

# Conventional Pilot-Operated Valves

Gas lift valves for intermittent tubing flow production

## APPLICATIONS

- Gas lift service
- Intermittent tubing flow production

## ADVANTAGES

- Nitrogen-charged, multi-ply MONEL<sup>®</sup> bellows to maintain the pilot section
- INCONEL<sup>®</sup> spring to maintain the power section
- Floating valve seats

Camco<sup>\*</sup> gas lift and subsurface safety systems include conventional pilot-operated gas lift valves used for intermittent tubing flow production. Each pilot-operated valve consists of a pilot section and a power section.

A nitrogen-charged, multi-ply MONEL bellows provides the force necessary to maintain the pilot section in a normally closed position, and an INCONEL spring provides the force necessary to maintain the power section in a normally closed position. This line of valves includes the 1-in [25.4-mm] OD BP-2 valves and the 1½-in [38.1-mm] OD CP-2 valves. Both of these valves have floating valve seats.

## Flow areas and port sizes

The power section of the 1-in OD BP-2 valves has a flow area equivalent to a ⅜-in [9.5-mm] port. The port sizes for the BP-2 pilot section are available in ⅛-in [1.6-mm] increments from ⅜ to ⅝ in [4.8 to 9.5 mm].

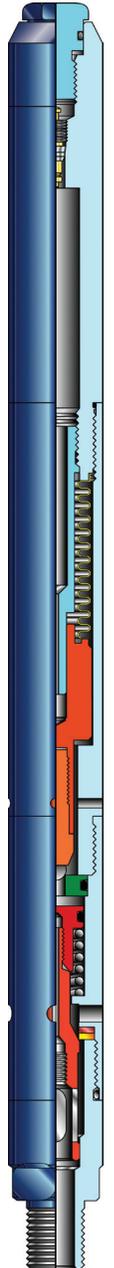
The power section of the 1½-in OD CP-2 valves has a flow area equivalent to a 9/16-in [14.3-mm] port. The port sizes for the CP-2 pilot section are available in ⅛-in increments from ¼ to ½ in [6.4 to 12.7 mm].

## Operation

Injection gas enters the valve pilot section and acts on the effective bellows area. As injection pressure overcomes the precharged nitrogen pressure in the bellows, the bellows is compressed and lifts the stem tip off the seat to open the pilot section. Injection gas then flows through the valve until it overcomes the preset spring force of the power section. As the power section opens, injection gas flows through the valve, past the reverse-flow check valve, and into the production conduit.

## Engineering Data for Conventional Pilot-Operated Valves

Type	OD, in [mm]	Connecting Thread, in - TPI	Reverse-Flow Check Valve	Mandrel
BP-2	1.000 [25.4]	0.500 - 14 NPT	B-1	B, B deflector lug
CP-2	1.500 [38.1]	0.500 - 14 NPT	J-20	C, C deflector lug



CP-2 valve.

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