THE GUARDIAN
Cement Float Equipment
with
Patented Piloted Ball Technology

We developed The Guardian to withstand a multitude of well cementing conditions to ensure consistent performance versus the wide-range success rate of traditional cement float equipment. It utilizes Drilling Innovative Solutions, LLC patent pending, field-proven flapper actuated ball valve technology which ensure consistent performance in a range of environments.

All float equipment is designed and tested to API RP10F Category IIIC standards ensuring the highest product quality. The Guardian is available in a broad range of valve sizes, to accommodate standard casing sizes.
THE GUARDIAN
Cement Float Equipment

USES
- Can be used in most cementing operations including HTHP conditions.
- The Guardian float shoe comes standard with a round nose used to guide the casing string to the desired depth.
- The Guardian float shoe is normally run with at least one Guardian float collar to provide an additional barrier against the U-tube effect of the cement, as well as allowing contaminated cement to remain in the casing string.
- The ball valve sealing allows the casing to be floated to desired depth assisting in casing run-in.

BENEFITS
- Valve is full opening, allowing for a large laminar fluid flow.
- Valve is designed utilizing an elastomeric-to-metal seal via a ball valve.
- Sealing surface is always protected from erosion via a flow tube, allowing consistent sealing after prolonged use.
- No springs are required for sealing.
- PDC and Tri-cone bit drillable.

FEATURES
- Valves available in a broad range of internal diameters.
- The Guardian float shoe can be provided with ports (up, down and/or side) and various noses for different applications.
- Available with auto-fill
- Available in premium grade materials and connections.
- 10,000 psi valves available upon request.

GUARDIAN VALVE SPECIFICATIONS

<table>
<thead>
<tr>
<th>Valve</th>
<th>Guardian 158</th>
<th>Guardian 213</th>
<th>Guardian 313</th>
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</thead>
<tbody>
<tr>
<td>Inlet ID</td>
<td>1.575 in</td>
<td>2.125 in</td>
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<tr>
<td>Minimum Flow Area</td>
<td>1.948 in²</td>
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<td>API RI10F Rating</td>
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<td>Back Pressure Rating</td>
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<td>Valve Material</td>
<td>6061 Aluminum</td>
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<td>Casing Size Options</td>
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<td>13.375 in and up</td>
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