Reclosable Annular Flow Valve (X-AFV)

Superior Completion Services’ patented X-AFV system is used to isolate a concentric flow path created between the isolation string inside the screen and blank assembly. This valve can also help maintain zonal isolation during production installation without being pressure sensitive.

The X-AFV is utilized in the upper interval of a multi-zone completion to provide positive isolation after stimulation treatments have been completed. The valve is hydraulically actuated by creating a pre-set ID to OD differential across the actuating piston. The valve includes a balancing feature, which prevents treating pressure from prematurely shearing and shifting the actuating piston until the production seals are landed. Formation pressure has no effect on valve actuation.

The valve is commonly used to isolate the upper zone of a dual completion or the upper zone of an intelligent well completion.

APPLICATIONS

• Interventionless zonal isolation and production initiation
• Fluid loss control
• Deviated wellbores
• Completion designs with limited tubing ID access
• Intelligent and multizone completions
• Post-completion zonal isolation

Features and Benefits

• Optimized flow areas for maximum production
• Interventionless actuation reduces operational risk and overall project cost
• Mechanical backup profile with compatible shifting tool
• Mechanically reclosable to provide an isolation barrier
• Balanced design prevents premature actuation until seals are in place
• Provides positive bidirectional zonal isolation
• Unlocked position maintains pressure integrity
• Can be used in 7 to 10 3/4 in. (177.8 to 273.1 mm) casing sizes
• Tubing-pressure actuated
• Ideal for use in deepwater intelligent completions where mechanical access is not possible
Reclosable Annular Flow Valve (X-AFV)

**TECHNICAL DATA**

<table>
<thead>
<tr>
<th>Nominal OD</th>
<th>Minimum ID</th>
<th>Flow Area Through Valve</th>
<th>Flow Area Through ID</th>
<th>Sealbore Size</th>
<th>Frac Mode Pressure</th>
<th>Temperature Rating</th>
<th>Nominal Shear Range</th>
<th>Type B Shifting Profile</th>
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</thead>
<tbody>
<tr>
<td>inch</td>
<td>mm</td>
<td>inch² cm²</td>
<td>inch² cm²</td>
<td>inch mm</td>
<td>psi MPa</td>
<td>°F °C</td>
<td>psi MPa</td>
<td>inch mm</td>
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<td>141.2</td>
<td>3.8 95.3</td>
<td>2.19 55.6</td>
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**REFERENCES**

ComPlete™ system data sheets (FP, FPDZ)
ISO isolation system data sheet
Intelligent well completion system data sheet