The LiMAR® Reverse Circulating Flapper Valve is designed specifically for reverse circulating operations in order to provide a positive double barrier to protect the CT string from invasion of well-bore fluids.

The tool is configured so that the flapper valves are held open during normal operations thus allowing circulation from the annulus to the Coiled Tubing string. In the event of an emergency, or as part of the planned work-scope, a drop ball can be launched to shift a piston which activates the flapper valves to provide a positive barrier from well-bore fluids.

The cartridge type design allows fast and efficient redress with simple removal and replacement of the flapper cartridge assembly at surface.
TOOL APPLICATIONS:

- Reverse circulating clean outs

DESIGN FEATURES & BENEFITS:

- Maintains flow path following activation to allow BHA components below to be operated
- Corrosion resistant materials
- Connection options to suit customer requirements
- Simple, robust design ensuring ease of operation for the end user
- Selected components QPQ treated
- Hexagonal flats for safe make-up & break-out

<table>
<thead>
<tr>
<th>Assembly Part No.</th>
<th>Actual OD</th>
<th>Maximum ID</th>
<th>Make up Length</th>
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<tbody>
<tr>
<td>193-2125-XXX-RX</td>
<td>2.125&quot;</td>
<td>0.562&quot;</td>
<td>26&quot;</td>
</tr>
<tr>
<td>193-2375-XXX-RX</td>
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<td>33&quot;</td>
</tr>
</tbody>
</table>

XXX - Last 3 digits of part number denotes connection type - Please refer to the connection code data sheet.
For additional sizes or further information please contact sales@limaroiltools.com