# INTERVENTION-LESS FLOWBACK VALVE (ILFBV)

**Rated to 5,000 psi Differential Pressure.**

**Rated to 300 F Temperature.**

## OVERVIEW

The ILFBV is designed to work autonomously, typically alongside Autonomous Inflow Control Devices (AICDs). It uses internal pressure cycles to manage the critical flowback phase of the reservoir segments, ensuring optimal well clean-out and maximizing initial production.

## FEATURES

- **Autonomous Operation with Pressure Cycle:** The ILFBV operates autonomously by applying pressure to the tubing, which triggers the valve's cycling mechanism.
- **Seamless Integration with AICD:** The ILFBV is installed alongside the AICD in the lower completion, working in sync with the AICD for overall reservoir management.
- **Multi-Valve Setup for Segment-by-Segment Flowback:** Multiple ILFBVs can be installed, with up to 20 valves. Each valve controls the flowback of a specific segment.
- **Indexing Mechanism:** Allows the valve to be positioned in either a closed or open state. Only one valve is open at a time for controlled flowback.
- **Pressure-Controlled Valve Closure:** Pressure is applied inside the tubing to close the ILFBV after segment flowback is complete.
- **Permanent Valve Closure:** A final pressure cycle permanently closes all ILFBVs once the topmost segment is cleaned out.

## TECHNICAL SPECIFICATIONS

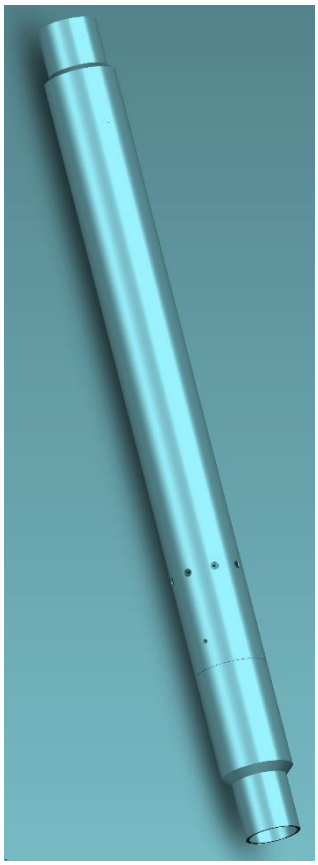
- OD: 5.90 in
- ID: 3.75 in
- Length: 72.00 in

## KEY COMPONENTS

- **Piston Mandrel with Inner Communication Ports:** The piston mandrel features inner communication ports that connect the tubing to the annulus side, allowing controlled flow.
- **Indexing Mechanism:** Features multiple closed positions, typically up to 20, a flowback position, before reaching the final lock-end closed position.
- **Spring Force:** Springs are used to bring the indexing mandrel and piston mandrel back to their initial positions when pressure is bled off.

## AICD COMPLETION CHALLENGES

- In reservoirs drilled with water-based mud, significant water loss occurs during drilling and completion fluid displacement.
- The challenge with Autonomous Inflow Control Devices (AICD) is that during well flowback, the AICD detects 100% water flow and fully closes the choke.
- Consequently, Operators face difficulties in flowing back, the water lost in the well until the first oil is received at the surface.



## THE ILFBV SOLUTION

The Intervention-less Flowback Valve (ILFBV) offers an advanced, intervention-less solution for automated flowback operations.
It operates alongside the AICD in each reservoir segment.

## BENEFITS

- **Improved Operational Efficiency:** Eliminates the need for manual intervention during flowback operations, streamlining the process and reducing the time required to clean out each reservoir segment.
- **Cost Reduction:** Minimizes operational costs and interventions crew requirements by automating the closure of valves and reducing the need for frequent interventions.
- **Enhanced Reservoir Management:** Ensures that each segment of the reservoir is cleaned out thoroughly before moving to the next, improving the overall efficiency of flowback and optimizing the recovery of oil.
- **Increased Well Productivity:** The automatic redirection of flow to the AICD once the first oil appears enhances the overall productivity of the well.
- **Scalability:** The ability to install up to 20 ILFBVs per well allows for flexibility in managing different reservoir sizes and configurations.
- **Safety and Reliability:** Automated processes reduce human error and improve the safety of operations by eliminating the need for intervention.