

CV-1 and CV-2 DVX Check Valves

Provide dual-barrier protection to minimize risk of corrosion and other well integrity issues

Applications

- Wells in which it is critical to prevent corrosive fluids from entering the annulus during gas-lift valve changes
- Wells requiring equipment to be wireline retrievable
- Wells that require high injection rates to maximize production rates
- High-profile wells with high intervention cost

Features and Benefits

- The customized design of the valves works in conjunction with the Weatherford DVX gas-lift mandrel to create an independent, secondary, backup check system to contain pressure and fluids in tubing when a gas-lift valve is pulled from the mandrel pocket. This configuration prevents corrosive fluids from entering casing and eliminates redundant unloading of casing after valve replacements.
- The complete assembly—including the aerodynamic check dart—was designed using computational flow dynamics and physically tested to provide maximum gas passage and erosion resistance, which increases the overall production rate.
- The valve can be manufactured from various materials and customized to fit well conditions.
- The CV-2 DVX reverse-flow check-valve system has been qualified for installation in the North Sea per guiding document TR2385 by passing stringent flow-erosion testing and meeting sealing criteria for maximum well-containment capabilities.

Tool Description

Weatherford CV-1 DVX and CV-2 DVX check valves are specifically designed to be connected externally to Weatherford DVX gas-lift mandrels. These check valves function independently of gas-lift valve checks and serve as a secondary independent barrier to prevent produced fluids from entering the casing. If a gas-lift valve needs to be pulled from an existing mandrel, these valves provide a seal during the pulling operation and prevent corrosive fluids from contacting casing. These check valves have been designed by applying computational flow-dynamics analysis and have been physically tested to provide maximum gas-passage capability and erosion resistance.



Cutaway of CV-2 DVX check valve



CV-1 and CV-2 DVX Check Valves

Specifications

| Valve Model | Valve Model Number | Valve OD | Connection | |
|-------------|--------------------|---------------------|------------|------|
| | | | Size | Type |
| CV-1 DVX | 4312-XXX | 1.00 in. (25.40 mm) | 3/8 in. | NPT |
| | | | 3/8 in. | PTI |
| | | | 3/8 in. | POTH |
| | | | 1/2 in. | NPT |
| | | | 1/2 in. | PTI |
| | | | 1/2 in. | POTH |
| CV-2 DVX | 4312-XXX | 1.50 in. (38.10 mm) | 3/4 in. | NPT |
| | | | 3/4 in. | PTI |
| | | | 1 in. | AE |
| | | | 1 in. | PTI |
| | | | 1 in. | PTA |

