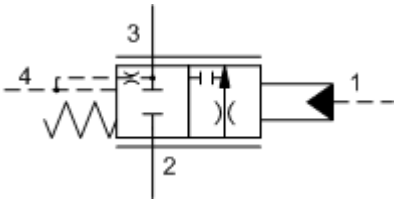
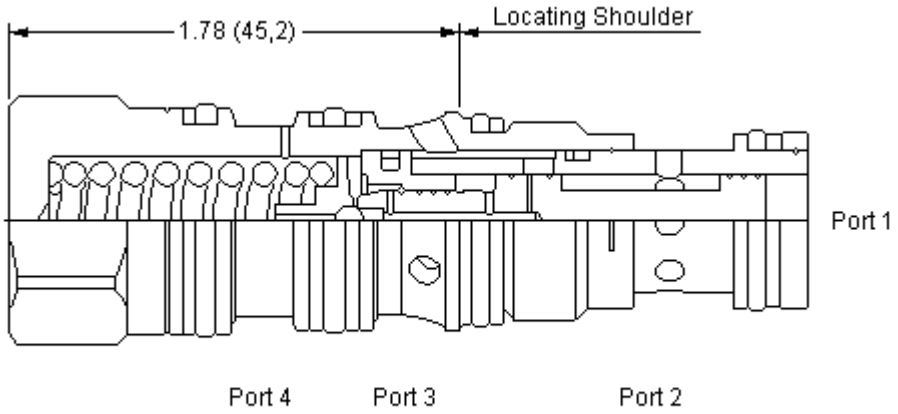
MODEL
**FKCB**

2-way, pilot-shifted, proportional throttle with bleed down, high capacity
**CAPACITY: 9 gpm / CAVITY: T-21A**

sunhydraulics.com/model/FKCB




in (mm)

This valve is a 2-way, 2-position proportional throttle. Ports 2 and 3 are normally closed. Pilot pressure at port 1 creates a metering orifice between port 2 and 3 that is proportional to the pressure at 1. The force balance of the flow forces, spring and pilot pressure results in a degree of partial self-compensation as the load pressure changes. This valve includes a bleed-down feature which connects ports 3 to 4 in the spring-biased position. The bleed-down feature is useful when the valve is used as a meter-in flow control in circuits which include counterbalance valves downstream of port 3. The bleed-down connection is closed as the valve is piloted with increasing pressure at port 1. Pressure at port 4 directly opposes pressure at port 1.

## TECHNICAL DATA

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

| | |
|---|---|
| Cavity | T-21A |
| Series | 1 |
| Capacity | 9 gpm |
| Maximum Operating Pressure | 5000 psi |
| Bypass orifice | .03 in. |
| Maximum Valve Leakage at 110 SUS (24 cSt) | 2 $in^3$/min.@1000 psi |
| Minimum Pilot Pressure to Operate | 100 psi |
| Pilot Volume Displacement | .02 $in^3$ |
| Hysteresis | ± 2 % |
| Adjustment - No. of CW Turns from Min. to Max. setting | 5 |
| Valve Hex Size | 7/8 in. |
| Valve Installation Torque | 30 - 35 lbf ft |
| Adjustment Screw Internal Hex Size | 5/32 in. |
| Locknut Hex Size | 9/16 in. |
| Locknut Torque | 80 - 90 lbf in. |
| Model Weight | .30 lb |
| Seal kit - Cartridge | Buna: 990-021-007 |
| Seal kit - Cartridge | Polyurethane: 990-021-002 |
| Seal kit - Cartridge | Viton: 990-021-006 |

## OPTION SELECTION EXAMPLE: FKCBLXCNV

| CONTROL | (L) | SPOOL CONFIGURATION | (C) | SEAL MATERIAL | (N) |
|---|---|---|---|---|---|
| **L** Standard Screw Adjustment | | **C** Normally Closed | | **N** Buna-N | |
| **X** Not Adjustable | | | | **V** Viton | |

## TECHNICAL FEATURES

- An optional tuning adjustment (L control) is offered to vary the pilot pressure required to control flow. The tuning adjustment provides a means to manually increase or decrease flow at a given pilot pressure. The adjustment range is 50 - 450 psi (3,5 - 30 bar), 100 psi (7 bar) Standard Setting.
- These valves may be pressure compensated by an external, modulating, logic element. Use LR_C-XHN for a bypass circuit or LP_C-XHN for a restrictive circuit.
- The valve provides a degree of self-compensation and may be used as a flow control. To increase the accuracy of flow control, an external, modulating, logic element can be used to maintain a constant flow over a wider range of flows and pressures. See performance curves for additional information.
- Ports 1 and 4 should be limited to 500 psi (35 bar).
- Pressure at port 4 directly opposes pressure at port 1.
- Accurate pressure compensated control requires that a constant pressure differential be maintained across the valve.
- 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.

## PERFORMANCE CURVES