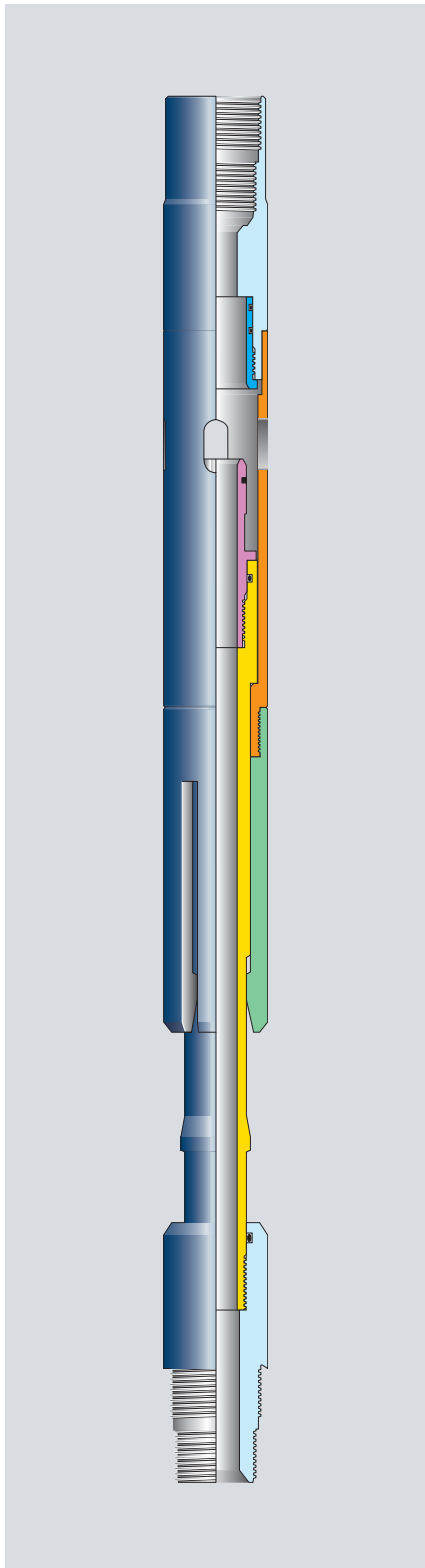


## Circulation Valve



### Applications

- Inflatable, mechanical, and hydraulic packer operations

### Benefits and features

- Tension-operated control valve allows selective flow to the annulus or to the lower tool string.
- Used to route flow selectively above and below a packer
- Fullbore design allows high-rate treatments.
- Enables equalization of differential pressure across a packer
- No flow manipulation or drop balls required
- Multiple-acting valve allows repeated actuation.
- Changeable sealbore inserts for pressure-balanced operation
- Not affected by differential pressure (treating pressure)
- Bonded seals for reliable operation

The circulation valve is a full open tool that controls circulation in either direction to the annulus or to the lower tool string. Straight pull opens to the annulus, slacking off the CT string closes off the annulus. The circulating valve is run together with packers to enable circulation above or below the packer. Since circulation is

possible in all directions, it can also be used to equalize the pressure above and below a packer prior to release. The circulation valve has an integrated collet mechanism that keeps the valve in the open or close position. By selecting the proper sealbore insert, the circulation valve can be fully pressure-balanced.

Other than conventional mechanically operated circulation valves, the CoilTOOLS circulation valve has exchangeable sealbore inserts. This feature operates the tool pressure-balanced. Treatment rate and the resulting differential pressure do not affect the valve's function or cause unwanted opening or closing of the tool.

Prior to the run, the sealbore insert corresponding to the CT size and wall thickness is installed. The circulation valve is installed either above the packer or above the upper packer if a straddle packer is run. At depth and after the packer is set, picking up the tubing opens the circulating valve. This overcomes the collet force keeping the tool closed. To close the valve, weight is set down. This relatches the collet and seals off the path to the annulus.

### Circulation Valve

OD (in.)	ID (in.)	Length <sup>†</sup> (in.)
1.688	0.438	26.000
2.125	0.875	26.000
2.563	0.125	26.000

<sup>†</sup> Includes CS Hydril thread, measured in closed position