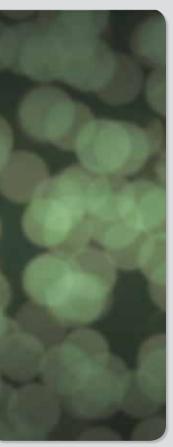
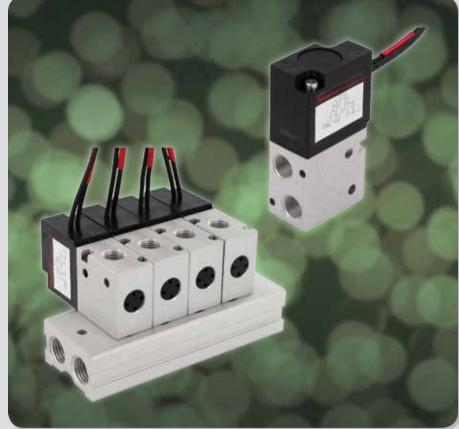
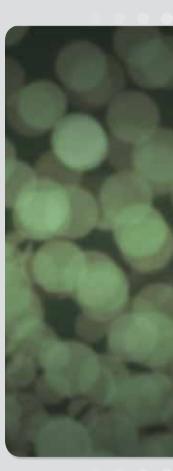
## Humphrey®

# L310 Latching Solenoid Valve







A privately owned US company since 1901.

www.humphrey-products.com

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## **L310 LATCHING SOLENOID VALVE**

The L310 LATCHING SOLENOID VALVE SERIES is developed from the proven advanced Humphrey technology of the balanced-poppet direct-acting solenoid valve design. The latching technology is optimized for applications that demand low power consumption and low heat generation.

#### **ENERGY SAVINGS**

Standard single solenoid valves require electrical power while holding the valve in the energized position. A 50 millisecond pulse of the solenoid fully shifts the L310 from one position to the other. Power is removed and the latching function holds the solenoid and valve positioned, thereby offering significant energy savings. The valve remains in that position until another 50 millisecond electrical pulse, of opposite polarity, is applied. This is particularly beneficial in applications where a valve remains open for long periods of time, such as remote applications, where the valve is battery powered, or where continuous power supply is limited.

#### **HEAT RISE MINIMIZED**

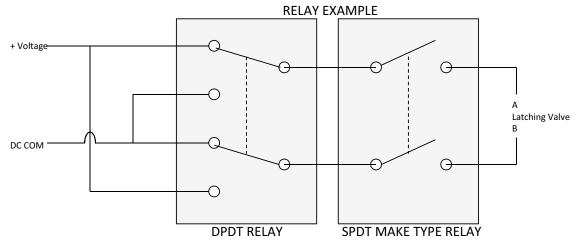
Standard single solenoid valve designs generate heat while in the energized state. Since the L310 does not require energy to maintain the state, the heat rise is temporary and minimized. The L310 is ideal for applications where the effect of the temperature is a concern.

#### **MULTIPLE PURPOSE**

The L310 is of a balanced construction and therefore suitable for vacuum or pressures up to 80 PSIG, as normally closed or normally open function. Plug either the 1 or 3 port for 2-way service. Consult factory for diverter and selector functions. The L310 can be used on the 410M Manifold in conjunction with or without Humphrey's 310 and 410 series valves.

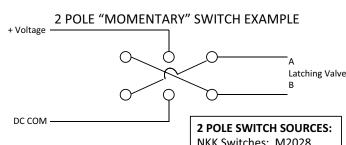






#### **ELECTRICAL CONTROL**

The L310 is a two-wire latching valve, therefore requiring the electrical current to flow in one direction to open the flow state and another direction to close the flow state. Either of these schematics will accomplish the function.



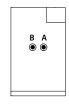
NKK Switches: M2028 CW industries: GTB3B17

APEM: 647H

## **Specifications, Schematics, Drawings**

#### **MECHANICAL SPECIFICATIONS**

MECHANICAL SPECIFICATIONS				
Type of Operation	Direct Solenoid, latching			
Function	3-port, Multi-Purpose			
Ports	1/8 PIPE			
Media	Air (Dry or Lubricated), Inert Gases, Vacuum			
Pressure Range	28" Hg VAC to 80 PSIG			
Ambient Temp. Range	32° to 125°F (0° to 50°C)			
Flow 1>2 Port @80 PSIG (Cv)	12.0 SCFM min. (0.25)			
Flow 3>2 Port @80 PSIG (Cv)	9.0 SCFM min. (0.18)			
Max. Leakage (@80 PSIG)	<4ccm			
Lubrication	Not required. If used, ensure compatibility with Buna materials.			
Filtration	40 micron, recommended			
Weight	.25 lbs (114 grams)			
Min. Pulse Width	50 ms			
Power Consumption	4 watts (during pulse)			
Wetted Materials	Brass, Buna, Aluminum, SST			





LEAD WIRE

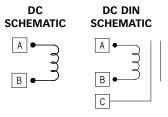
DIN - 39

#### TERMINAL DESIGNATION

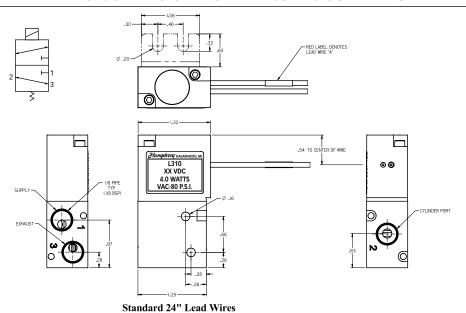
BY APPLYING POSITIVE DC VOLTAGE TO THE "A" TERMINAL AND NEGATIVE TO THE "B" TERMINAL THE VALVE WILL BE OPEN TO THE #2 CYLINDER PORT. WHEN THE POLARITY IS REVERSED THE VALVE WILL EXHAUST TO PORT #3.

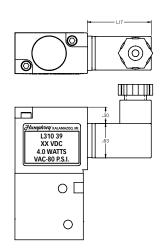
IT IS THE USERS RESPONSIBILITY TO PROVIDE A POLARITY SWITCHING METHOD.

WIRING DIAGRAMS USING EITHER A 2-POLE SWITCH OR A RELAY ARE DEPICTED ON PAGE 2.

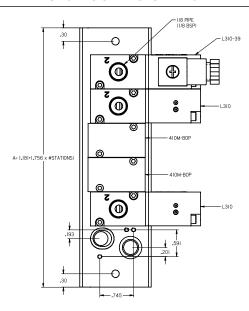


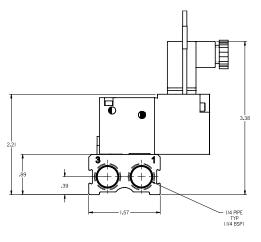
#### **L310 DIMENSIONAL DRAWINGS AND SCHEMATIC**





#### **L310 MOUNTED ON 410M**





## **HOW TO ORDER**

	ELECTRIC	AL ENTRY	ROTATED COIL OPTION				
VALVE MODEL	18" Lead Wires	DIN Connector	Standard Position	Rotate 180 Degrees		TAGE ICES	REMARKS
L310	•	-39	•	-RC	12VDC	24VDC	2- or 3-port Latching Function, Direct-Acting Solenoid, 1/8 PIPE ports
Standard Offeria	ng (no code necessary)				Ord	ler Examp	le: L310-39-12VDC

## **Valve Accessories**



#### **ACCESSORIES - VALVES**

MODEL	DESCRIPTION	NOTES
8-288A	Mtg. Bracket	Accepts one L310 model valve.
130-31	1/8 PIPE Plug	Plug 1 or 3 port on L310 models for 2-way.
HS-2	DIN	Receptacle for L310 models.
HS-2LED-(voltage)	DIN w/LED light	



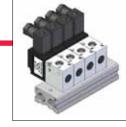


130-31



### **Manifolds and Accessories**





WANIFULUS			
MODEL	DESCRIPTION	NOTES	
410M	4-stn	1/4 PIPE, Supply and Exhaust ports each end.	
	6-stn		
	8-stn	Also accepts 310 and	
	12-stn	410 valve models.	

#### ACCESSORIES - MANIEOLDS

ACCESSORIES - MANIFOLDS			
MODEL	DESCRIPTION	NOTES	
DRC	DIN Rail Clip	Kit, includes (2) brackets and (2) screws.	
130-15	1/4 PIPE Plug	Plug for manifold Supply and Exhaust ports.	
410M-BOP	Block-Off Plate	Includes plate, (2) gaskets and (2) screws.	
410M-VMK	Valve Mtg. Kit	Includes (2) brackets and (2) screws (replacement).	







