**OVERVIEW**

The Halliburton SP™ tubing-retrievable safety valve (TRSV) is a single rod-piston non-elastomer flapper valve designed for hostile environments and extended life applications where ultimate reliability is required. Potential leak paths within the valve are minimized with the single rod-piston design. The piston achieves a metal-to-metal (MTM) seal at its uppermost and lowermost positions to seal well pressure from the control system.

The SP valves incorporate flappers using spherical radius sealing surfaces that help greatly improve seal reliability. The spherical radius design provides full MTM sealing integrity.

For applications where either the OD or ID is restrained, SP valves incorporate the award-winning Halliburton contoured flapper. OD/ID relationships are improved by the contoured flapper design that helps provide superior MTM sealing when compared to other forms of curved flapper technology.

**APPLICATIONS.**

» For applications requiring ultimate reliability and longevity, such as high-temperature, high-pressure, and subsea completions, or hostile well environments.
FEATURES
» Non-elastomer dynamic piston seals
» MTM static seal at upper and lower piston positions
» MTM body joints
» Flow tube fluted guide
» 100% metal-to-metal flapper
» Concentric thrust bearing
» Wiper ring on upper flow tube
» Cleanout ports in flow tube’s upper end
» Internal exercise profile
» Flow tube shock absorber
» MTM face seat at flow tube downstop
» Setting depths to 9,000 ft (2743 m)

BENEFITS
» Unsurpassed reliability of hydraulic actuator; dynamic and static seals independently verified gas tight
» Control line isolated from well fluids by MTM seal with valve in closed position
» Hydraulic system isolated from well pressure by MTM seal with valve in open position
» MTM thread sealing and self-locking capability
» Fluted guide provides maximum debris protection, allowing fluids to enter and exit during valve operation
» No wear by torsional effects of a helical spring
» Critical components isolated from well debris with valve in open position
» Area above flow tube free of solids buildup
» Flow tube can be manipulated by slickline
» Protected from high flow rate slam closures

SP™ Tubing-Retrievable Safety Valve

<table>
<thead>
<tr>
<th>Tubing Size</th>
<th>Maximum OD</th>
<th>Internal Packing Bore</th>
<th>Pressure Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>in.</td>
<td>mm</td>
<td>in.</td>
<td>mm</td>
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<tr>
<td>2 3/8</td>
<td>60.33</td>
<td>3.62 - 3.97</td>
<td>91.95 - 100.84</td>
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<tr>
<td>2 7/8</td>
<td>73.03</td>
<td>5.41 - 5.49</td>
<td>137.41 - 139.44</td>
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<tr>
<td>3 1/2</td>
<td>88.9</td>
<td>5.03 - 5.86</td>
<td>127.76 - 148.84</td>
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<tr>
<td>4 1/2</td>
<td>114.3</td>
<td>7.35 - 7.57</td>
<td>186.69 - 192.28</td>
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<tr>
<td>5 1/2</td>
<td>139.7</td>
<td>7.69 - 8.38</td>
<td>195.33 - 192.28</td>
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<td>226.06 - 243.84</td>
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<td>212.9 - 216.4</td>
<td>5.750 - 5.875</td>
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<td>5,000 - 10,000</td>
<td>345 - 690</td>
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</table>

For more information, contact your local Halliburton representative or visit us on the web at www.halliburton.com

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