**APPLICATIONS**
- Multistage fracture stimulation
- Coalbed methane (CBM) wells
- Limited-entry acid stimulation

**BENEFITS**
- Improved safety from using the most advanced initiation system in the industry, with integrated real-time addressable communication
- Increased efficiency through optimized rig-up and reduced lost time for misruns
- Enhanced reliability by integrating fit-for-purpose component boards that are rigorously tested to high engineering standards

**FEATURES**
- Multiple gun sizes and lengths, from 1 to 5 ft with up to 40 guns in a single descent
- Plug-in design that eliminates having to make electrical connections at the wellsite
- Expendable system incorporating intercarriers instead of potentially compromising integrity by reusing adapters
- Improved electrical connectors that prevent failure-prone crimped wire terminations
- Compatible with both radio frequency–(RF-) safe and conventional mechanically interrupted initiation systems

The Fractal* multistage stimulation perforating system reengineers the conventional perforating gun system to create a fit-for-purpose modular design that significantly improves the safety, reliability, and efficiency of multistage perforating operations.

Electrically prewired at the manufacturing center, the Fractal perforating system requires only minimal assembly on location. All components, including either an RF-safe or conventional initiation system, are supplied in plug-and-play subassemblies.

The RF-safe initiation system is based on the industry’s safest and most reliable exploding foil initiator, the Secure2* RF-safe electronic detonator, and is integrated on the same electronics board with the ASFS* addressable-switch firing system. This combination enables running up to 40 guns on the same descent with a high initiation reliability of 99.85%.

A conventional detonator is available in a similar module incorporating an addressable mechanical ballistic interrupter controlled from the surface. The interrupter is removed by the same computer command used to initiate the Fractal system once it is positioned downhole at the targeted interval.

Because the disposable Fractal system incorporates pressure barriers integrated with the electrical connections, it does not require redressable intergun adapters—every perforating run uses new components, which reduces rig-up height while improving efficiency and reliability.

<table>
<thead>
<tr>
<th>Specifications</th>
<th></th>
<th>2⅛, 3¼, 3½</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shots per foot (spf), phasing, °</td>
<td>6, 60</td>
<td></td>
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<tr>
<td>Min. casing size, in</td>
<td>4</td>
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<tr>
<td>Gun lengths, ft</td>
<td>1, 2, 3, 5</td>
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<tr>
<td>Temperature rating, degF [degC]</td>
<td>340 (171)</td>
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<tr>
<td>Pressure rating, psi [MPa]</td>
<td>18,000 (124)</td>
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</tr>
</tbody>
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[www.slb.com/fractal](http://www.slb.com/fractal)