Tool Specification

i-Frac CEM 15K

The i-Frac CEM 15K is a ball-drop activated multistage frac system for cemented horizontal completions. The system is installed as an integrated part of the lower completion string. Multiple stages can be installed in a wellbore, and each stage can contain between 1 to 20 sliding sleeves for optimized fracture design. Once installed, the system is cemented in place as a normal casing sting, and a wiper dart is pumped from surface to ensure the pipe ID and ball seats are wiped free of cement. For each stage, one ball is pumped from surface to open all sleeves in the given stage. The frac job can then be carried out in a continuous pumping operation with no prep time between stages.

Applications
- Fracturing / stimulation
- Production
- Injection
- Acidizing

Technical data

<table>
<thead>
<tr>
<th>i-Frac CEM 15K</th>
<th>Seat</th>
<th>OD in. (mm)</th>
<th>ID¹ in. (mm)</th>
<th>Length² in. (mm)</th>
<th>Working pressure psi (kPa)</th>
<th>Temperature °F (°C)</th>
<th>Threads</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.500 - 5.000</td>
<td>Flex</td>
<td>5.350 (135.89)</td>
<td>3.650 (92.71)</td>
<td>46.100 (1,170.94)</td>
<td>15,000 (104,000)</td>
<td>350 (176)</td>
<td>API and premium available</td>
</tr>
<tr>
<td>4.500 - 5.000</td>
<td>Flex w/ integrated fixed seat</td>
<td>5.350 (135.89)</td>
<td>3.650 (92.71)</td>
<td>46.100 (1,170.94)</td>
<td>15,000 (104,000)</td>
<td>350 (176)</td>
<td>API and premium available</td>
</tr>
</tbody>
</table>

¹Milled-out diameter
²Length may vary depending on end sub threading

Features
- Ball-drop operated
- Designed for cemented applications
- Configurable nozzles and shear pressures
- Seat increments optimized based on pressure requirements
- Between 1 to 20 sleeves per stage
- No explosives required on location
- Drillable cast iron ball seats for easy mill-out
- Proven field success across all major plays
- Compatible with dissolvable frac ball technology, allowing production operations to begin with no well intervention

Benefits
- Increased time and cost efficiency compared with traditional plug-and-perf methods
- Ability to employ continuous pumping operations
- Excellent zonal isolation
- Optimized fracture initiation
- Multiple stages per well
- Maximizes reservoir contact
- Reduces HSE risk by eliminating need for dedicated wireline operations
- Decreases amount of water used compared to traditional plug-and-perf methods