A: Component Parts

B: Cable Preparation

Slide shroud (if included), backnut®, middlenut® and armour clamp ring® 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

<table>
<thead>
<tr>
<th>Dim</th>
<th>Gland Size</th>
<th>Os-A</th>
<th>B-C2</th>
<th>D-F</th>
</tr>
</thead>
<tbody>
<tr>
<td>x</td>
<td>20mm</td>
<td>25mm</td>
<td>32mm</td>
<td></td>
</tr>
<tr>
<td>y</td>
<td>To suit equipment</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Tape Armour

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

### Armour Clamp Ring Orientation

<table>
<thead>
<tr>
<th>Gland Size</th>
<th>Equipment Side</th>
<th>Equipment Side</th>
</tr>
</thead>
<tbody>
<tr>
<td>Os-A</td>
<td>0.8 - 1.25mm</td>
<td>0 - 0.8mm</td>
</tr>
<tr>
<td>B</td>
<td>1.25 - 1.6mm</td>
<td>0 - 0.7mm</td>
</tr>
<tr>
<td>C-C2</td>
<td>1.6 - 2.0mm</td>
<td>0 - 0.7mm</td>
</tr>
<tr>
<td>D-F</td>
<td>1.8 - 2.5mm</td>
<td>0 - 1.0mm</td>
</tr>
</tbody>
</table>
**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 half to three quarters of a turn.

**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 ②. Slide cable through entry ① until diaphragm ② is seated in the entry. Hand tighten the middlenut ④ to entry and add 1/4 turn with a wrench.

STEP 6: Install Backnut
Tighten the backnut ⑤ until a seal is formed around the cable. Use a wrench/spanner to grip the middlenut ④. While preventing the middlenut ④ turning, use a second wrench to apply one further full turn to the backnut ⑤.

STEP 7: Inspect Backnut
Use the middlenut ④ guide as an indication that the backnut ⑤ is in the correct position to suit cable diameter. A diameter scale below is provided to assist in this process. Slide shroud over cable gland if applicable.
### 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/IP67/IP69, 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

<table>
<thead>
<tr>
<th>Size Ref.</th>
<th>Entry Thread Size</th>
<th>Cable Acceptance Details</th>
<th>Steel Wire Armour/Tape/Braid</th>
<th>Max Length</th>
<th>Hexagon Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Inner Sheath</td>
<td>Outer Sheath</td>
<td>Min.</td>
<td>Max.</td>
</tr>
<tr>
<td>Os1</td>
<td>M20 1/2&quot;</td>
<td>3.5</td>
<td>8.1</td>
<td>5.5</td>
<td>12.0</td>
</tr>
<tr>
<td>O1</td>
<td>M20 1/2&quot;</td>
<td>6.5</td>
<td>11.4</td>
<td>9.5</td>
<td>16.0</td>
</tr>
<tr>
<td>A</td>
<td>M20 1/2&quot; - 3/4&quot;</td>
<td>8.4</td>
<td>14.3</td>
<td>12.5</td>
<td>20.5</td>
</tr>
<tr>
<td>B</td>
<td>M25 3/8&quot; - 1&quot;</td>
<td>11.1</td>
<td>19.7</td>
<td>16.9</td>
<td>26.0</td>
</tr>
<tr>
<td>C</td>
<td>M32 1&quot; - 1 1/4&quot;</td>
<td>17.6</td>
<td>26.5</td>
<td>22.0</td>
<td>33.0</td>
</tr>
<tr>
<td>C2</td>
<td>M40 1 1/4&quot; - 1 1/2&quot;</td>
<td>23.1</td>
<td>32.5</td>
<td>28.0</td>
<td>41.0</td>
</tr>
<tr>
<td>D</td>
<td>M50 1 1/4&quot; - 2&quot;</td>
<td>28.9</td>
<td>42.3/44.4</td>
<td>36.0</td>
<td>52.6</td>
</tr>
<tr>
<td>E</td>
<td>M63 2&quot; - 2 1/2&quot;</td>
<td>39.9</td>
<td>54.3/56.3</td>
<td>46.0</td>
<td>65.3</td>
</tr>
<tr>
<td>F</td>
<td>M75 2 1/2&quot; - 3&quot;</td>
<td>50.5</td>
<td>65.3/68.2</td>
<td>57.0</td>
<td>78.0</td>
</tr>
</tbody>
</table>

1. 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.

### 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

### TECHNICAL DATA
- **Cable Gland Type:** 501 453 UNIV X
- **Equipment Type:** Group II Hazardous Area Cable Glands
- **Ingress Protection:** IP66, IP67, IP68*, IP69, NEMA 4X
  *30m for 7 days with thread sealant; 10m for 24hrs no thread sealant, Os-C size only
- **Operating Temp.:** -60°C to +80°C

### CERTIFICATION DETAILS
- Ex db IIC Gb / Ex eb IIC Gb / Ex tb IIC Db
- ATEX: CML18ATEX1268X
- IECx: CML 18.0131X

### 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.

<table>
<thead>
<tr>
<th>Backnut Torque</th>
<th>12</th>
<th>12</th>
<th>20</th>
<th>30</th>
<th>35</th>
<th>45</th>
<th>56</th>
<th>60</th>
<th>75</th>
</tr>
</thead>
<tbody>
<tr>
<td>Torque Figures N/m</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gland Size</td>
<td>Os</td>
<td>O</td>
<td>A</td>
<td>B</td>
<td>C</td>
<td>C2</td>
<td>D</td>
<td>E</td>
<td>F</td>
</tr>
<tr>
<td>Min.</td>
<td>0.8/1.25</td>
<td>0/0.8</td>
<td>72.5</td>
<td>24.0</td>
<td>26.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max.</td>
<td>1.6/2.0</td>
<td>0/0.7</td>
<td>87.0</td>
<td>46.0</td>
<td>50.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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 IIC Db - IP66

Notified Body for EU-Type Examination: CML 2776 Chester UK
EU-type Examination Certificate: CML18ATEX1268X
Notified Body for production: SGS-Baseefa 1180 Buxton UK


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