**Injection-Pressure-Operated Gas Lift Valves**

Retrievable valves for tubing for annular flow in continuous or intermittent production

**APPLICATIONS**
- Tubing or annular flow
- Continuous or intermittent production

**BENEFITS**
- Enables uniform operation and extended run life
- Improves economics with operational versatility
- Increases reliability and efficiency

**FEATURES**
- Field-proven design
- Hydraulic forming process for the bellows
- Premium materials that work in a variety of applications
- Floating seats
- Guided valve-stem for precise alignment with the seat during operation
- Reverse-flow check valves to prevent back-flow into the tubing annulus

Camco® gas lift and subsurface safety systems’ injection-pressure-operated gas lift valves use nitrogen-charged, multi-ply MONEL® bellows to provide the force necessary to maintain the valves in the normally closed position. The bellows assembly includes a hydraulic dampening system, which uses silicon fluid to reduce the movement of the valve stem tip. This prevents destructive valve chatter and prolongs run life.

1-in [25.4-mm] OD BK, BK-1, BKT, and BKT-1 valves and 1½-in [38.1-mm] OD R-20-02 valves are available, featuring integral reverse-flow check valves.

These gas lift valves are installed in standard side pocket mandrels for tubing flow and in specially ported side pocket mandrels for annular flow.

**Port sizes**
- 1-in OD valves are available with port sizes for BK valves in ¼-in [6.4-mm] increments from ⅛ in to ⅜ in [3.2 mm to 7.9 mm], and port sizes for BK-1, BKT, and BKT-1 valves in ¼-in increments from ⅛ in to ⅜ in [3.2 mm to 9.5 mm].
- 1½-in [38.1-mm] OD valves are available with port sizes for R-20-02 valves in ⅛-in increments from ⅛ in to ⅜ in [3.2 mm to 12.7 mm].

**Operation**
The injection pressure necessary to compress the bellows of these gas lift valves is determined by the precharged nitrogen pressure in the bellows. Injection gas enters the valve and acts on the effective bellows area. As the injection gas pressure overcomes the precharged pressure, 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 tubing.

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## Injection-Pressure-Operated Gas Lift Valves

<table>
<thead>
<tr>
<th>Valve Type</th>
<th>Nominal OD, in [mm]</th>
<th>Latch</th>
<th>Running Tool</th>
<th>Pulling Tool</th>
<th>Mandrel Series</th>
</tr>
</thead>
<tbody>
<tr>
<td>BK</td>
<td>1.000 [25.4]</td>
<td>BK series</td>
<td>JK</td>
<td>JDC</td>
<td>KBM, KBMM, KBMG, KBG</td>
</tr>
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<td>BK-1</td>
<td>1.000 [25.4]</td>
<td>Integral bottom</td>
<td>GA-2</td>
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<td>R-20-02</td>
<td>1.500 [38.1]</td>
<td>RA</td>
<td>JC-3</td>
<td>JDC</td>
<td>MMA</td>
</tr>
</tbody>
</table>

*Use core extension with this pulling tool for integral bottom latch valves.*