

METROL®

FLOW-SURE MC™

THE WIRELESS MULTI-CYCLE SLEEVE FROM METROL

The FLOW-SURE MC "FS-MC" is a wireless controlled Multi Cycle Sleeve.

DESCRIPTION

FLOW-SURE denotes an intelligent, wireless basis from which Metrol's premium flow control products have been designed. All FLOW-SURE tools deliver advanced wireless diagnostics and feedback on valve position. Metrol's FLOW-SURE, downhole valves have reliably enabled multi-zone DST's since 2002, with over 500 wireless valve moves to date.

By referencing hydrostatic, the tool can be operated without pressure pulses at any time, reducing impacts on other pressure operated tools. Wireless operation also enables the FS-MC to be positioned and operated below packers.

The FS-MC is mainly for use as a zonal control valve in multi-stage operations. The valve can be programmed to function at specified times, making it a solution for multi zone injection and stimulation, eliminating the need for intervention or shut-down switch between zones. It's suitable for LPLT, HPHT and harsh environments.

FEATURES

- > Configurable rupture disc override
 - o Rupture position closed or open
 - o Internal, external, or blanked rupture disc
- > Multiple valves can be run in the same completion, for fully selectable zonal control
- > Modular system, available as a Dual Valve (FS-DV) or Ball Valve (FS-BV)
- > Large number of actuations (34 moves)
- > Two independent control systems, for full redundancy and reliable performance
- > 8 x 20mm bushings, equivalent to full bore ID
- > Non-elastomeric dynamic sealing
- > In hole Power management and control

BENEFITS

- > Up to 24 hours of rig time saved by removing need for wireline isolation
- > Valve position sensor providing fast, accurate decision making
- > Superior data quality by protecting long term gauges from well kill operation
- > Improved operational redundancy, with valve acting a secondary reservoir shut in valve



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SPECIFICATIONS

Version	FS-MC	FS-MC HT
Temperature Rating	150°C [302°F]	175°C [347°F]
Max O.D	5.5" [139.7mm]	5.5" [139.7mm]
Max I.D	2.25" [57mm]	2.25" [57mm]
Length	21.97ft [6.7 m]	21.97ft [6.7 m]
Sleeve Cycles	17 cycles (34 moves)	17 cycles (34 moves)
Maximum Absolute External Pressure	21,500 psi [148 MPa]	21,500 psi [148 MPa]
Maximum Absolute Internal Pressure	21,500 psi [148 MPa]	21,500 psi [148 MPa]
Maximum Differential Pressure	18,000 psi [124 MPa]	18,000 psi [124 MPa]
Maximum Working External Pressure	18,000 psi [124 MPa]	18,000 psi [124 MPa]
Maximum Working Internal Pressure	18,000 psi [124 MPa]	18,000 psi [124 MPa]
Sleeve Opening Differential	5,000 psi [35MPa]	5,000 psi [35MPa]
Min. Hydrostatic Required	1,200 psi [8.3 MPa]	1,200 psi [8.3 MPa]
Tensile Rating	316,000 lbf [1,406 kN]	316,000 lbf [1,406 kN]
Compression Rating	316,000 lbf [1,406 kN]	316,000 lbf [1,406 kN]
Service NACE MR-0175	H2S, acid	H2S, acid
Connection Type	3.5" 15.8# PH6	3.5" 15.8# PH6

