

## MultiStim Fracture Isolation System

# MultiStim Bi-Directional Hydraulic Shifting Tool

- Shifts valves to opened or closed position
- Flow actuated — no drop balls needed
- Self draining — no wet strings
- Compatible with threaded or coiled tubing

The MultiStim Bi-Directional Hydraulic Shifting Tool is able to open or close any number of valves in a single trip. It works with threaded or coiled tubing and is compatible with or without jars or bumper subs. The tool is easy to locate with Logan Completion Systems' Mechanical Collar Locator.

### Shifts Valves Open or Closed

The MultiStim Bi-Directional Shifting Tool is used to shift the internal piston sleeve of the MultiStim Retrieval-a-Seat (RAS) Valve to either the open or close position. Individual or multiple valves can be repeatedly opened or closed in a single trip. The MultiStim Bi-Directional Shifting Tool works with threaded or coiled tubing. When used in conjunction with the Logan Completion Systems' Mechanical Collar Locator, the need for complicated space-out calculations is eliminated.

### Flow Actuated

The MultiStim Bi-Directional Shifting Tool is a flow-actuated tool that can be cycled repeatedly downhole without affecting the reservoir characteristics and with activation pressures less than the frac gradient.

### Self Draining

The MultiStim Bi-Directional Shifting Tool is designed to fail safe with the slips in the retracted position. However, should there be the need, there is a secondary release mechanism. To activate the secondary release mechanism, a ball is pumped down to an internal seat, pressure is applied to the string bursting a rupture disk. This will release any internal pressure that could be trapped in the tool and retract the slip mechanism.

### Design and Manufacturing Standards

The MultiStim Bi-Directional Hydraulic Shifting Tool and MultiStim Fracturing Isolation System components are designed and manufactured to API Q1 standards at our certified manufacturing facility.

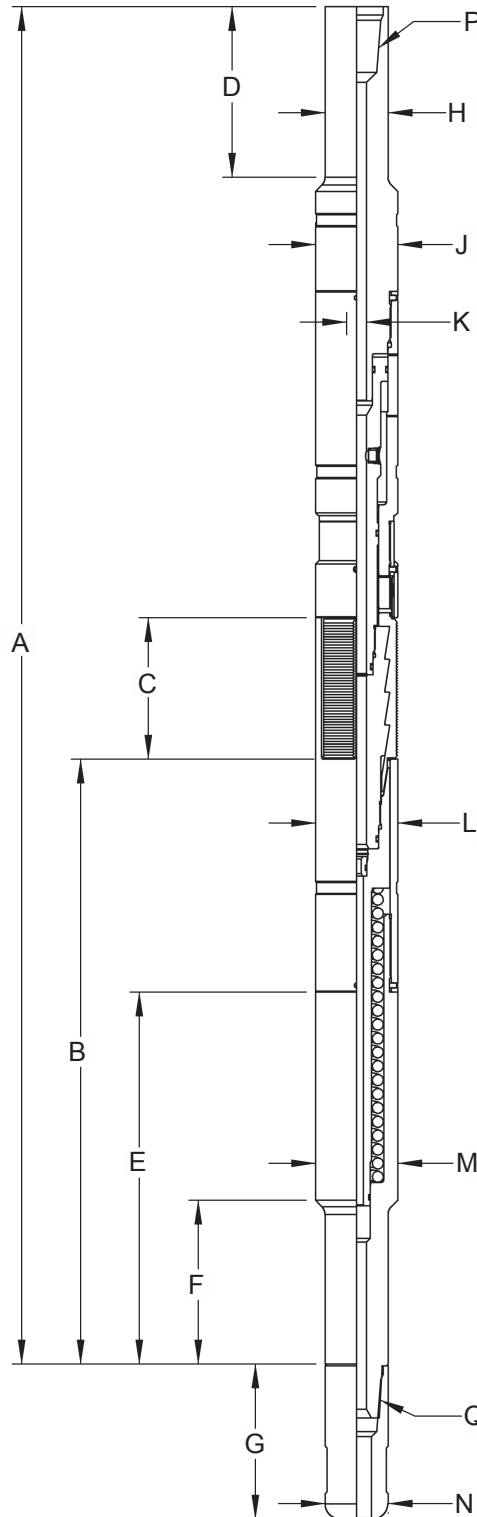


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**MultiStim Bi-Directional Hydraulic Shifting Tool**

Dim.	(in)	(mm)
A	61.99	1574.50
B	27.62	701.50
C	6.47	164.30
D	7.79	197.90
E	16.99	431.50
F	7.47	189.70
G	7.09	180.10
H	2.88	73.20
J	3.75	95.30
K	0.906	23.00
L	3.75	95.30
M	3.75	95.30
N	2.88	73.20
P	2-3/8 PAC	
Q	2-3/8 PAC	

Tool Ratings		
Rating	Value	
Max Free Flow Rate	3 bbl/min	0.477 m <sup>3</sup> /min
Activation Flow Rate	5 – 6 bbl/min	0.795 – 0.954 m <sup>3</sup> /min
Max Pull/Push	100,000 lbs	44,480 daN
Contingency Ball Size	Ø 0.88	22.35 mm
Ball Drop		
Contingency Pressure	4,000 psi	22,579 kPa
Contingency Flow Rate	7 bbl/min	1.11 m <sup>3</sup> /min
Tensile	128,000 lbs	56,937 daN



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