

Retrievable Gas Lift Valves

Versatile designs for high-performance applications

APPLICATIONS

- Wells with tubing or annulus flow
- Gas lifted wells with continuous or intermittent flow
- High-performance gas lift installations

BENEFITS

- Extends gas lift run life and economics with better uniformity
- Improves well economics by enabling operational versatility in case of changing downhole conditions or operating strategy

FEATURES

- Field-proven design and operation
- Robust reverse flow check valve to prevent production fluid backflow
- Wide range of valve options to suit different well types and operational characteristics
- Floating seats to improve sealing capabilities and facilitate redress
- Corrosion-resistant premium material options to suit diverse applications
- Compatibility for full range of environmental conditions: sweet, sour (H₂S, NACE), and CO₂
- Standard and premium seal stack choices
- Robust bellows construction, hermetically sealed for reliable performance
- Bellows fluid dampening to prevent vibration and destructive chatter during operation
- Bellows fluid lock system to prevent bellows element from overpressurizing
- Options for validation and certification to API Specification 19G2 and ISO 17078-2

Retrievable gas lift valves provide a cost-effective edge to help maximize production and revenue in a competitive and demanding market. These valves are used in side pocket mandrels and can be replaced using slickline in case of equipment failure, or changes in well conditions or production strategy.

Gas lift valve selection

Retrievable gas lift equipment includes injection-pressure-operated (IPO) and production-pressure-operated (PPO) gas lift valves and pilot-operated and single-point-injection gas lift orifice valves. Schlumberger also provides equalizing and nonequalizing dummy valves, shear valves, circulating valves, chemical injection valves, and waterflood flow regulators.

All of the retrievable gas lift valves are manufactured in a variety of port sizes to suit a wide range of gas injection volumes and flow rates. Most of the gas lift valves feature floating valve seats, which facilitate seat changeouts to make valve repairs easier and more economical. They also improve sealing reliability compared with conventional valve seats.

Material options

Retrievable gas lift valves are manufactured from a variety of premium metallurgies to provide appropriate corrosion and erosion resistance for the intended applications. Stainless steel or MONEL® options are typically utilized for the main body components and high-grade nickel alloys for critical components and installations. Tungsten carbide is used for valve trim, with the corresponding seats either hard (tungsten carbide) or soft (MONEL).

Several seal options are also available to achieve the required temperature, pressure, and chemical compatibility performance. Standard valves use nitrile chevron seal stacks and Viton® O-rings. Premium Aflas®, Teflon®, and PEEK (ATP) combination seal stacks with Alfes O-rings or high-specification spring-energized Teflon seals for severe applications.



Retrievable gas lift valves can be easily replaced using slickline to accommodate changing conditions or strategy.

Nitrogen-charged gas lift valve bellows

Most unloading gas lift valves are charged with nitrogen. A nitrogen-charged bellows assembly holds the valves closed; injection gas pressure and production pressure entering the valves provides the force necessary to open them. Bellows pressure integrity is essential for reliable long-term performance and is best achieved in a hermetically sealed unit with no elastomeric joints. A unique silicone fluid dampening system prevents destructive vibration and chatter during operation and forms a hydraulic lock to prevent the bellows element from excessive pressurizing.

Commitment to excellence and innovation

For more than 70 years, Schlumberger has used its experience, knowledge, and commitment to innovation, research, and quality performance to offer high-quality, technologically advanced products. Schlumberger continues its commitment with retrievable gas lift valves that bring the quality and the flexibility to choose dependable, innovative, and efficient equipment for a wide range of production and well control needs.