Tool Specification

i-Frac Multi Open/Close (MOC) Sleeves

Our i-Frac MOC is a ball-drop-activated sleeve designed for multistage completions. Multiple stages can be installed in a wellbore, with activation balls used in increasing diameters form the toe of the well to the heel. One ball can open multiple i-Frac MOC sleeves in a single stage. Stimulation can be carried out in a continuous pumping operation with no prep time between stages. Once stimulation is complete, the ball seats can be milled out and each sleeve can be independently and reliably shifted open and closed multiple times with our i-Shift™ tool. The ability to open and close the sleeves multiple times allows the operator the flexibility to close off stages as desired.

Applicatons
• Fracturing / stimulation
• Production
• Injection
• Acidizing
• Refracturing

Features
• Ball-drop activated, multistage technology
• Applicable in cemented or open-hole environments
• Robust sealing surfaces that resist erosion and debris build-up
• Millable cast iron ball seats
• Multiple open and close functionality under pressure
• High differential pressure ratings when manipulating the sleeve
• Compatible with dissolvable fracturing ball technology

Benefits
• Cost-effective valve due to long-term operating life
• Ports/nozzles in high-grade material minimize the wear and ensure optimal flow area over time
• Ability to close sleeves to shut-off unwanted water production
• Fully compatible with our refrac technology

Technical data

<table>
<thead>
<tr>
<th>i-Frac MOC</th>
<th>Seat material</th>
<th>OD in. (mm)</th>
<th>ID in. (mm)</th>
<th>Length in. (mm)</th>
<th>Material</th>
<th>Burst pressure psi (kPa)</th>
<th>Flow port area in.² (mm²)</th>
<th>Shifting distance in. (mm)</th>
<th>Threads</th>
</tr>
</thead>
<tbody>
<tr>
<td>450</td>
<td>Millable cast iron</td>
<td>5.600 (142.24)</td>
<td>3.735 (94.87)</td>
<td>54.5 (1,384)</td>
<td>P110²</td>
<td>10,000 (69,000)</td>
<td>10.734 (6,925)</td>
<td>7.500 (190.5)</td>
<td>All threads available</td>
</tr>
</tbody>
</table>

¹Other materials available upon request.