Schlumberger

Barrier Series

Gas lift systems

APPLICATIONS

- High-pressure, deepwater and subsea wells
- Safety-critical applications with stringent pressure integrity requirements

BENEFITS

- Improves lift efficiency by optimizing gas flow geometry through the barrier mandrel and valves, eliminating tortuosity to ensure minimum pressure drops across the system
- Reduces downtime by eliminating the need for annulus fluid unloading following typical slickline operations
- Lowers costs and downtime through improved pressure integrity of the entire wellbore environment

FEATURES

- Extended capability of existing gas lift systems through a field-proven, dual-pocket, side pocket configuration, with a dual-inline, redundant, leak-tight seal
- Compatibility with existing field-proven Camco gas lift and subsurface safety systems using orienting-type slickline installation and pulling tools
- Industry-standard API Specification 19G1 and 19G2, ISO 17078-1 and 17078-2, and pressure barrier qualifications

Especially suited for high-pressure, deepwater, and subsea installations, Barrier Series gas lift systems lower costs and downtime by improving the pressure integrity of the entire wellbore environment.

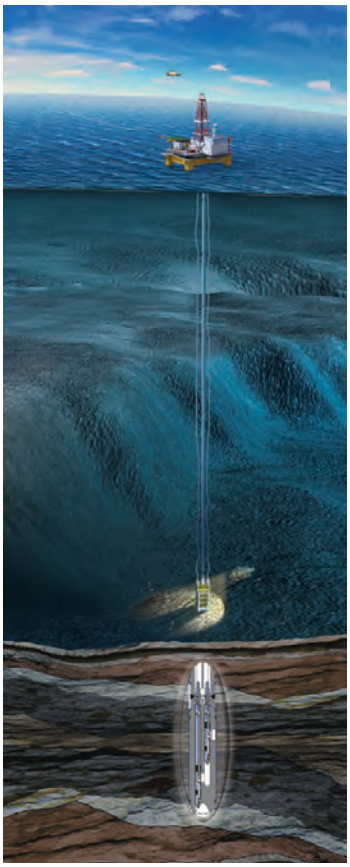
Complete gas lift wells and improve performance with the combined benefits of Barrier Series gas lift valves and the MMRG-2V-B dual-pocket, side pocket mandrel. The MMRG-2V-B mandrel is based on the existing, field-proven MMRG-2V configuration with a dual inline, redundant, leak-tight seal.

Enhanced capability and reliability

A barrier-qualified check valve system that provides a metal-to-metal seal between the tubing and casing annulus is available in 1-, 1½- and 1¾-in injection-pressure-operated (IPO) valves and orifice valves for some barrier valve options.

The availability of dual bores and communication portals in the barrier mandrel allows for two separate and distinct, retrievable, flow control check-valve devices that work independently to simultaneously serve both the flow control and the pressure barrier requirements of the gas lift system.

The barrier mandrel is a round-body, fully machined mandrel with a one-piece, twin 1½-in bore pocket design with a dual-tool discriminator containing a tubing-to-casing barrier valve (TCBV). The TCBV prevents communication between the tubing and casing when the normal operating gas lift valve is removed from the primary pocket.



Barrier Series gas lift systems can be deployed in even high-pressure, deepwater, and subsea environments.

Valve, Mandrel, and Latch Compatibility		
Barrier Series Gas Lift Valves, 1-in OD	**Side Pocket Mandrels**	**Latches**
BK-B injection pressure operated	KB series side pocket mandrels	BK series latches
OM-21R-B single-point injection orifice		
NOVA-10-B venturi orifice		
Barrier Series Gas Lift Valves, 1½-in OD		
R-20-02-B injection pressure operated	M series side pocket mandrels MMRG-2V-B dual-pocket, side pocket mandrel	R series latches
O21R-B single-point-injection orifice		
02-30R-B dual-check orifice		
S02-30R-B dual-check shear orifice		
NOVA 15-B venturi orifice		
High-Pressure Barrier Series Gas Lift Valves, 1¾-in OD		
XLI-B injection pressure operated	XL series side pocket mandrels	XL series latches
XLO-B high-pressure orifice		
XLO-R-B rupture-disk orifice		

Barrier Series

Designed to meet the challenges of demanding environments

Barrier Series gas lift valves are manufactured using state-of-the-art technology and corrosion-resistant materials to meet the challenges of demanding environments and accommodate a variety of critical operating conditions and pressure ranges. The Barrier Series IPO gas lift valves enable reliable well unloading under challenging conditions. Several Barrier Series orifice valves provide dependable continuous-flow gas lift operation in extreme environments.

Strict quality, leak-rate, and performance criteria

The high-performance check valves are designed and qualified to meet strict quality, leak-rate, and performance criteria as defined by the Statoil TR2385 standard, API Specification 19G2, and ISO 17078-2. With a test pressure rating of 10,000 psi [68,947 kPa], the check valve forms a metal-to-metal barrier between the tubing and casing annulus that prevents undesired communication or reverse flow, and mitigates risks associated with typical gas lift valve check systems.

Through increased reliability and performance, Schlumberger Barrier Series gas lift equipment extends the capability of conventional gas lift systems by enhancing the capabilities of field-proven Camco gas lift technology to form an integral component of the well barrier envelope.

Barrier Series gas lift systems extend the capabilities and range of existing gas lift systems to even the most challenging environments.

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