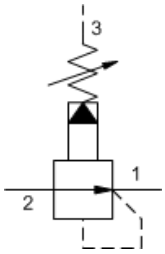
# Pilot operated, pressure reducing valve

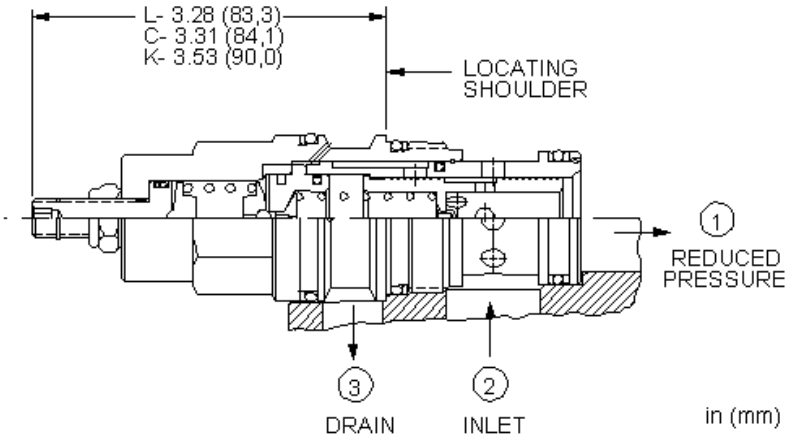
Capacity:
40 gpm (160 L/min.)

Model:
PBHB

## Product Description

Pilot-operated, pressure reducing valves reduce a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1, allowing circuits with multiple pressure requirements to be operated using a single pump.




## Technical Features

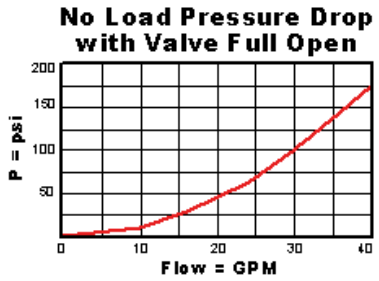
- Full reverse flow from reduced pressure (port 1) to inlet (port 2) may cause the main spool to close. If reverse free flow is required in the circuit, consider adding a separate check valve to the circuit.
- If pilot flow consumption is critical, consider using direct acting reducing/relieving valves.
- Recommended maximum inlet pressure is determined by the adjustment range. Ranges D, E, N, and Q are tested with a 2000 psi (140 bar) maximum differential between inlet and reduced pressure. Ranges A, B, and H are tested with a 3000 psi (210 bar) maximum differential between inlet and reduced pressure. Ranges C and W are tested with 5000 psi (350 bar) of inlet pressure.
- Pilot operated valves exhibit exceptionally flat pressure/flow characteristics, are very stable and have low hysteresis.
- Pressure at port 3 is directly additive to the valve setting at a 1:1 ratio and should not exceed 5000 psi (350 bar).
- Pilot operated reducing, reducing/relieving valves by nature are not fast acting valves. For superior dynamic response, consider direct acting valves.
- All three-port pressure reducing and reducing/relieving cartridges are physically interchangeable (i.e. same flow path, same cavity for a given frame size). When considering mounting configurations, it is sometimes recommended that a full capacity return line (port 3) be used with reducing/relieving cartridges.
- Incorporates the Sun floating style construction to minimize the possibility of internal parts binding due to excessive installation torque and/or cavity/cartridge machining variations.

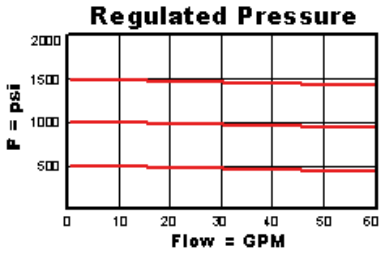
## Special Notes

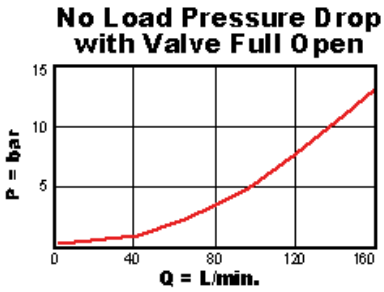
- Maximum pressure differentials for spring ranges: A and B are 3000 psi (210 bar) N and Q are 2000 psi (140 bar) W is 5000 psi (350 bar)inlet pressure

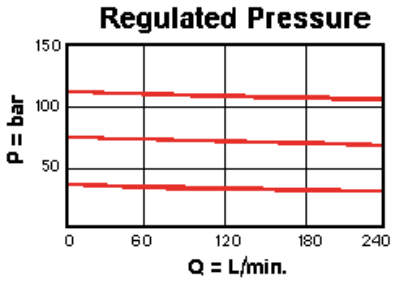
Technical Data

| | U.S. Units | Metric Units |
|---|---|---|
| Cavity | T-17A | |
| Capacity | 40 gpm | 160 L/min. |
| Control Pilot Flow | 15 - 20 in³/min. | 0,25 - 0,33 L/min. |
| Factory Pressure Settings Established at | blocked control port (dead headed) | |
| Maximum Operating Pressure | 5000 psi | 350 bar |
| Series (from Cavity) | Series 3 | |
| Adjustment - Number of Clockwise Turns to Increase Setting | 5 | |
| Valve Hex Size | 1 1/4 in. | 31,8 mm |
| Valve Installation Torque | 150 - 160 lbf ft | 200 - 215 Nm |
| Adjustment Screw Internal Hex Size | 5/32 in. | 4 mm |
| Adjustment Locknut/Cap Hex Size | 9/16 in. | 15 mm |
| Adjustment Nut Torque | 80 - 90 lbf in. | 9 - 10 Nm |
| Seal Kits - Cartridge | Buna: 990-017-007 | |
| Seal Kits - Cartridge | Viton: 990-017-006 | |
| Model Weight | 1.26 lb. | 0.57 kg. |




## PBHB-LAN

### Control

Preferred Options

L Standard Screw Adjustment

Standard Options

C* Tamper Resistant - Factory Set

K Handknob

### Adjustment Range

Preferred Options

A 100 - 3000 psi (7 - 210 bar), 200 psi (14 bar) Standard Setting

W 150 - 4500 psi (10,5 - 315 bar), 200 psi (14 bar) Standard Setting

Standard Options

B 50 - 1500 psi (3,5 - 105 bar), 200 psi (14 bar) Standard Setting

N 60 - 800 psi (4 - 55 bar), 200 psi (14 bar) Standard Setting

Q 60 - 400 psi (4 - 28 bar), 200 psi (14 bar) Standard Setting

### Seal Material

Preferred Options

N Buna-N

Standard Options

V Viton

*Additional Options*

| Control | Adjustment Range | Seal Material |
|---|---|---|
| M Capped Screw Adjustment with Lockwire Holes | C 150 - 6000 psi (10,5 - 420 bar), 200 psi (14 bar) Standard Setting | |
| Q* Capped and Lockwired | D 25 - 800 psi (1,7 - 55 bar), 200 psi (14 bar) Standard Setting | |
| W* Max. Setting Limiter | E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting | |
| | H 30 - 3000 psi (2 - 210 bar), 200 psi (14 bar) Standard Setting | |

* Special Setting required, specify at time of order
Customer specified setting stamped on hex.

Related Models
PBHB8