Clean Annular Perforating System
A flexible system with a range of entrance holes and shot densities

Applications
■ Plug and abandonment (P&A) wells
■ Single and multiple† casings
■ Perforate, wash, and cement (PWC) operations with single or dual cups
■ Perforate, jet, and cement (PJC) operations

Benefits
■ Improved PWC and PJC effectiveness and efficiency
■ Reduced mobilization times
■ Optimized entrance holes
■ High shot density

Features
■ Fully disposable system
■ Modular centralization system

Flexibility for entrance holes and area open to flow
The clean annular perforating (CAP) system is a flexible solution for single- and multicasing applications. By controlling standoff and charge selection, the disposable perforating system enables you to penetrate one or more casings reliably and effectively. With the system’s range of entrance hole and shot density options, you can tailor the system design to your objectives, including washing cups or jetting.

Efficiency driven by a single trip in the well
The CAP system can be combined with wash tools and the Schlumberger explosive automatic gun release (SXAR) system to drop the perforating guns in the well immediately after firing. This ensures operations can continue without the need to retrieve guns to surface.

Performance assured with unique fin modularity
The CAP system utilizes a modular fin that ensures centralization of the 7-in guns in any casing size from 7 in to 13⅜ in. This enables hole uniformity even in deviated wells to ensure a more effective and efficient wash and cementing operation.

Reduced no-shot interval between guns
The CAP system provides a single adapter connection between guns to minimize the shot distance from gun to gun. This increases the efficiency of wash operations and enables uniform washing speed even when crossing blank casing spaces in the well.

Perforating system deliverability
The CAP system uses charges with 1.4D hazard classification, reducing mobilization times by utilizing air transportation.

† Contact Schlumberger for more information on multiple casing applications.
## Single-Casing CAP System Specifications

<table>
<thead>
<tr>
<th>Casing size, in</th>
<th>7</th>
<th>7 3/8</th>
<th>9 3/4</th>
<th>10 3/4</th>
<th>13 3/4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application</td>
<td>PWC</td>
<td>PJC</td>
<td>PWC</td>
<td>PJC</td>
<td>PWC</td>
</tr>
<tr>
<td>Gun OD, in [mm]</td>
<td>4.5</td>
<td>4.72</td>
<td>4.5</td>
<td>4.72</td>
<td>7</td>
</tr>
<tr>
<td>Shot density, shots per foot (spf)</td>
<td>12</td>
<td>21</td>
<td>12</td>
<td>18</td>
<td>12</td>
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<tr>
<td>Phasing, °</td>
<td>135/45</td>
<td>120/60</td>
<td>135/45</td>
<td>120/60</td>
<td>135/45</td>
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<tr>
<td>Charge model</td>
<td>S3106 RDX</td>
<td>PF4621 RDX</td>
<td>PF4621 RDX</td>
<td>CPMA718 HMX</td>
<td>R4505 RDX</td>
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<td>Part number</td>
<td>101287482</td>
<td>H447540</td>
<td>101278663</td>
<td>101244307</td>
<td>103252722</td>
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<tr>
<td>Entrance hole, in [mm]</td>
<td>0.4</td>
<td>0.83</td>
<td>0.5</td>
<td>0.75</td>
<td>0.45</td>
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<tr>
<td>Pressure rating, psi [MPa]</td>
<td>11,000</td>
<td>11,000 to 17,000 [75 to 117]</td>
<td>11,000 [75.8]</td>
<td>18,000 [124]</td>
<td>11,500 [79]</td>
</tr>
</tbody>
</table>

All specifications are subject to change without notice.

**Shot patterns for the 4.5- and 4.72-in-OD perforating systems.**

**Shot patterns for the 7-in-OD perforating system.**

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