

Vent-to-open, spring biased closed, unbalanced poppet logic element with pilot source from port 1

Capacity:
25 gpm (95 L/min.)

Functional Group:

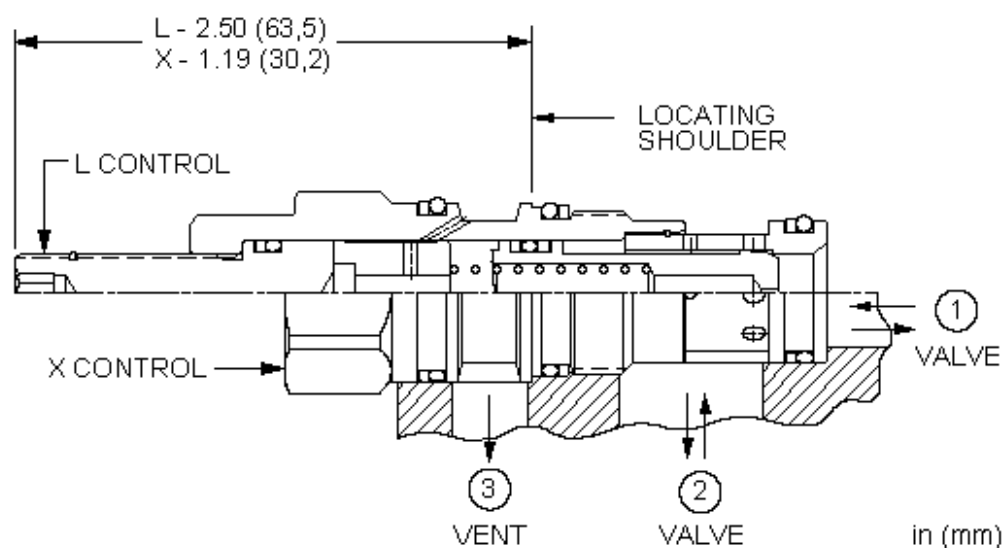
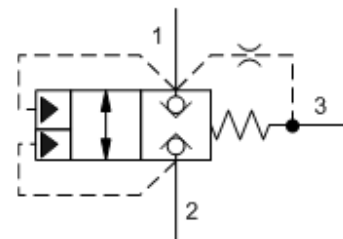
Products : Cartridges : Logic Element : Unbalanced Poppet : Vent-to-open, Spring Biased Closed, with Pilot Source from Port 1

Model:

LODA

Product Description

These unbalanced, vent-to-open logic valves are 2-way switching elements that are spring-biased closed and have port 1 as a pilot source. With port 3 blocked, the valve will remain in the closed position in the 1 to 2 direction and will function as a check valve from 2 to 1. With port 3 vented, the valve will open provided there is sufficient pressure to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

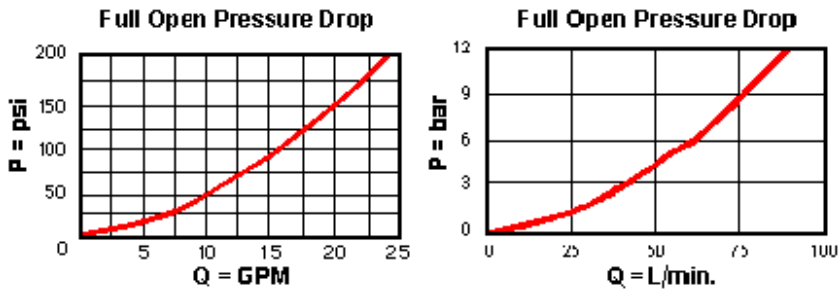


Technical Features

- These valves have positive seals between port 2 and the pilot area.
- These valves open quickly when vented. Time to close is difficult to predict as it is dependant on the rate of flow and the pressure drop created as it closes.
- 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%.
- 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.
- 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.
- 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	25 gpm	95 L/min.
Area Ratio, A3 to A1	1.8:1	
Area Ratio, A3 to A2	2.25:1	
Control Orifice Diameter	.021 in.	0,53 mm
Maximum Operating Pressure	5000 psi	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.	0,7 cc/min.
Pilot Volume Displacement	.04 in ³	0,66 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	0.27 lb.	0.12 kg.



LODA-XDN

Control

Standard Options

X Not Adjustable

Cracking Pressure

Standard Options

D 50 psi (3,5 bar)

Seal Material

Standard Options

N Buna-N
V Viton

Material/Coating
Modifier

Preferred Options

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

E External 4-SAE Port, Port 3 blocked
L Stroke Adjustment

Cracking Pressure

Related Models

[LODA8](#)

Related Documents:

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

Seal Material

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