

Pilot-to-open, spring biased closed, unbalanced poppet logic element with position switch

Capacity:
40 gpm (160
L/min.)

Functional Group:

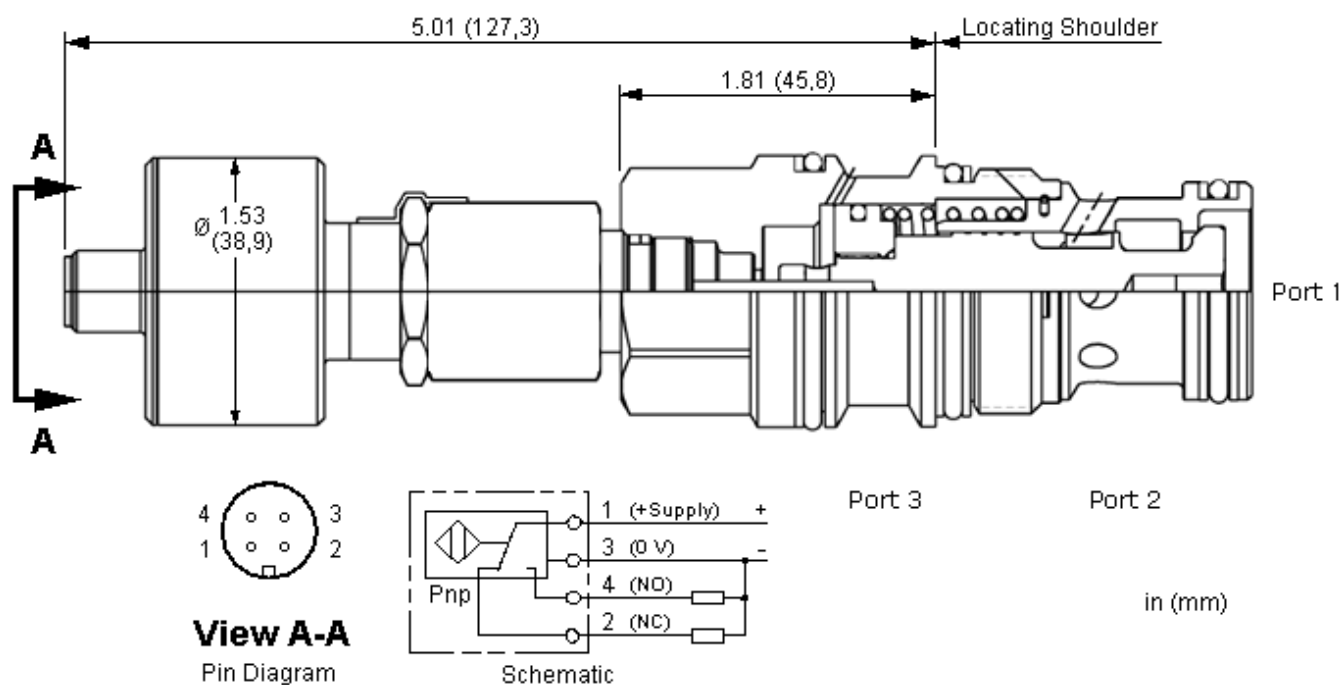
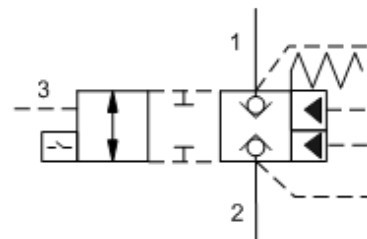
Products : Cartridges : Logic Element : Unbalanced Poppet : Pilot-to-open, Spring Biased Closed with Position Indicating Switch

Model:
LKHCZ

Product Description

These unbalanced poppet, logic valves are 2-way switching elements that are spring-biased closed. Pressure at either work port 1 or 2 will further bias the valve to the closed position while pressure at port 3 will tend to open it. The force generated at port 3 must be greater than the sum of the forces acting at port 1 and port 2 plus the spring force for the valve to open. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

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



Technical Features

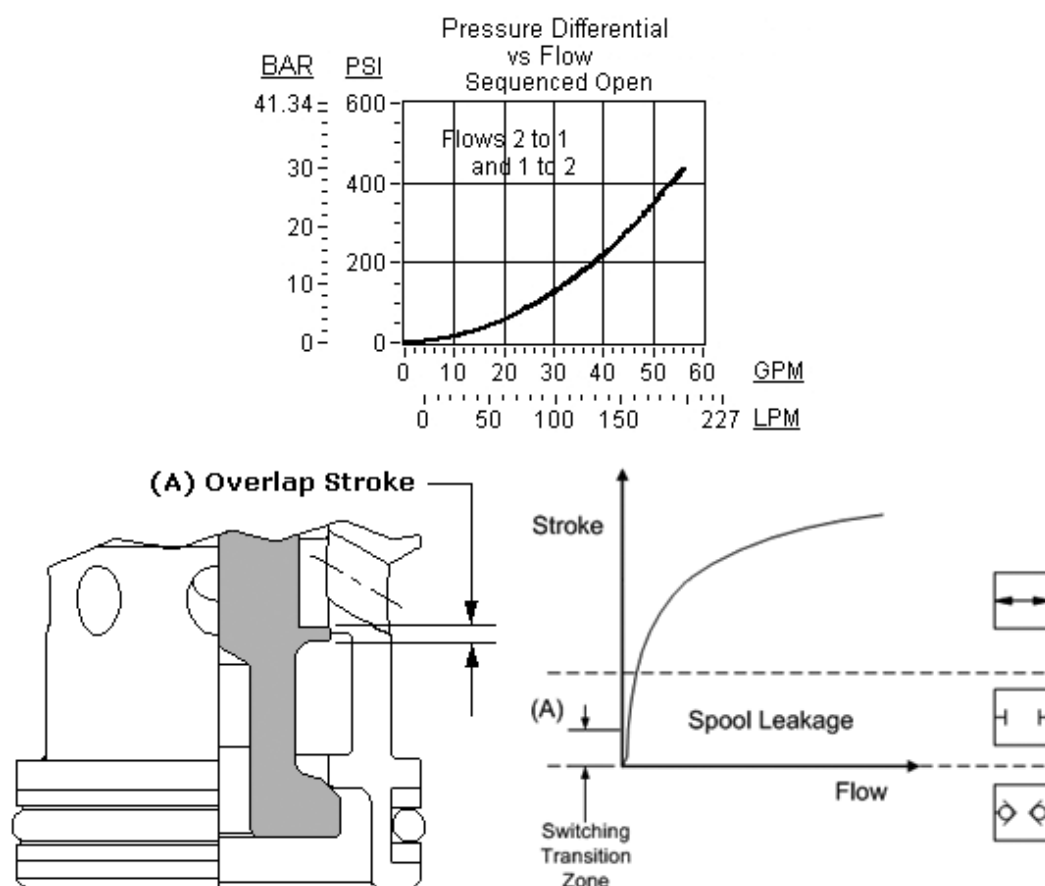
- The position switch in this valve provides confirmation that the valve is closed.
- These valves are pressure responsive at all ports, therefore it is essential to consider all aspects of system operation through a complete cycle. Pressure changes at any one port may cause a valve to switch from a 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.
- These valves have positive seals between port 2 and the pilot area.
- All ports will accept 5000 psi (350 bar).
- This cartridge is supplied as a sealed, factory set unit and is not field serviceable. Any tampering will violate the product warranty.
- Position switch is CE approved.
- 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.
- An optional protective cover, with mounting hardware included, may be ordered separately. See kit number: 991-043.
- 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%.
- 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.

Technical Data

	U.S. Units	Metric Units
Cavity	T-17A	
Capacity	40 gpm	160 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	.06 in.	1,50 mm
Pilot Volume Displacement	.15 in ³	2,5 cc
Series (from Cavity)	Series 3	
Transition leakage at 110 SUS (24 cSt)	2 in ³ /min.@1000 psi	30 cc/min.@70 bar
Valve Hex Size	1 1/4 in.	31,8 mm
Valve Installation Torque	150 - 160 lbf ft	200 - 215 Nm
Model Weight	1.94 lb.	0.88 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	



LKHC-ZDN

Minimum Pilot Pressure

Standard Options

D 50 psi (3,5 bar)

Seal Material

Standard Options

N Buna-N

V Viton