



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	5 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	0.58 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: FKBBXCN

CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	C Normally Closed	N Buna-N	Standard Material/Coating
L Tuning Adjustment		V Viton	/AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel

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

