

# X-Valve®

## 8 mm switching solenoid valves

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### FEATURES

- 3-way, 2 position valve (NO, NC & Distributor)
- Compact size, only 8 mm in width
- Meets pressure requirements including 6, 30 & 100 psi
- Excellent leakage specification for over 25 million cycles
- Ensures high reliability with its single piece body design
- Barbed pressure ports allow for direct tubing or manifold assemblies
- Non-elastomeric versions with enhanced media compatibility available on request



### MEDIA COMPATIBILITY

Non-reactive gases and selected liquids

### WETTED MATERIALS

PBT (polybutylene terephthalate); 430 series stainless steel; 302 series stainless steel (passivated); FKM (fluoroelastomer); EPDM (ethylene propylene diene monomer); silicone

### ELECTRICAL

Power	
X1... (6 psi)	0.5 W
all other (30 psi, 100 psi)	1.0 W
Voltage	3, 5, 12, 24 V <sub>DC</sub>
Electrical connections	PC pins, 4 mm centers

### PHYSICAL PROPERTIES

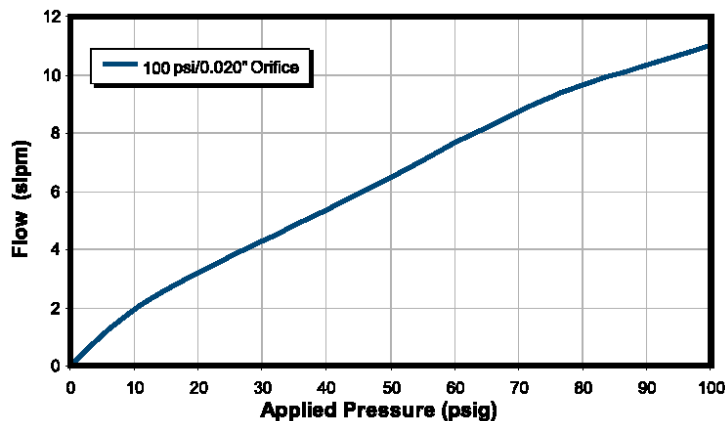
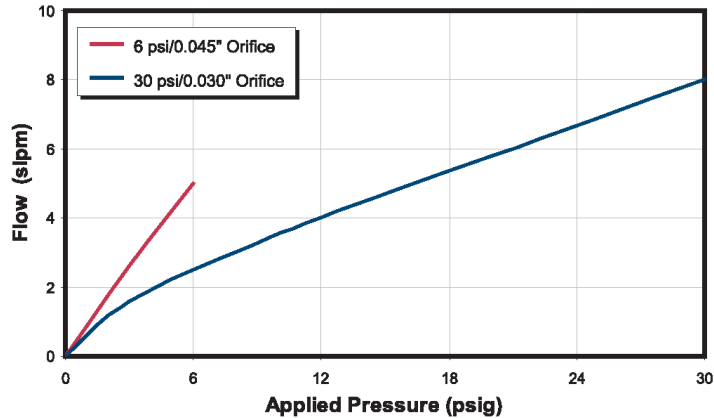
Operating environment	
X5...	15 to 50 °C
all other	0 to 50 °C
Storage temperature	-40 to 70 °C
Length	24 mm (0.92 in)
Width	7.9 mm (0.31 in)
Height	9.5 mm (0.375 in)
Spacing	8 mm (centerline)
Porting	Universal barbs for 1/16 in I.D. tubing (1/32 in wall max.); manifold mount with X-seal
Weight	4.5 g (0.16 oz)
Internal volume	0.074 cm <sup>3</sup> (0.0045 in <sup>3</sup> )

X-Valve is a registered trademark of Parker Hannifin Corporation.

### PERFORMANCE CHARACTERISTICS

Part no.	Pressure	Minimum flow	Orifice sizes/ Equivalent $C_v$ <sup>1</sup>	Leak rate <sup>2</sup>	Response
X1...	0...6 psig	4 lpm @ 6 psi	0.045" (1.143 mm)/ 0.018 $C_v$	≤0.16 sccm (FKM, EPDM), ≤0.016 sccm (silicone)	<20 ms cycling
X2...	0...30 psig	6 lpm @ 30 psi	0.030" (0.762 mm)/ 0.010 $C_v$	≤0.16 sccm	
X5...	0...100 psig	9 lpm @ 100 psi	0.020" (0.510 mm)/ 0.005 $C_v$	≤0.2 sccm	

### FLOW CURVES (typical air flow)<sup>3</sup>

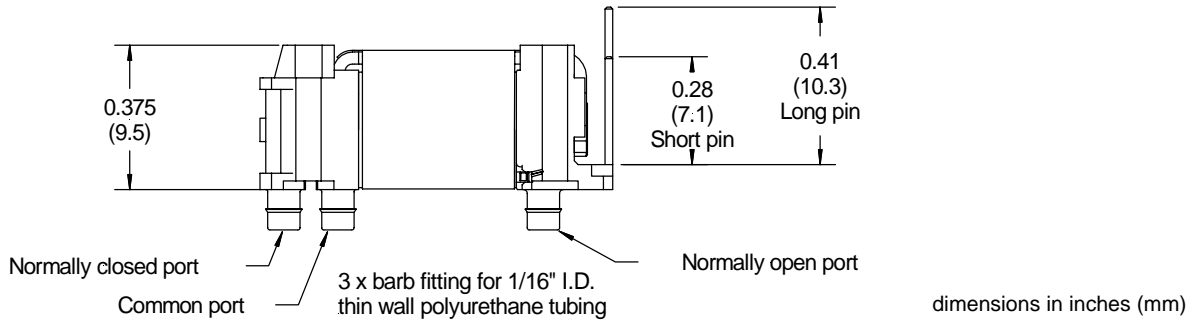


**Notes:**

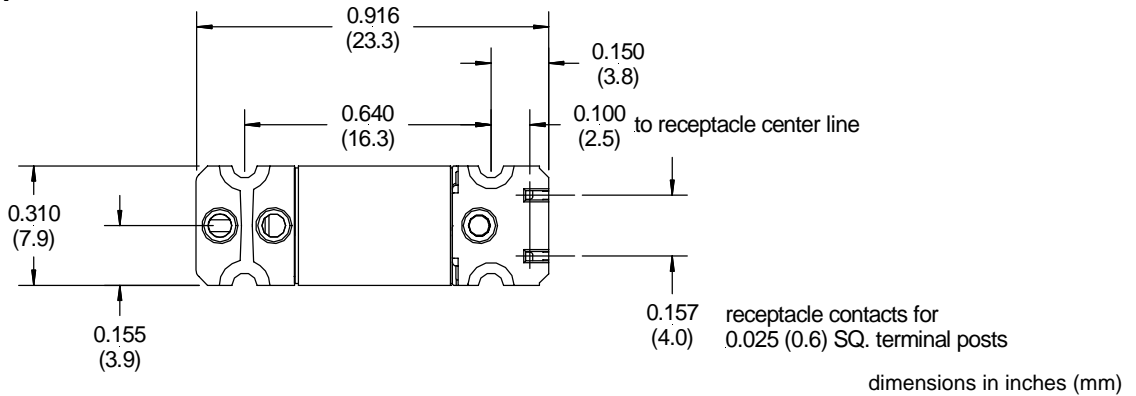
- <sup>1</sup> The  $C_v$  value is the volume flow in US gallons/min under specific flow conditions and describes the relative flow capacity of a valve. If several valves with the same nominal diameter are compared, the valve with the highest  $C_v$  value has the best flow dynamics design. The equivalent european measure is the  $k_v$  value expressed in  $m^3/h$  ( $k_v = 0.86 C_v$ ).
- <sup>2</sup> sccm denotes Standard Cubic Centimeters per Minute. It is a unit for the flow rate at standard conditions of temperature and pressure. 1000 sccm = 1 slpm.
- <sup>3</sup> slpm denotes Standard Liters per Minute. It is a unit for the flow rate at standard conditions of temperature and pressure. 1 slpm = 1000 sccm.

**OUTLINE DRAWING**

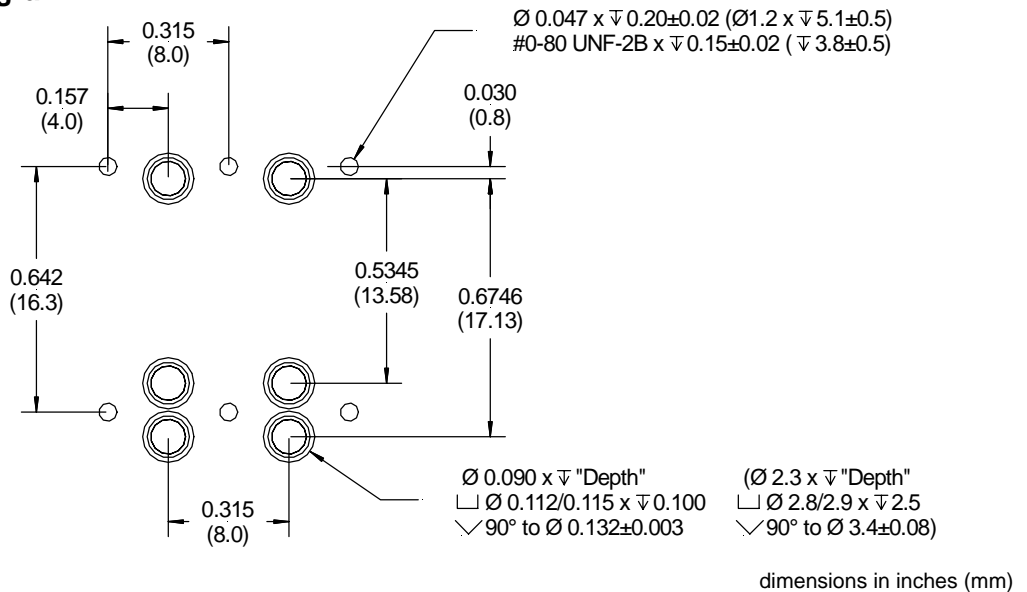
**Side view**



**Bottom view**



**Manifold mount diagram**



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### ORDERING INFORMATION

Options	Series	Model no.				Voltage	Electrical connection	Elastomer		Optional accessories*					
		Pressure	Orifice	Coil wattage	Type										
	X	1	6 psi	0.045" (1.143 mm)	0.5 W	universal	03*	3 V <sub>DC</sub> (6 & 30 psi only)	S	short pin	F	FKM	B	screw & gasket	
		2	30 psi	0.030" (0.762 mm)	1 W	universal					05	5 V <sub>DC</sub> (6 psi only)	L	long pin	E
		5	100 psi	0.020" (0.510 mm)	1 W	NC	12	12 V <sub>DC</sub>				S	silicone (6 psi only)		

\* accessory field not printed on valve

Sample order no:	X	1	05	L	F	B
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**Note: Not all combinations might be available.  
Non-elastomeric versions with enhanced media compatibility are available on request.  
Please contact your nearest Sensortechincs sales representative for further information.**

### Accessories (please order separately using the following order numbers)

Order No.	Description
ZK071248	Clear transparent polyurethane tubing, inner diameter 1/16 inch (1.6 mm), outer diameter: 1/8 inch (3.2 mm)
X-RETAINING CLIP	Solder clip for mounting
X-PORT PLUG	Port plug
X-CONNECTOR	12 " leads with connector

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