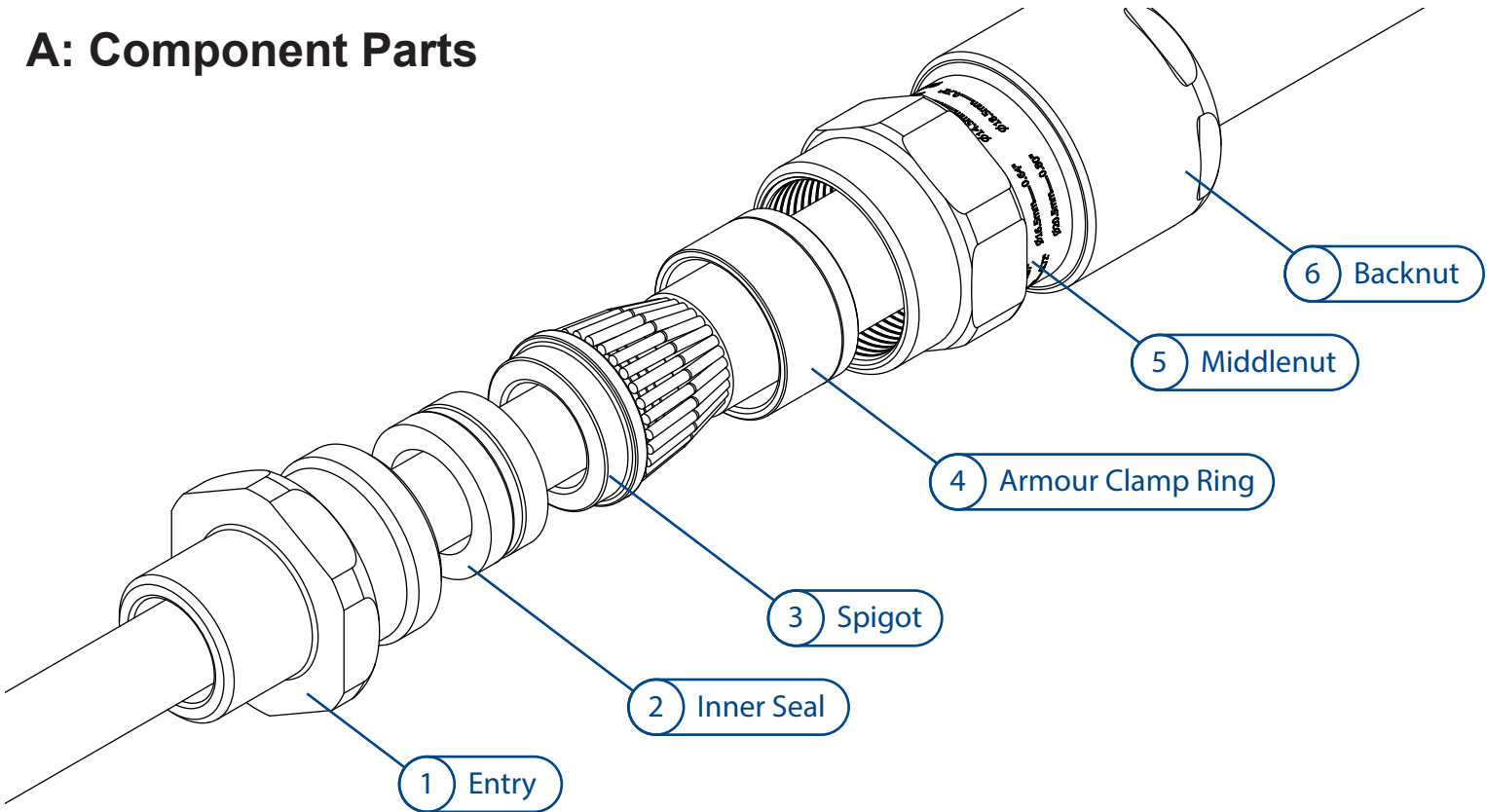
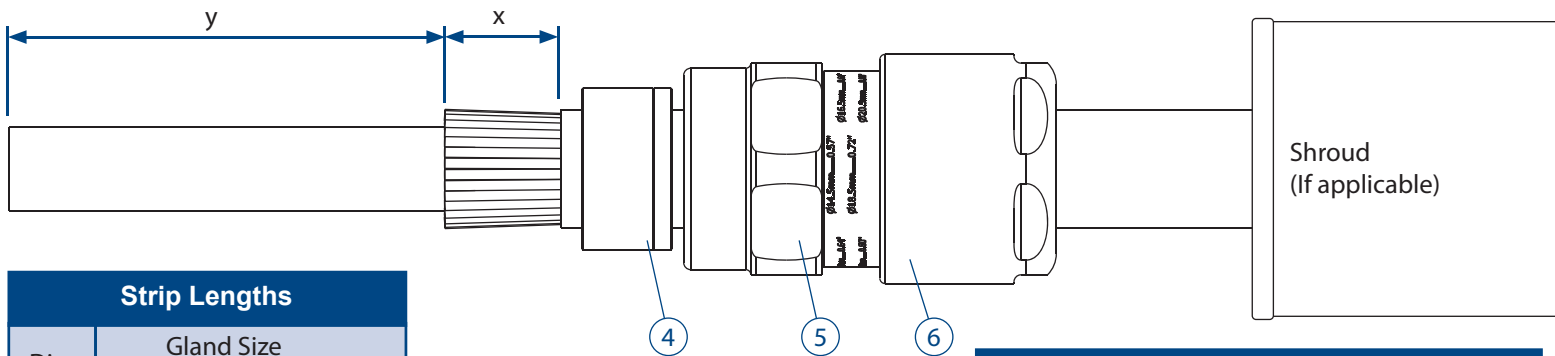


## A: Component Parts



## B: Cable Preparation

Slide shroud (if included), backnut ⑥, middenut 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**

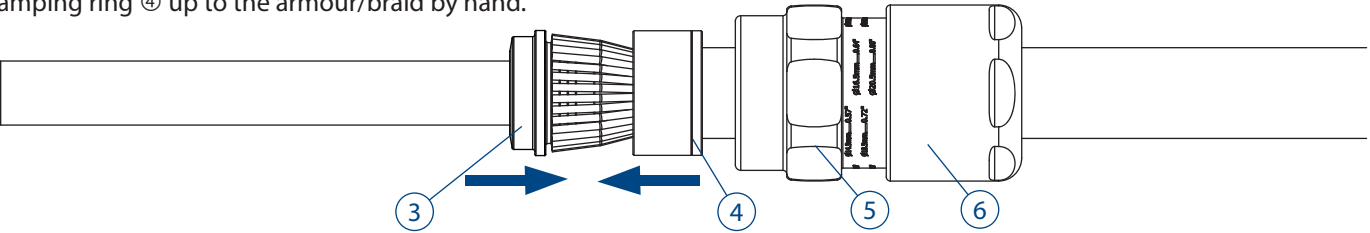
After tape is spread, ensure ends are trimmed at 90° as shown

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

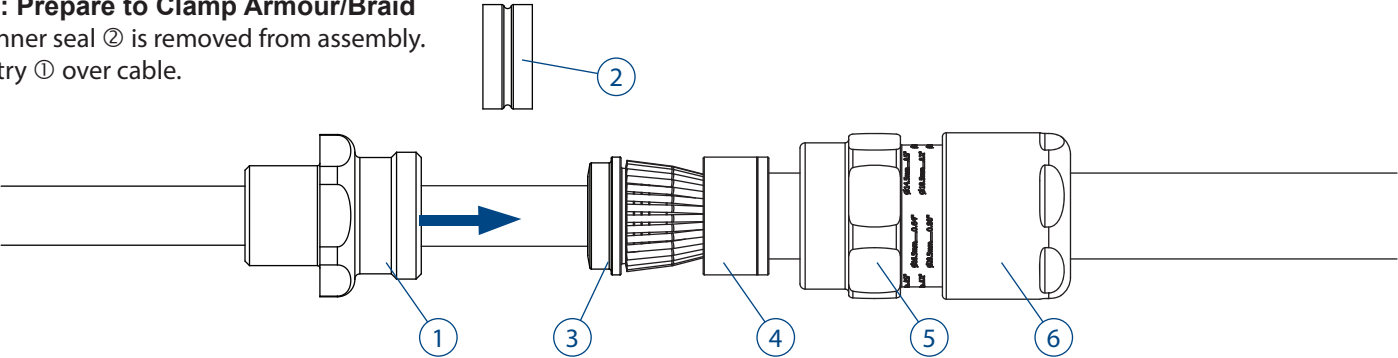
## STEP 1: Fit Armour To Spigot

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



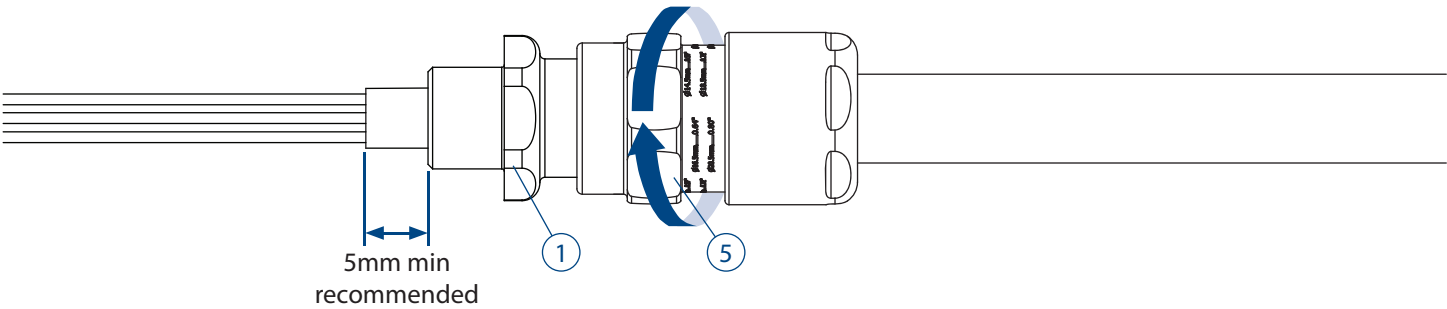
## STEP 2: Prepare to Clamp Armour/Braid

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



## STEP 3: Clamp Armour/Braid

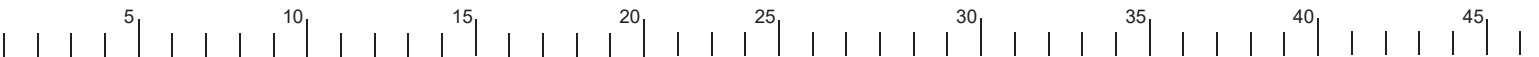
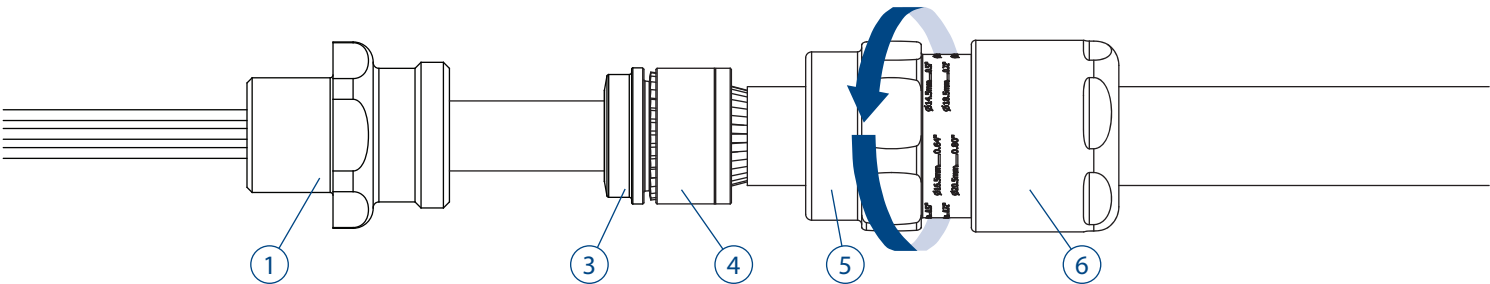
Slide middle nut ⑤ up to entry and hand tighten.  
If not already screwed into equipment, grip the entry ① with a spanner/wrench.  
Use a second spanner/wrench to tighten half to three quarters of a turn.



**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.

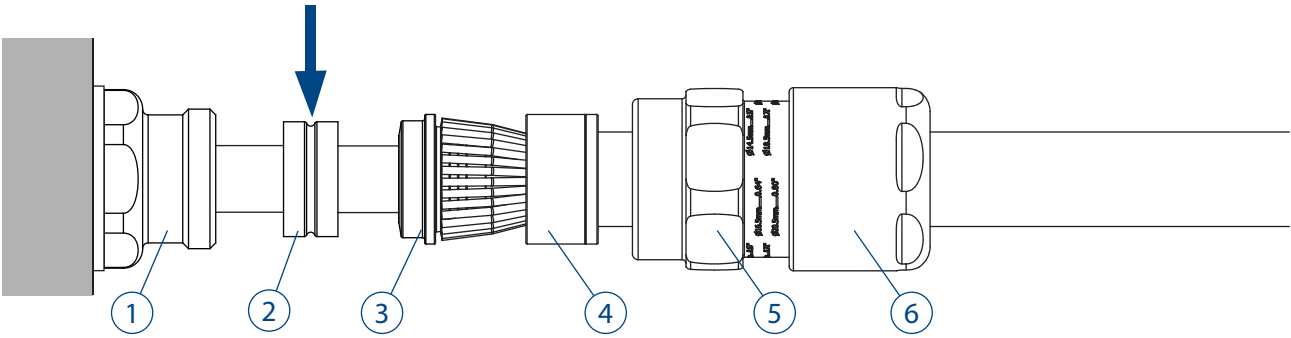
## STEP 4: Inspect Armour/Braid

Unscrew the middle nut 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.



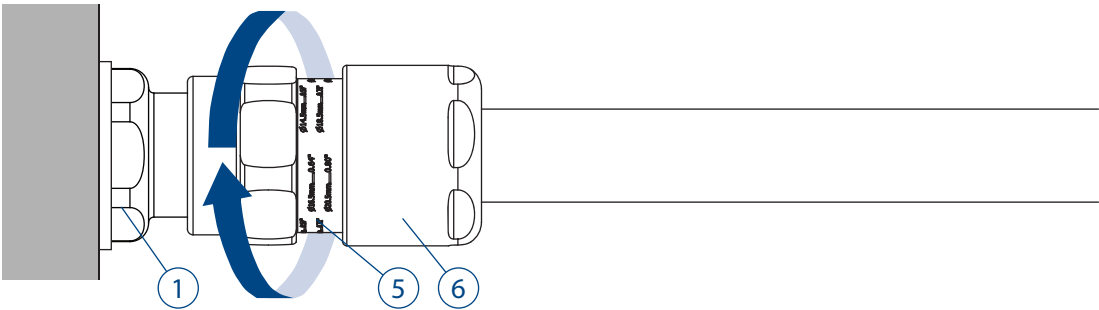
**STEP 5: Install inner seal**

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.



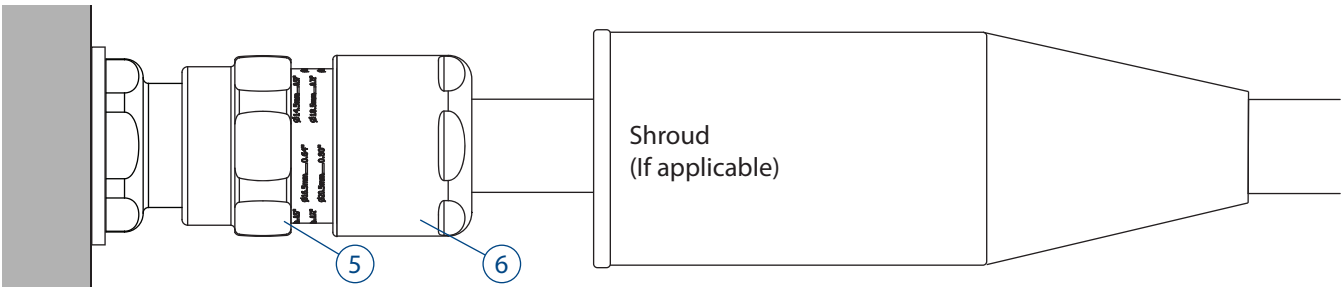
**STEP 7: Install Backnut**

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.



# Technical Information

## 501 453 RAC X



### TECHNICAL DATA

**Cable Gland Type:** 501 453 RAC X  
**Equipment Type:** Group II 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 IIC Gb / Ex eb IIC Gb / Ex tb IIIC Db  
 ATEx: CML19ATEX1167X  
 IECEX: CML19.0045X  
 IEx: 14.0272X  
 EAC: Pending  
 CSA: No1015065  
 Ex db Ex eb IIC Gb  
 Class I Div 2 ABCD, Class II Div 2 EFG, Class III  
 c CSA us: AEx eb IIC Gb, AEx tb IIC Db  
 Class I Zone 1, Zone 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.

### 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 <sup>•</sup>	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 <sup>•</sup>	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

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

Group II Category 2GD Ex eb IIC Gb, Ex db IIC Gb, Ex tb IIIC Db - IP66/IP67

**Notified Body for EU-Type Examination:** CML 2776 Chester UK

**EU-type Examination Certificate:** CML19ATEX1167X

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

**Harmonised Standards used:** EN 60079-0:2018, 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.

.....  
 A. Tindall  
 Technical Manager

### SCHEDULE OF LIMITATIONS:

1. These cable glands are designed for use with unarmoured or appropriate Steel Tape Armour (STA), Steel Wire Armour (SWA), and appropriate braided cable. These cables must be with extruded sealing (solid polymeric) completely surrounding the 'core' (insulation and conductor), allowing for no holes or ventilation through the inner jacket or along the cores.
2. The Hawke 501/4 series cable gland connectors, when used in Class 1 Division 2 Classified areas, are not suitable to be interfaced with an explosion proof enclosure containing arcing and sparking devices, unless installed in conjunction with an approved explosion proof sealing fitting.
3. These gland are suitable for use with Certified Marine Shipboard armored/ unarmored cables constructed to CSA Std 245 and IEEE45/IEC600092-353 Standards, or certified equivalent), for use on Shipboards and Offshore Rigs/ platforms.
4. Must comply with Canadian Electrical Code and National Electric Code requirements for threaded entries.\*
5. For Ex e applications, a sealing washer or thread sealant may be required between the enclosure and the gland to maintain the IP rating of the enclosure.
6. ONLYWen used with unarmored or braided cables are only suitable for use with fixed apparatus.

\*CSA Only

**www.ehawke.com**

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

For EAC countries contact:

**MACDEM**

P.O. Box 16, Moscow, 119571, Russia  
 Tel / Fax: +7 595 778 1264  
 Email: office@macdem.ru

Hawke International is a division of Hubbell Ltd.  
 Registered No. 669157 in England. Registered Office:  
 Cannon Place, 78 Cannon Street, London EC4N 6AF.  
 A member of the Hubbell Group of Companies