

Crossflow Check Valve (XCV)

Check Valve preventing crossflow into lower pressure zones

The XCV provides a high-rate check valve functionality for multi-zone producers with differentially depleted reservoirs. Mounted within a sand screen and compatible with gravel packing operations, the XCV allows prevention of crossflow into lower pressured zones.

The multi-zone well is completed with an open-hole or cased-hole gravel pack completion using multiple XCVs mounted into each screen section. The XCV has a large inlet and free-floating disc that is pushed away from the inlet during flow in the production direction but will seal against the inlet if the flow is reversed. The XCV will remain closed while an over-balance pressure is being exerted on the valve. Once the over-balance is removed, either by placing the well on production or following sufficient depletion of the higher-pressure zone, the free-floating disc will be pushed away from the seat by production from the lower pressure zone.

The XCV was initially developed and qualified for high-rate gas wells but can be applied to any new or existing producer well where crossflow issues arise.

Features

- Available in any size ranging 1.5mm-20mm
- Ability to prevent backflow even after flowing an erosive slurry at high rates through the valve (gravel packing)
- 200bar (2900psi) burst pressure

Benefits

- Prevents crossflow in multi-zone completions
- Multi-valve functionality

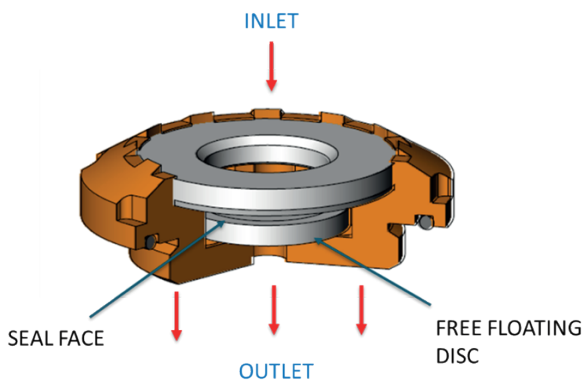


Figure 1. Cutaway of a XCV



Figure 2. Free-floating 'non levitating' disc in a XCV

