Schlumberger

RLC-4R-B

Barrier Series rupture-disc chemical injection valve

APPLICATIONS

- Continuous or intermittent chemical injection
- High-pressure, deepwater, and subsea installations
- Completions in which flow through the valve is not immediately required

BENEFITS

- Provides simple design with long operating life
- Enables rapid, low-cost maintenance with modular construction
- Increases reliability and efficiency
- Enhances safety through ensured wellbore integrity
- Lowers cost by eliminating slickline intervention to remove and replace dummy

FEATURES

- MONEL® and high-nickel-alloy construction for corrosion resistance in the presence of H_2S and CO_2
- Guided valve stem for precise alignment with the seat during operation
- Barrier-qualified reverse-flow check valve that provides positive seal
- Easy adjustment of operating pressure for precise control of injection volume, independent of well temperature
- Nonfragmenting pressure-barrier rupture disc to facilitate integrity checks during well completion and testing
- Reliable, retrievable chemical injection valve design using field-proven technology

The RLC-4R-B Barrier Series rupture-disc chemical injection valve is used to control subsurface corrosion or to eliminate paraffin, salt, and hydrate formation in the tubing string and flowlines. It enables precise control of injection volumes and treatment of well fluid at the valve depth.

An INCONEL® spring provides the force necessary to maintain the valve in the normally closed position. A wide selection of spring rates allows differential operating pressures up to 3,800 psi [26,200 kPa]. A tungsten carbide stem tip and valve seat provide a leakproof seal when the valve is closed.

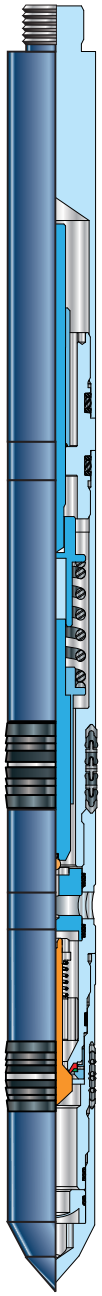
A nonfragmenting rupture disc in the nose of the valve operates as a positive pressure barrier, holding pressure in both directions and allowing integrity checks to be carried out during the well completion and testing phases. The disc is opened, and the valve is activated by simply applying a preset differential across the valve. No well intervention is required.

The barrier-qualified reverse-flow check valve system provides a positive seal between tubing and casing to ensure tubing integrity.

Operation

Injection chemicals enter the valve from either the casing annulus or from a separate injection line attached to the appropriate side pocket mandrel. As injection pressure overcomes the preset spring force, plus the flowing tubing pressure at valve depth, the spring compresses and moves the stem tip up and off the seat. Chemicals flow upward through the seat, down through the crossover arrangement, past the reverse-flow check valve, and into the production tubing.

RLC-4R-B Chemical Injection Valve Specifications	
Valve size, in [cm]	1.500 [3.81]
Max. OD, in [cm]	1.546 [3.93]
Overall length, in [cm]	21 [53.34]
Check valve test pressure (max. differential), psi [kPa]	10,000 [68,947]
Max. set pressure, psi [kPa]	3,800 [26,200]
Max. temperature, degF [degC]	350 [177]
Port size	3⁄16 in
Burst disc ratings	Available on request
Materials	
Body parts	MONEL
O-rings and seals	Viton® with PEEK® backup
Seat	Tungsten carbide
Packing	Modified CAM-PAC carbon and moly-filled Teflon®



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