### Technical Drawing

![Diagram of the shaped charge]

1. Case  
2. Liner  
3. Explosive, booster  
4. Explosive, main  
5. Glue ring

### Technical Information

**APPLICATION:** Shaped charge for oilfield use

**PERFORATING SYSTEM**

**SPECIFICATION (w/ cold drawn steel):**
- Diameter: 4.625 inch (117.5 mm) OD
- Collapse rating: 20,000 psi (1,379 bar)
- Tensile rating: 414,000 lbs (187,787 kg)

**EXPLOSIVES:**
- Booster: Pure HMX, 1g
- Main load: Desensitized HMX, 21.7 g
- Density: > 1.5 g/cm³

**TEMPERATURE LIMITS:**
- 400 F / 204 C 1 h
- 338 F / 170 C 24 h
- 310 F / 154 C 100 h

**PERFORMANCE:**

Manufacturing quality control data:
- Hole Diameter: .65 in (16.51 mm)
- Penetration: 5.58 in (141.7 mm)

**SHELF LIFE:**
5 years when stored unopened in original packaging. Storage temperature:
- 0 C / 32 F min
- 54 C / 130 F max

**DISPOSAL:**
Dispose of product not suitable for oilfield use according to applicable laws and regulations.

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**Packing Information**

<table>
<thead>
<tr>
<th>Quantity per box:</th>
<th>50 pieces</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross weight per box:</td>
<td>8.16 kg (18 lb)</td>
</tr>
<tr>
<td>Net weight per box:</td>
<td>6.8 kg (15 lb)</td>
</tr>
<tr>
<td>NEC per box:</td>
<td>1.1350 kg</td>
</tr>
<tr>
<td>Box dim:</td>
<td>45.7 x 30.5 x 12.7 cm</td>
</tr>
<tr>
<td>Package type:</td>
<td>Trays with desiccant enclosed by vacuum bag, then placed inside fibreboard box.</td>
</tr>
</tbody>
</table>

Product Designation: HES-APRV-004

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