Pilot-to-close, spring biased closed, unbalanced poppet logic element with metering notches and position switch

Capacity:
12 gpm (45 L/min.)

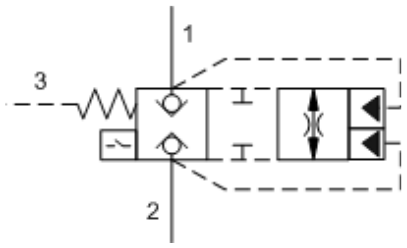
Functional Group:
Products : Cartridges : Logic Element : Unbalanced Poppet : Pilot-to-close, Spring Biased Closed with Metering Notches and Position Indicating Switch

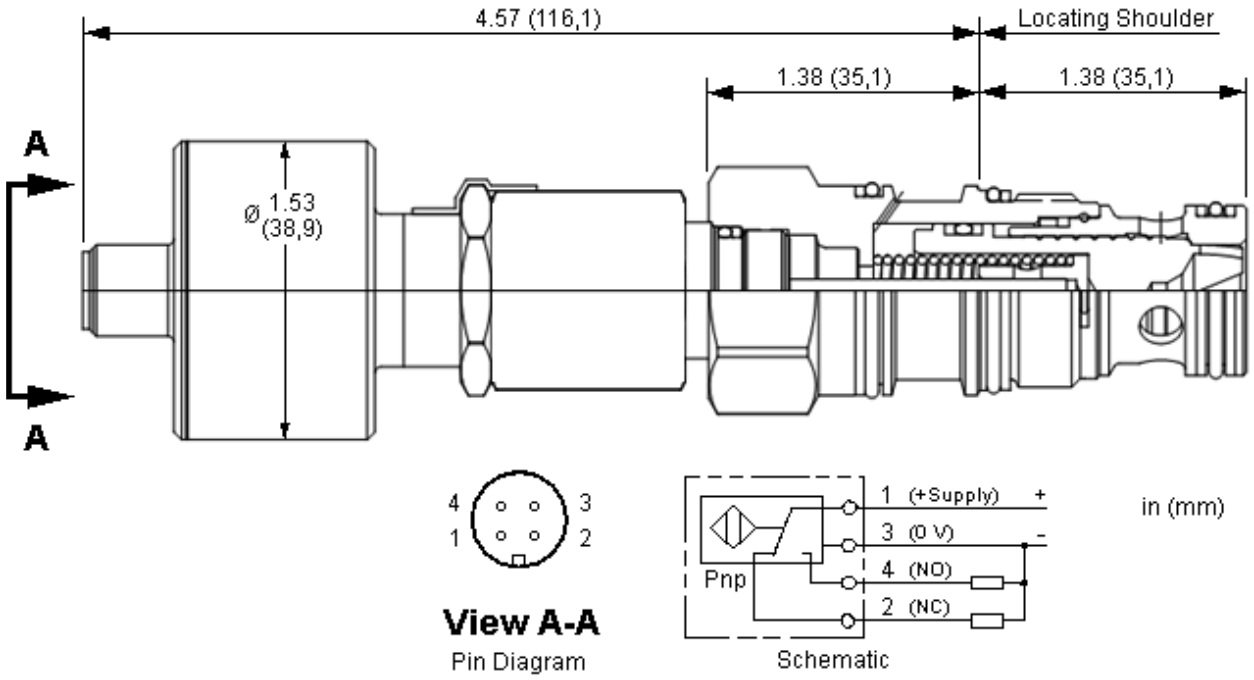
Model:
LOECZ

Product Description

These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased closed. Pressure at either work port 1 or 2 will oppose the spring and tend to open the valve while pressure at port 3 will tend to close it. The force generated by the pressure at port 3, plus the spring force, must be greater than the sum of the forces generated by the pressures at ports 1 and 2 for the valve to remain closed.

This valve incorporates a position switch to provide confirmation that the valve is closed.





Technical Features

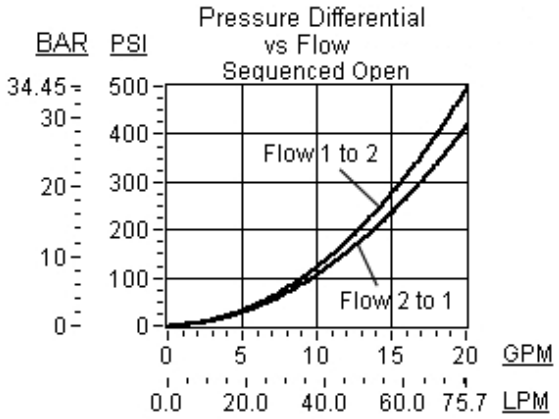
- This valve has metering notches in the poppet to reduce hydraulic shock during valve opening and closing.
- These valves are pressure responsive at all ports, therefore it is essential to consider all aspects of system operation through a complete cycle. Pressure changes at any one port may cause a valve to switch from a closed to an open position, or vice versa. All possible pressure changes in the complete circuit must be considered to assure a safe, functional system design.
- The position switch in this valve provides confirmation that the valve is closed.
- All ports will accept 5000 psi (350 bar).
- These valves have positive seals between port 2 and the pilot area.
- Position switch is CE approved.
- This cartridge is supplied as a sealed, factory set unit and is not field serviceable. Any tampering will violate the product warranty.
- An optional protective cover, with mounting hardware included, may be ordered separately. See kit number: 991-043.
- When torquing this cartridge into its cavity, a crow's foot wrench or similar will be required since the position switch precludes the use of a deep socket wrench.
- 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.
- Because these valves are unbalanced, operation is pressure dependent. Opening and closing of the poppet are functions of the force balances on three areas: Port 1 = 100%, Port 2 = 80%, and the Pilot Area = 180%.

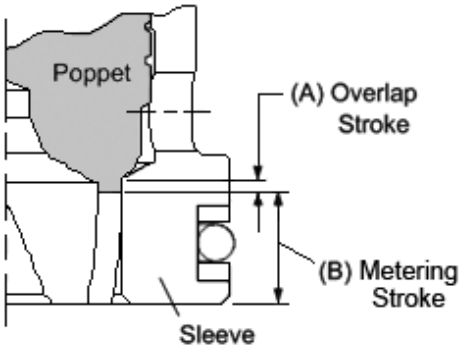
Technical Data

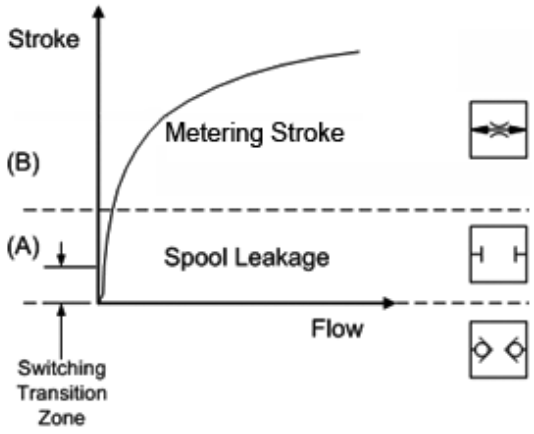
	U.S. Units	Metric Units
Cavity	T-2A	
Capacity	12 gpm	45 L/min.
Area Ratio, A3 to A1	1.8:1	
Area Ratio, A3 to A2	2.25:1	
Maximum Operating Pressure	5000 psi	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.	0,07 cc/min.
Pilot Passage into Valve	.035 in.	0,9 mm
Pilot Volume Displacement	.07 in^3	1,1 cc
Series (from Cavity)	Series 2	
Transition leakage at 110 SUS (24 cSt)	2 in^3/min.@1000 psi	30 cc/min.@70 bar
Valve Hex Size	1 1/8 in.	28,6 mm
Valve Installation Torque	45 - 50 lbf ft	60 - 70 Nm
Seal Kits - Cartridge	Buna: 990-202-007	
Seal Kits - Cartridge	Viton: 990-202-006	
Model Weight	1.34 lb.	0.61 kg.

Switch Specifications

	U.S. Units	Metric Units
Supply Voltage	20-30 VDC	
Reverse Polarity Protection	Yes	
Maximum Output Load	≤ 400 mA, Duty Ratio 100%	
Short Circuit Protection	Yes, Load Short Unlimited	
Turn On Time	≤ 25 ms	
Hysteresis	≤ .002 in.	
Operating Temperature Range	-25 to 80 °C	
Thermal Shift - 0 to 80 °C ≤ ±	.004 in.	0,1 mm
EMC	DIN EN 61000-6-1/2/3/4	
Connector Environment Rating	IP65	
Vibration	≥ 50g, 0-500 impulses/sec	
Shock	>50 g, 1ms	
Connector	M12 X 1 (4) Pin	







LOEC-ZDN

Nominal Control Pressure

Standard Options

D	50 psi (3,5 bar)

Seal Material

Standard Options

N	Buna-N
V	Viton