

Mechanical Isolation Valve (MIV)

Protect the formation and increase operational flexibility with unlimited open/close cycles



The Caledyne Mechanical Isolation Valve (MIV) delivers reliable isolation between the upper and lower completion to protect the formation during upper completion installations and electrical submersible pumping (ESP) system ESP workovers.

Using a bidirectional barrier system that can be mechanically opened and closed with a shifting tool, the MIV enables an unlimited number of mechanical open/close cycles for maximum operational flexibility. It also incorporates an interlock mechanism and auto-release shifting profiles to ensure the ball is always in the fully open or fully closed position before the shifting tool disengages. This provides positive

confirmation of valve closure to eliminate the risk of the shifting tool becoming hung up inside the valve or for pressure or flow accidentally closing the valve.

The MIV's shifting tool can be attached to the lower end of a wash string to close the valve as the washstring is removed. The shifting tool can also be reconfigured and used to open the valve, or a Stinger shifting tool can be attached to the upper completion to open the valve when the upper completion is installed. When the upper completion is removed, the Stinger shifting tool closes the valve.

The MIV features a fully spherical ball valve design to improve strength, and because the ball is always in contact

Applications

- Formation isolation when installing upper completions or during ESP workovers
- Packer setting

Features and benefits

- Bidirection seal system
 - Provides a reliable barrier from above and below the valve
- Optimized design with fewer parts
 - Reduces tool complexity
- Fully spherical ball valve geometry
 - Delivers improved strength
 - Improves reliability by preventing debris from settling inside the rotating mechanism
- Internal equalizing mechanism across the ball
 - Reduces the load required to open the ball under high differential pressures
 - Allows the valve to be run above a packer
- Smooth internal bore
 - Minimizes the risk of debris accumulation

with the upper and lower ball seats, the risk of debris settling inside the rotating mechanism is eliminated, helping operators to avoid costly remedial operations.

To help ensure long-term, sand-free production, the MIV can be combined with field-proven sand control systems from the Baker Hughes, a GE company (BHGE) portfolio.

Contact your local BHGE representative today to learn more about how the MIV can protect your formation with reliable isolation and increase operational flexibility with unlimited open/close cycles.

MIV Specifications		
Parameter	4½ in. x 7 in.	5½ in. x 9 ⁵ / ₈ in.
Maximum OD	5.866 in. (149.0 mm)	8.043 in. (204.28 mm)
Minimum ID	3.314 in. (84.18 mm)	4.561 in. (115.85 mm)
Pressure rating across ball	5,000 psi (34.5 MPa)	5,000 psi with 7,500 psi optional (34.5 MPa with 51.7 MPa optional)
Pressure rating across housing	7,500 psi (51.7 MPa)	10,000 psi (68.9 MPa)



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