



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-23A
Series	3
Capacity	20 gpm
Maximum Operating Pressure	5000 psi
Bypass orifice	.03 in.
Maximum Valve Leakage at 110 SUS (24 cSt)	4 in <sup>3</sup> /min.@1000 psi
Minimum Pilot Pressure to Operate	100 psi
Pilot Volume Displacement	.10 in <sup>3</sup>
Hysteresis	± 2 %
Adjustment - No. of CW Turns from Min. to Max. setting	5
Valve Hex Size	1 1/4 in.
Valve Installation Torque	150 - 160 lbf ft
Adjustment Screw Internal Hex Size	5/32 in.
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990-023-007
Seal kit - Cartridge	EPDM: 990-023-014
Seal kit - Cartridge	Polyurethane: 990-023-002
Seal kit - Cartridge	Viton: 990-023-006

## OPTION SELECTION EXAMPLE: FKFBXCNV

<b>CONTROL</b>	<b>(X) SPOOL CONFIGURATION</b>	<b>(C) SEAL MATERIAL</b>	<b>(V)</b>
<b>X</b> Not Adjustable	<b>C</b> Normally Closed	<b>V</b> Viton	
<b>L</b> Tuning Adjustment		<b>E</b> EPDM	
		<b>N</b> Buna-N	

### TECHNICAL FEATURES

- 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.
- 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 - 250 psi (3,5 - 15 bar), 100 psi (7 bar) Standard Setting.
- Cartridges configured with EPDM seals are for use in systems with phosphate ester fluids. Exposure to petroleum based fluids, greases and lubricants will damage the seals.
- 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



