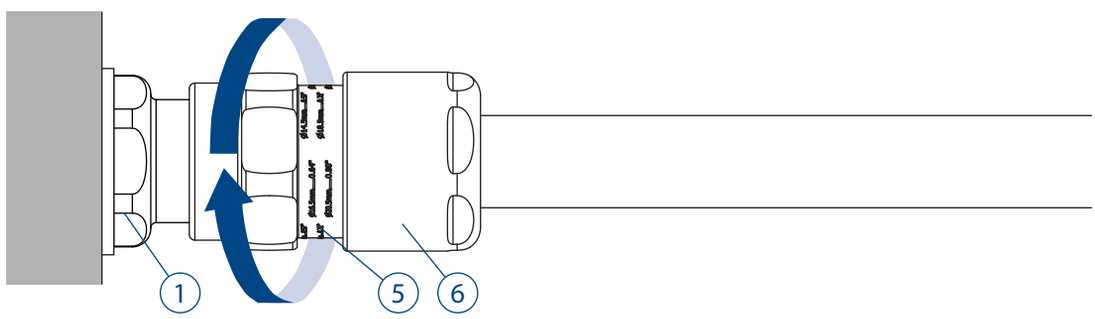
STEP 5: Install inner seal

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



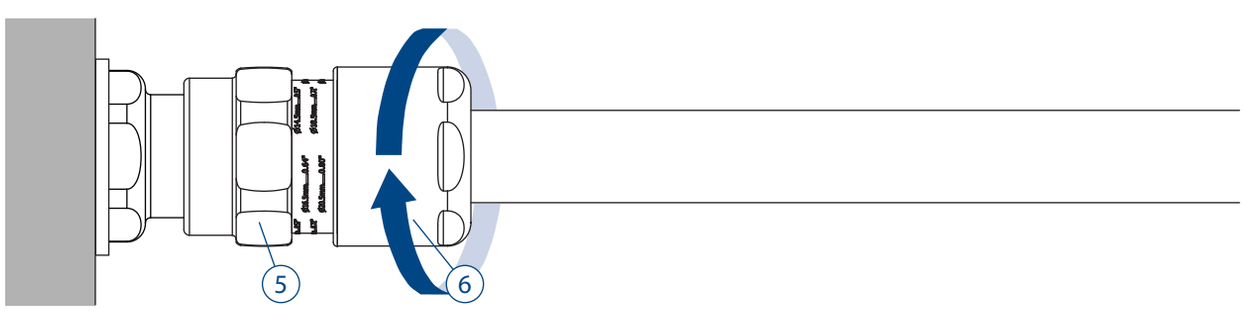
STEP 6: Compress Inner Seal

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.



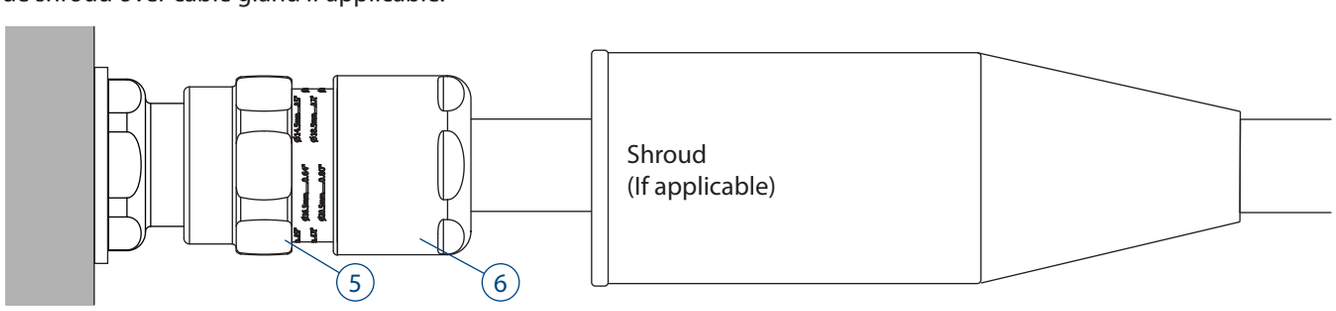
STEP 7: Install Backnut

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.



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

Technical Information
153 RAC

TECHNICAL DATA

Cable Gland Type: 153 RAC
Equipment Type: Industrial General Purpose
Ingress Protection: IP66, IP67, IP68
*30m for 7 days with thread sealant to EN60529
Operating Temp: -60°C to +100°C

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. Cable gland entry threads are machined in accordance with BS 3643 (Metric) or ANSI/ASME B1.20.1 (NPT)
2. The enclosure material shall be compatible with the cable gland.
3. To maintain IP 66/67/69 ratings, Hawke recommends the use of a Hawke IP washer or other approved sealing method. To maintain IP68 refer to AI464.
4. To ensure e ective sealing of an IP washer, enclosure sealing face surface nish shall be smooth and free from damage. The entry hole should be drilled perpendicular to the sealing face.
5. When using enclosures with plain through holes, Hawke recommends nominal +0.3mm of diametric clearance over the major diameter of the thread. For example, to accommodate an M20 entry, drill 20.3 diameter.
6. Allowable enclosure wall thickness is dependent on gland entry thread length, style of enclosure entry hole (threaded or plain), protection concept of the installation and the required use of accessories. The installer should be aware of and specify for these requirements.
7. External earth tags are recommended to be tted adjacent to the ange of the cable gland entry, so they remain in direct contact with the cable gland. Any sealing washer should be placed between tag and enclosure. For more information on placement of accessories, visit www.hubbell.com/hawke.

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	14.3	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
G	M80	3½"	67.0	73.0	N/A	N/A	75.0	89.5	2.0/3.5	0/1.0	95.6	131.0	106.4	115.0
H	M90	3½"	67.0	77.6	N/A	N/A	75.0	89.5	2.0/3.5	0/1.0	95.6	131.0	115.0	130.0
J	M100	4"	77.0	91.6	N/A	N/A	88.0	104.5	2.5/4.0	0/1.0	95.6	141.0	127.0	142.0

• 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.

CABLE GLAND CLASSIFICATION

Material			Mechanical Properties				Electrical Properties				External Influences			Sealing System	
Metal	Non-Metallic	Composite	Without Cable Anchorage	With Cable Anchorage	Impact Category	Cable Retention (Armoured Cable)	Equipotential Bonding	Connection to Metallic Layers	Protective Connection to Earth	Insulation Characteristics	Ingress Protection	Temperatire Range	Resistance to Salt and Sulpher Dioxide Laden Atmospheres	Single Orifice Seal	Multi-Orifice Seal
				Type	Category	Class			Category		IP66/ IP67/IP68	-60° to 100°			
Y	X	X	X	A	8	B	Y	Y	C	X	Y	Y	Y	Y	X

Standards used: EN 62444 : 2013

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.

A. Reid
Technical Manager

www.ehawke.com
UK Office
Oxford Street West,
Ashton-Under-Lyne,
Lancashire. OL7 0NA. UK
Sales: +44 (0) 161 830 6698
Technical: +44 (0) 161 830 6697
Fax: +44 (0) 161 830 6648
E-mail: sales@ehawke.com