INTERVENTION-LESS COMPLETION VALVE (ILCV)

Rated to 5,000 psi Differential Pressure.

Rated to 300 F Temperature.

OVERVIEW

The ILCV is a groundbreaking intervention-less completion valve designed to simplify and accelerate well completion operations. It allows multiple pressure cycles without wireline intervention, reducing operational time, risk, and cost.

APPLICATIONS

- **Tubing Integrity:** Tubing Pressure Tests while running the completion string.
- **Well Control:** Well control valve to circulate LCM and kill fluids while running the completion string.
- **Fluid Management:** Circulating valve to displace well unloading fluid prior to setting the packer.
- **Packer Setting:** Packer setting device in highly deviated, horizontal, and Extended Reach wells.
- **Downhole Barrier:** Downhole barrier for well suspension or for BOP - production tree change out.

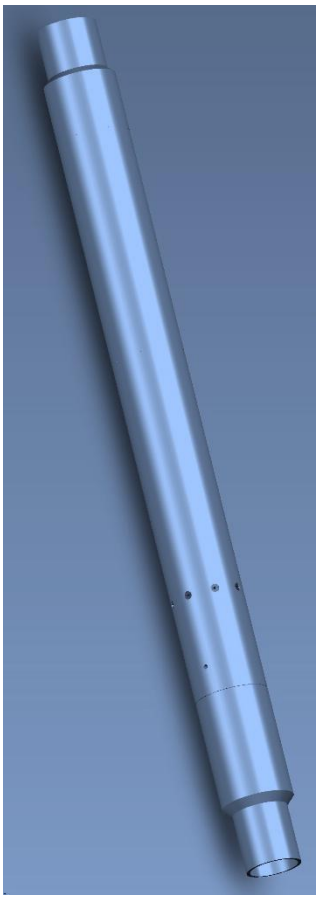
FEATURES

The ILCV opens and closes the annulus to the tubing using a remote operating sleeve. It starts in the open position for autofill during run-in.

- **Closing Cycle:** Applying pressure down the tubing causes the tubing pressure to exceed the annulus pressure (controlled by orifices). This first pressure cycle moves the sleeve to the closed position.
- **Pressure Test/Setting Packer:** When pressure is released, the ILCV stays closed. The next pressure cycle can be used to test the tubing.
- **Opening Cycle:** When pressure is released again, the ILCV moves back to the open position.
- **Permanent Lock:** This open/close cycle repeats five more times. Upon the 6th cycle, the ILCV remains in the closed position permanently.
- **Frangible Disk:** A frangible disk below the ILCV can be ruptured by applied pressure once the ILCV is permanently closed, opening the wellbore.

TECHNICAL SPECIFICATIONS

- Available in 3-1/2 and 4-1/2 (in) Sizes
- Full-bore ID
- Available in different Materials
- Available in different Connections



THE CHALLENGE

In oil and gas well drilling, installing the completion string requires multiple pressure tests to ensure connections are sealing and to activate downhole components like the production packer.

CURRENT CHALLENGES:

- **Time and Cost:** Pressure testing requires running a test-plug (like a Retrievable Bridge Plug) inside the string using a wreline unit. Running tools on wireline is costly and time-consuming.
- **Fluid Management Limitations:** Wireline/slickline often cannot access highly deviated or horizontal zones. This forces the operators to run a frangible disk, which disables self-filling the string and fluid circulation between tubing and annulus.

OUR INTERVENTION-LESS SOLUTION:

The **Intervention-less Completion Valve (ILCV)** is a new concept for completion manipulation that eliminates the need for multiple wreline intervention runs.

The ILCV is installed at the bottom of the completion string and cycles between open and closed positions using a **hydraulic pressure-activated indexing mechanism** controlled by pressure cycling (flow rate creates differential pressures).

CORE BENEFITS (OUR VALUE-ADDED STATEMENT)

We make the well completion operations **FASTER, CHEAPER, and SAFER**.

- **Saves Time:** Eliminates time spent rigging up/down wireline/slickline to run/pull RBPs for every pressure test.
- **Deep Packer Setting:** Closing the ILCV is NOT affected by inclination, allowing the production packer to be set deeper in highly deviated, horizontal, and Extended Reach wells.
- **Multi-Cycle Functionality:** Enables self-filling, kill fluid circulation, pressure testing, setting the packer, and well suspension without wireline intervention.