Sealing Protection Sleeve
Protects existing well infrastructure from TTRD operations and hostile well fluids

Overview
The Halliburton Sealing Protection Sleeve is used to isolate the critical components of a tubing-retrievable safety valve (TRSV) during acid stimulation, flowing and other well intervention activities.

The sleeve is custom designed to suit any TRSV, protecting the seal bores, flow tube and flapper, allowing additional well operations to be carried out without removing the safety valve.

Features and Benefits
- **Slimline Design**
  Large ID allows the passage of large perforating guns, wireline and coiled tubing intervention, and permits high pumping and production rates.

- **Positive Location**
  Locking mechanism helps ensure that the sleeve is firmly located in the respective profile during operations.

- **Versatility**
  Can be custom designed to fit any TRSV with a lock profile and no-go shoulder.

- **Telltale Design**
  Special running prong design confirms the sleeve is correctly positioned and set.

- **Equalization Feature**
  Prevents buildup of pressure in the annulus between the sleeve and safety valve.

- **Pressure Relief Protection**
  Lower seal design allows the dual seal piston to move downwards in the event pressure buildup between outside of sleeve and safety valve ID is experienced during operations.

  Secondary relief feature incorporates an atmospheric chamber and calibrated burst discs. If the buildup of pressure exceeds the rating of the disc, pressure will be relieved within this chamber helping ensure sealing protection of the safety valve throughout. Burst disc rating selection is determined up front with the customer.

Operation
The Sealing Protection Sleeve is made up to a GS pulling tool with a telltale running prong and run to depth in the equalized position on wireline.

As the sleeve approaches the seal bores, it locates against the no-go shoulder of the nipple of the safety valve. Jarring downwards will shear the setting shear-ring located within the locking mechanism. This allows the expander mandrel to move down to support the collets while closing the equalizing ports.

When the expander mandrel has fully travelled down, a c-ring drops into a recess effectively locking the sleeve in place. The GS pulling tool is sheared off by downward jarring.

On return to surface, the telltale running prong is inspected. If it is un-sheared, this confirms that the sleeve is correctly positioned and locked in place.
The telltale running prong design also prevents the lock from setting should the sleeve be inadvertently set “high” when not fully across the locking profile.

To retrieve the sleeve, the pulling prong is attached between the GS tool and the running prong. Once latched into the fishing neck, upward jarring shears out the release shear-ring, allowing equalization to take place. Un-setting the lock mechanism allows retrieval of the Sealing Protection Sleeve on wireline.

Applications
The device can be used in a number of applications where the protection of the TRSV seal bores and critical components is required, such as:

- Acid stimulation
- Electric and slickline operations
- Coiled tubing operations
- Back-flowing of the well

Specifications
The Sealing Protection Sleeve can be custom designed to fit any TRSV with a lock profile and no-go shoulder. Due to the high number of variables, the information given below is for guidance only. Detailed information about specific tools is available upon request.

<table>
<thead>
<tr>
<th>Tool Size in.</th>
<th>Part Number</th>
<th>Max OD in. (mm)</th>
<th>Min ID in. (mm)</th>
<th>Upper Seal OD in. (mm)</th>
<th>Lower Seal OD in. (mm)</th>
<th>Overall Length* in. (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.00</td>
<td>075A600000</td>
<td>6.040 (153)</td>
<td>4.375 (111)</td>
<td>6.027 (153.09) to suit 6.000 (152.40) bore</td>
<td>5.990 (152.15) to suit 5.963 (151.46) bore</td>
<td>122.10 (3,101)</td>
</tr>
<tr>
<td>7.00</td>
<td>075B600000</td>
<td>6.080 (154)</td>
<td>4.500 (114)</td>
<td>6.027 (153.09) to suit 6.000 (152.40) bore</td>
<td>6.027 (153.09) to suit 6.000 (152.40) bore</td>
<td>131.20 (3,332)</td>
</tr>
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</table>

* This will depend on the TRSV profile where the Sealing Protection Sleeve will be set.

Primary Materials

<table>
<thead>
<tr>
<th>Metallurgy</th>
<th>To suit application, typically AISI 4145 (30-36 Rc) or customer specified</th>
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<tr>
<td>Elastomers</td>
<td>Acid and ED Resistant Viton (VE) to suit application</td>
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For more information about the Sealing Protection Sleeve, contact your local Halliburton representative or email completions@halliburton.com.