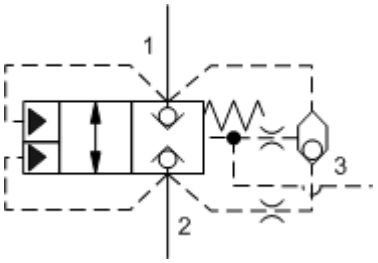
Vent-to-open, spring-biased closed, unbalanced poppet logic element with pilot source from port 1 or 2

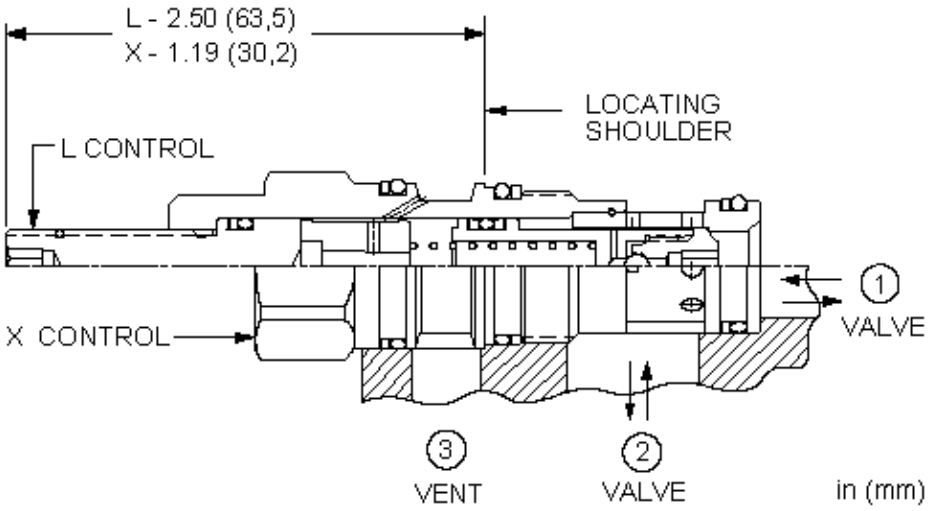
CAPACITY: 25 gpm / CAVITY: T-11A

sunhydraulics.com/model/LODD



CONFIGURATION

L	Control	Stroke Adjustment
	Cracking Pressure	
	Seal Material	
	Material/Coating	



These unbalanced, vent-to-open logic valves are 2-way switching elements that are spring-biased closed and incorporate an integral shuttle so that the higher of pressures at either port 1 or port 2 can be used as a pilot source. With port 3 blocked, the valve is held in the closed position by the spring force. 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 DATA

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

Cavity	T-11A
Series	1
Capacity	25 gpm
Maximum Operating Pressure	5000 psi
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Control Orifice Diameter	.021 in.
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.
Pilot Volume Displacement	.04 in^3
Valve Hex Size	7/8 in.
Valve Installation Torque	30 - 35 lbf ft
Seal kit - Cartridge	Buna: 990-011-007
Seal kit - Cartridge	EPDM: 990-011-014
Seal kit - Cartridge	Polyurethane: 990-011-002
Seal kit - Cartridge	Viton: 990-011-006

OPTION SELECTION EXAMPLE: LODDLXN

CONTROL	(L)	CRACKING PRESSURE	(D)	SEAL MATERIAL	(N)	MATERIAL/COATING	
L	Stroke Adjustment	**D**	50 psi (3,5 bar)	**N**	Buna-N		Standard Material/Coating
X	Not Adjustable			**E**	EPDM	**/AP**	Stainless Steel, Passivated
				V	Viton		

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 dependent on the rate of flow and the pressure drop created as it closes.
- Controlling 2 or more of these valves with 1 pilot control is not advised. The shuttle valve creates a flow path between the multiple elements. Using a blocking check on the pilot of each logic valve will prevent this.
- Cartridges configured with EPDM seals are for use in systems with phosphate ester fluids. Exposure to petroleum based fluids, greases and lubricants will damage the seals.
- 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 for external stainless steel components, or /LH for external zinc-nickel plated components. See the CONFIGURATION section for all options. For further details, please see the Materials of Construction page located under TECH RESOURCES.
- 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