



Normally closed, direct-acting, 3-way directional cartridges are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot-operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 4 exceeds the setting.

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

Cavity	T-21A
Series	1
Capacity	7 gpm
Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	4 gpm
Maximum Valve Leakage at 110 SUS (24 cSt)	2 in <sup>3</sup> /min.
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	0.41 lb.
Seal kit - Cartridge	Buna: 990-021-007
Seal kit - Cartridge	Polyurethane: 990-021-002
Seal kit - Cartridge	Viton: 990-021-006

**NOTES:** • For Series 1 cartridges configured with an O control (panel mount handknob), a .75 in. (19 mm) diameter hole is required in the panel.

## OPTION SELECTION EXAMPLE: DRBNLAN

CONTROL	(L)	ADJUSTMENT RANGE	(A)	SEAL MATERIAL	(N)	MATERIAL/COATING
<b>L</b>	Standard Screw Adjustment	<b>A</b>	500 - 3000 psi (35 - 210 bar), 1000 psi (70 bar) Standard Setting	<b>N</b>	Buna-N	Standard Material/Coating
<b>C</b>	Tamper Resistant - Factory Set	<b>B</b>	50 - 1500 psi (3,5 - 105 bar), 200 psi (14 bar) Standard Setting	<b>V</b>	Viton	<b>/AP</b> Stainless Steel, Passivated
<b>K</b>	Handknob	<b>D</b>	25 - 800 psi (1,7 - 55 bar), 200 psi (14 bar) Standard Setting			<b>/LH</b> Mild Steel, Zinc-Nickel
		<b>E</b>	25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting			
		<b>W</b>	750 - 4500 psi (50 - 315 bar), 1000 psi (70 bar) Standard Setting			

### TECHNICAL FEATURES

- Port 3 can be used as a work port.
- The flow path between port 2 and port 3 is bidirectional.
- Because of their direct-acting design, these cartridges feature low internal leakage and low pilot flow consumption.
- Direct-acting and pilot-operated versions of these valves are interchangeable. They fit the same cavities and have the same flow paths.
- Pressure at port 4 is directly additive to the setting of the valve.
- This valve is not bistable; it is capable of modulating between the two positions shown.
- Maximum pressure at port 3 should be limited to 3000 psi (210 bar). This is due to fatigue strength limits not hydraulic operating limits.
- 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

