

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

Capacity:
15 gpm (60 L/min.)

Functional Group:

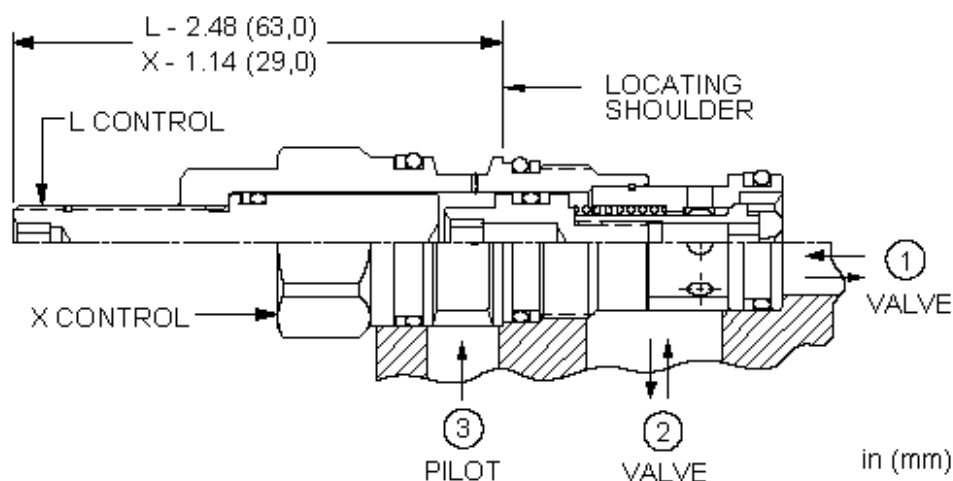
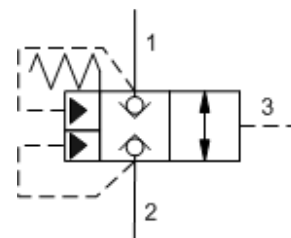
Products : Cartridges : Logic Element : Unbalanced Poppet : Pilot-to-open, Spring Biased Closed

Model:

LKDC

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.

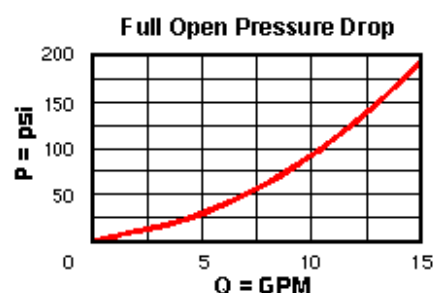
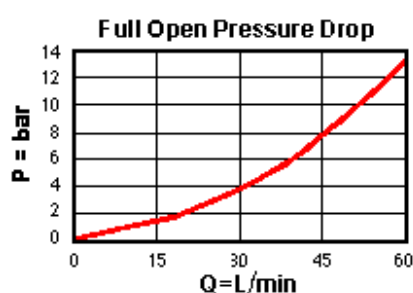


Technical Features

- These valves have positive seals between port 2 and the pilot area.
- 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%.
- All ports will accept 5000 psi (350 bar).
- Corrosion resistant cartridge valves are intended for use in corrosive environments and are identified by the model code suffix /AP (see Option Selection below). The bodies of these valves are made from high strength lean duplex stainless steel. Adjustment screws are made from titanium or silicon brass, depending on the model. Lock nuts, retaining wires, and assorted controls are made from 316 stainless steel. Internal parts are made from carbon steel leaded alloy, the same as standard valves.
- 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.
- 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-11A	
Capacity	15 gpm	60 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)	10 drops/min.@1000 psi	0,7 cc/min.@70 bar
Pilot Passage into Valve	.031 in.	0,8 mm
Pilot Volume Displacement	.02 in ³	0,33 cc
Series (from Cavity)	Series 1	
Valve Hex Size	7/8 in.	22,2 mm
Valve Installation Torque	30 - 35 lbf ft	40 - 50 Nm
Seal Kits - Cartridge	Buna: 990-011-007	
Seal Kits - Cartridge	Viton: 990-011-006	
Model Weight	0.28 lb.	0.13 kg.

**LKDC-XDN****Control****Minimum Pilot Pressure****Seal Material****Material/Coating Modifier****Standard Options****Standard Options****Standard Options****Preferred Options****X** Not Adjustable**D** 50 psi (3,5 bar)**N** Buna-N**V** Viton**No modifier** (standard material with no special coating)**Special Options****/AP** Stainless Steel, Passivated

Control: X

Our corrosion resistant product line is growing! If you are interested in a corrosion resistant option for this model, please contact Sun.

Additional Options**Control****Minimum Pilot Pressure****Seal Material****E** External 4-SAE Pilot Port, Port 3 Blocked**K** Handknob**L** Manual Override**P** External 1/4 NPTF Pilot Port, Port 3 Blocked

When the modifier is /AP, the control must be X

Related Documents:

- [Explanation of Sun cartridge control options - US units.](#)
- [Explanation of Sun cartridge control options - metric units.](#)