

R-20-02-B

Injection-pressure-operated gas lift valve

APPLICATIONS

- Tubing or annular flow
- Continuous or intermittent production
- High-performance gas lift installations

BENEFITS

- Enhances safety because wellbore integrity is ensured during shut-in periods
- Reduces downtime because of reliable performance
- Lowers costs because of versatility and efficiency
- Increases production because of uniform operation over a series of injection pressures

FEATURES

- Field-proven design and operation
- Qualification to API Specification 19G2 V1, ISO 17078-2 V1, and barrier standards
- Corrosion resistance through stainless steel or nickel alloy construction
- Guided valve stem that precisely aligns stem to seat during operation
- Barrier-qualified reverse-flow check valve system that provides positive seal between tubing and casing annulus
- Usable with Camco* gas lift and subsurface safety systems' standard and select side pocket mandrels

Schlumberger R-20-02-B Barrier Series injection-pressure-operated (IPO) gas lift valves are used for continuous or intermittent gas lift production. Based on field-proven Camco systems technology, these 1½-in-OD retrievable valves feature a barrier-qualified, positive-sealing, integral reverse-flow check valve.

Applications include tubing flow when they are installed in standard side pocket mandrels or annular flow when they are installed in side pocket mandrels ported for annular flow. A nitrogen-charged, multi-ply MONEL® bellows provides the force necessary to maintain the valves in a normally closed position.

Operation

The injection pressure necessary to compress the bellows of IPO gas lift valves is controlled by precharged nitrogen pressure. Injection gas enters the valve and acts on the effective bellows area. As the injection gas pressure overcomes the precharged pressure in the bellows, the bellows compresses and lifts the stem tip off the seat. Injection gas then flows through the seat, past the reverse-flow check valve, and into the production conduit.

R-20-02-B Valve Specifications

| | |
|--|-------------------|
| OD (not including latch), in | 1.500 |
| Length with latch, in [mm] | 28.526 [724.560] |
| Max. operating pressure, psi [kPa] | 5,000 [34,474] |
| Max. differential pressure across check section, psi [kPa] | 10,000 [68,947.6] |
| Max. temperature, degF [degC] | 350 [177] |
| Min. temperature, degF [degC] | 50 [10] |
| Orifice size range, in | 8/64 to 32/64 |

Materials

| | |
|-------------------|---|
| Body parts | MONEL 400 and K-500 |
| O-rings and seals | Viton® with PEEK® backups |
| Seat | Tungsten carbide |
| Packing | Modified Campac carbon and moly-filled Teflon® with PTFE/carbon fiber/graphite-filled PEEK backup and MONEL K-500 retainer ring |

Secondary accessories

| | |
|----------------|--|
| Latch | RA, RK, and RK-1 latch, depending on type of mandrel |
| Running tool | JC-3 and RK-1 |
| Pulling tool | 2-in JDC and 1½-in JDS |
| Kickover tool | L, L2-D, OM series, and TPD depending on type of mandrel |
| Mandrel series | MMA, MMG, and MMRG |



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