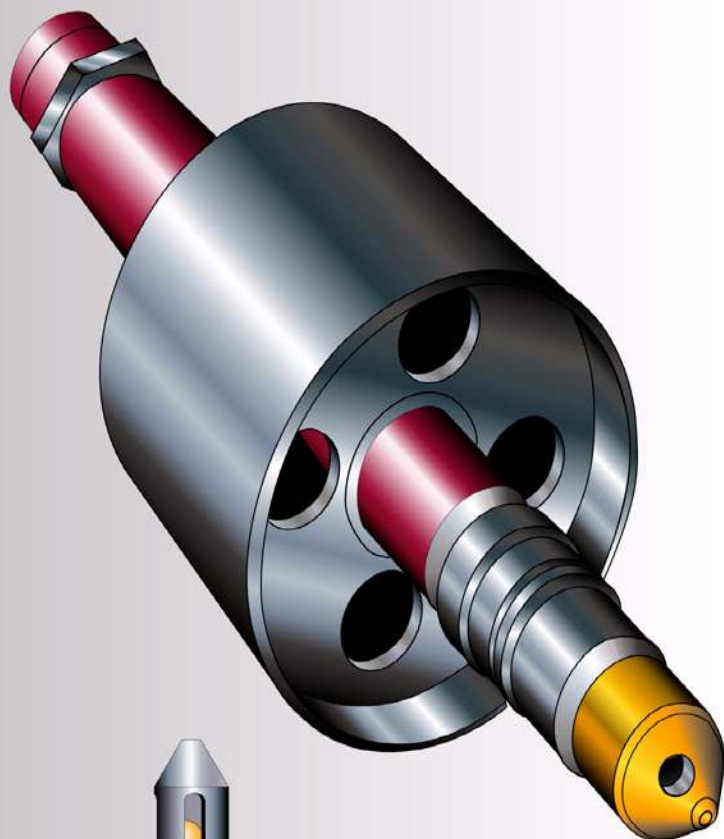


DrawWorks NOV-CRT DW Assembly



C-Series™ Valve

The **AutoFill™** fill-up tool and **C-Series™ Mud Saver Valve** have been specifically designed to be used with the National Oilwell Varco Casing Running Tool (NOV/CRT). The fill-up tool can be substituted for the current circulator assembly and valve and uses standard parts used on the Patented DrawWorks, L.P. AutoFill™ system. All companies now using the DrawWorks AutoFill™ can use inventory parts for this new system.

The **C-Series™ Mud Saver Valve** can be ordered in two versions. One being a coated metal seat assembly and the other a carbide seat assembly. The coated seat units would be used where mud weights are less than 9 ppg* and flow rates less than 5 bpm*. The carbide seat units would be used where mud weights are up to 18 ppg* and flow rates are less than 6 bpm*.

**Flow rates and mud weight are dependent on valve size*

Features and Benefits

- **AutoFill Components**
 - Use existing inventory
- **Short Length**
 - Fits inside the NOV/CRT
 - Replaces the NOV circulator and valve
- **Pressure operated valve**
 - Self aligning seat
 - Simple system
- **Set screw safety back-off lock**
 - Simplifies tear-down and assembly
- **C-Series Valve**
 - Floating Seat
 - Positive seal
 - Large flow area
 - Lower pressure drop
 - Shorter length
 - Large Check Valve
 - Handle flow-back
 - Two Seat Choice
 - Coated - less expensive
 - Carbide - longer life

Specifications

- **Tool:** 4.5"-5.5"
- **ID Inches:** 1.25
- **Flow Area sq-in:** 1.22
- **Housing OD Min Inches:** 3.8125
- **Length Inches:** 44



*Circulating and flow-back tools
for casing and drill pipe*

Patent Pending