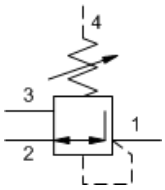
Direct-acting, pressure reducing/relieving valve with drain to port 4

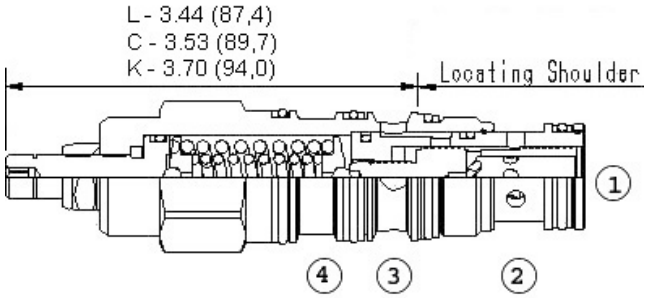
Capacity:
20 gpm (80 L/min.)

Model:
PSFB

Product Description

Direct-acting, pressure reducing/relieving valves reduce a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1, with a full-flow relief function from port 1 to tank (port 3). Draining port 4 makes the valve insensitive to pressure at port 3. These valves incorporate a damped construction for stable operation allowing the use of high reduced pressure.





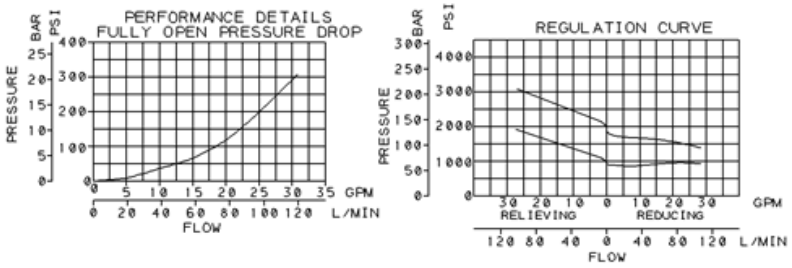
Technical Features

- Maximum pressure at port 3 should be limited to 3000 psi (210 bar).
- All spring ranges are tested for correct operation with 5000 psi (350 bar) inlet pressure.
- Suitable for accumulator circuits since the absence of pilot control flow results in reduced secondary circuit leakage.
- Direct acting concept provides highly reliable operation in contaminated systems, especially at dead headed conditions.
- Unlike pilot operated versions, direct acting valves exhibit a transitional step between reducing and relieving modes. This step equals 5% of the high end of the adjustment range, independent of the valve setting. Therefore, these valves may not be suitable for counterbalancing applications.
- Direct operated version offers superior dynamic response compared to equivalent pilot operated models.
- Pressure on the drain (port 4) is directly additive to the valve setting at a 1:1 ratio and should not exceed 5000 psi (350 bar).
- Leakage specified in Technical Data is out of port 3 with a supply pressure of 2000 psi (140 bar) and the valve set at mid range. This leakage is directly proportional to pressure differential and inversely proportional to viscosity expressed in centistokes.
- 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.
- By controlling the pressure at the drain (port 4), the effective setting of the valve can be increased over the nominal valve setting.
- 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.

Technical Data

	U.S. Units	Metric Units
Cavity	T-22A	
Capacity	20 gpm	80 L/min.
Factory Pressure Settings Established at	blocked control port (dead headed)	
Maximum Operating Pressure	5000 psi	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	3 in^3/min.@1000 psi	50 cc/min.@70 bar
Series (from Cavity)	Series 2	
Adjustment - Number of Clockwise Turns to Increase Setting	5	

Valve Hex Size	1 1/8 in.	28,6 mm
Valve Installation Torque	45 - 50 lbf ft	60 - 70 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: 990-022-007	
Seal Kits - Cartridge	Viton: 990-022-006	
Model Weight	0.74 lb.	0.34 kg.



PSFB-LAN

Control	Adjustment Range	Seal Material
Standard Options	Standard Options	Standard Options
C* Tamper Resistant - Factory Set	A 750 - 3000 psi (50 - 210 bar), 1000 psi (70 bar) Standard Setting	N Buna-N
K Handknob	B 300 - 1500 psi (20 - 105 bar), 500 psi (35 bar) Standard Setting	V Viton
L Standard Screw Adjustment	D 200 - 800 psi (14 - 55 bar), 400 psi (28 bar) Standard Setting	
	E 100 - 400 psi (7 - 28 bar), 200 psi (14 bar) Standard Setting	
	S 50 - 200 psi (3,5 - 14 bar), 100 psi (7 bar) Standard Setting	

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