

**INTRINSICALLY SAFE  
LINE MOUNTED  
1/4 NPTF AND 3/8 NPTF VALVES**



L2I intrinsically safe valves are solenoid-pilot actuated, multipurpose, 4-way power valves. These valves are designed for use in explosive environments within an intrinsically safe system. The special solenoid is capable of operating at very low power levels, so that any spark that may be produced is not powerful enough to ignite any dust or gas present in the operating environment.

Intrinsically safe L2I valves are designed to operate only when connected to a current and voltage limiting safety barrier. The valve and wiring is not capable of releasing sufficient electrical or thermal energy under normal or abnormal conditions to cause ignition of a specific hazardous atmospheric condition in its most easily ignited concentration.

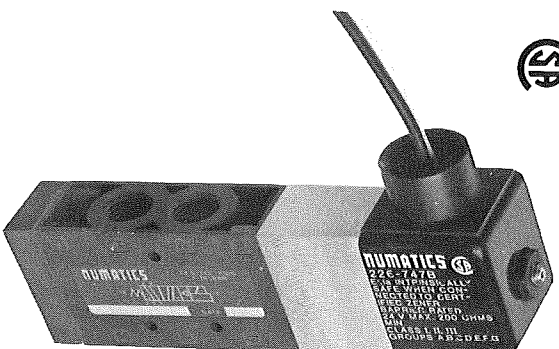
Valves may be mounted in any position.

Suggested applications for Numatics L2I intrinsically safe valves include grain handling equipment, petrochemical processing plants, chemical and drug manufacturing, paint plants, flammable gas processing, mines and any other area where there is a likelihood of explosions or fire caused by arcing electrical devices.

Two valve configurations are available.

Single solenoid-pilot, spring return valves are actuated by a "maintained" electrical signal. The spring returns the spool to the original position when the electrical signal is removed.

Double solenoid-pilot, detented valves are actuated by either a "momentary", or a "maintained" electrical signal alternately on each solenoid. The detent holds the spool in position after electrical power is removed and prevents inadvertent spool shift due to vibration or shock.



L221A452B

**OPERATING DATA**

**SOLENOID APPROVALS:**

CSA - File LR 42844-11  
FM - File J.I.2T7A3.AX

**ELECTRICAL SPECIFICATIONS:** See page 105.

**RESPONSE TIME:**

Energize: .022 Seconds at 100 PSIG  
De-energize .100 Seconds at 100 PSIG

**PRESSURE RANGE:**

Internal Pilot Supply: 14.5 PSIG - 120 PSIG  
External Pilot Supply:

Main Valve: 28" Hg. vacuum to 145 PSIG

Pilot Supply: Same as internal pilot supply

**TEMPERATURE RANGE:** -40° F to +115° F ambient.

**SERVICE:** Valves can be used on the following properly filtered media:

Lubricated air, dry (oil free) air, vacuum, and non-corrosive, non-toxic, non-flammable dry gases. See page 191-193 for a list of recommended lubricants and filtration requirements for unlubricated service.

**FLOW CAPACITY:** L2I valves have a Cv of 1.7. See Numatics' Engineering and Technical Data for complete flow chart.

**MODEL SELECTION CHART**

VALVE TYPE	MODEL NUMBER		A.N.S.I. SYMBOL	SPECIAL OPTION
	1/4 NPTF	3/8 NPTF		
Single Solenoid Pilot, 2-Position, Spring Return	L221A452B	L231A452B		Add letter to the model number.  014A = External Pilot Supply
Double Solenoid Pilot, 2-Position, Detented	L221I452B	L231I452B		018D = Side Cylinder Ports in the Body to Adapt to Actuator Adaptor or Cylinders.

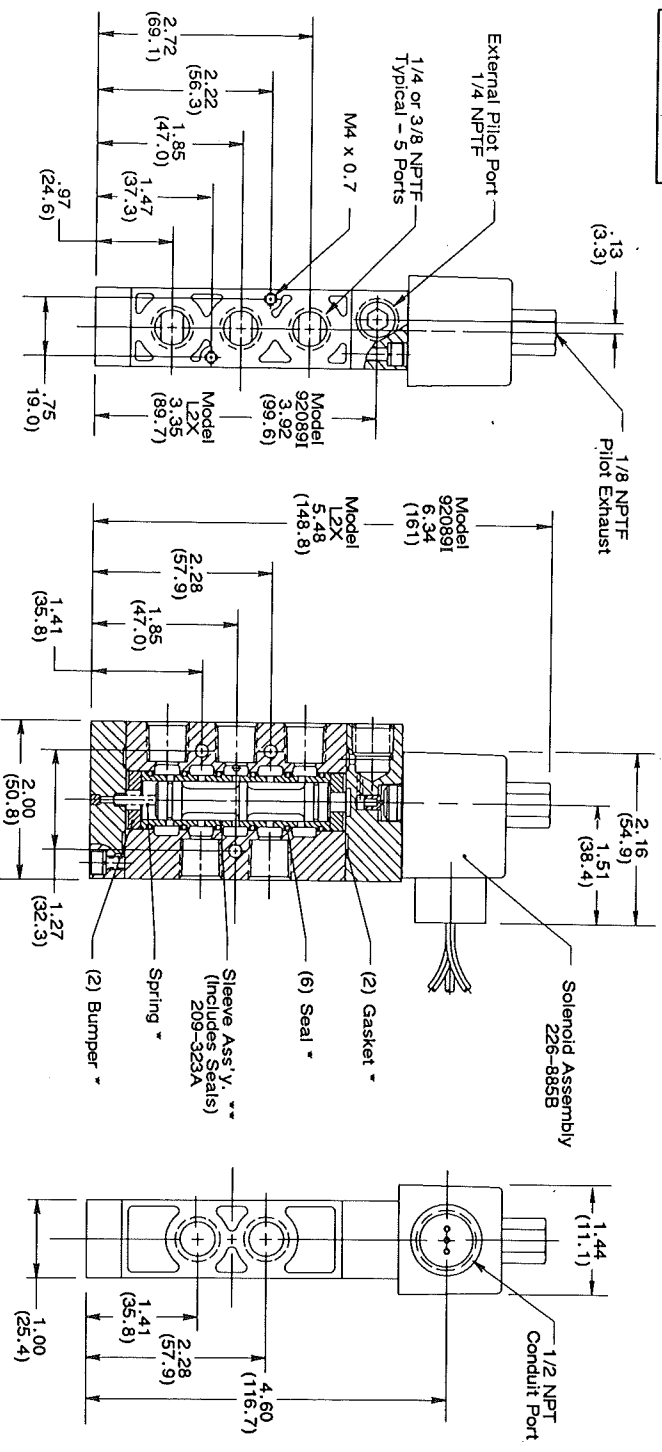


Top Dimensions = Inches  
Bottom Dimensions  
(in Parentheses) = Millimeters

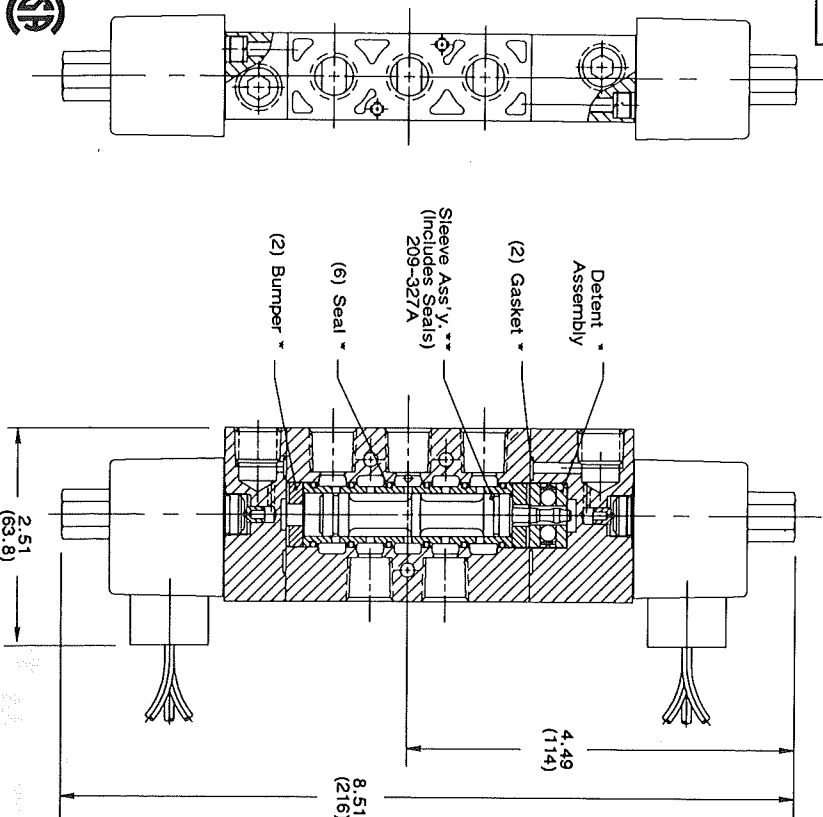
## SOLENOID PILOT ACTUATED DIMENSION AND PARTS

**numatics®**  
L2I SERIES  
INTRINSICALLY SAFE

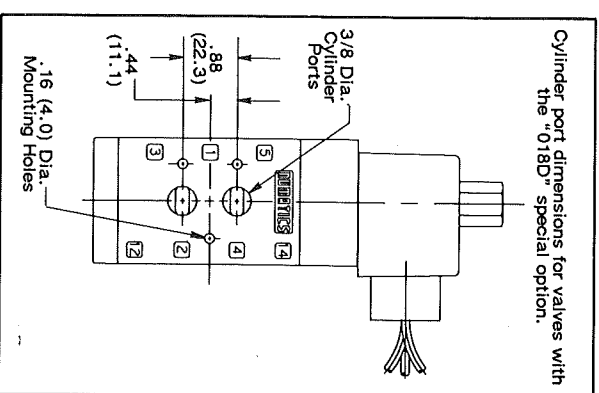
L231A452B



L231I452B



"018D" OPTION



Cylinder port dimensions for valves with the "018D" special option.

\*\* This spool and Sleeve assembly is sold as a precision matched set only. Spools are not interchangeable.



### EXTERNAL PILOT SUPPLY

To convert any valve to external pilot supply, remove the adapter from the valve body, rotate the gasket to block the internal supply, and replace the adapter in the same position. Remove the 1/4 NPTF pipe plug from the adapter and supply external pilot pressure to this port.  
On double solenoid-pilot valves, both ends must be converted.  
External pilot supply must be used if pressure is supplied to any port except No. 1

### \* VALVE REPAIR KITS

Includes all internal parts except Sleeve Assembly or Solenoids		
Valve Series	Kit Number	
L221A4, L231A4	L2-K1	
L221A4, L231A4	L2-K2	