

# Multi-Cycle Circulation Reversing Valve



## Description

The Multi-Cycle Circulating Valve (MCV) is a differential pressure tool with 5 closed positions (3 for Slimhole), 1 reverse position, and 1 circulating position. The tool can cycle through this sequence as many times as is required by the well program. The MCV is used in conjunction with the Tester Valve for almost all applications.

Typical uses for the circulating valve are:

- Reverse out tubing contents to remove hydrocarbons and debris from the workstring while the formation is isolated by the closed tester valve.
- Spot lighter weight fluid (including nitrogen) to create or increase an underbalance to formation in order to surge perforations or establish flow in a drill stem test.
- Efficiently spot viscous pills to cure fluid loss to formation. (Spot pill to the circulating ports close MCV, then open the ball valve to allow the pill to move to the perforations).

The MCV cycles using tubing/annulus differential pressure to move the ported mandrel to the proper position to establish communication between the annulus and tubing. The tool is not rate dependent only a low differential pressure (300 psi). As long as the tool has a positive differential in the direction of flow, the tool will remain open; to move the tool to the next position, a 300 psi differential pressure is applied from the opposite direction.

## Operating Specification

PRESSURE RATING	15,000 psi	15,000 psi
OD	5.00 in.	3.125 in.
ID	2.25 in.	1.25 in.
LENGTH	7.77 ft.	10 ft.
MAX. TEMPERATURE	350 °F	350 °F
METALS	Iconel or K5000 for Dynamic Areas 410 Series H2S Rated Connector Subs	Iconel or K5000 for Dynamic Areas 410 Series H2S Rated Connector Subs
TENSILE STRENGTH	340,000 lbs.	120,000 lbs.
END CONNECTIONS	3-1/2 in. IF	As required by client
ACTUATING PRESSURE (Differential)	300 psi - Tubing 300 psi - Annulus	300 psi - Tubing 300 psi - Annulus
MAX. PUMP RATE	4.0 bbl/min.	2.5 bbl/min.

