

## Normally closed proportional solenoid valve

## FEATURES

- 2-way normally closed
- Offers operating pressure up to 150 psig and a range of orifice sizes
- Satisfies a 0.2 sccm leakage specification of He for 100 million life cycles and offers high repeatability
- Serialised performance traceability
- Uses either DC current or pulse width modulation with closed loop feedback to deliver optimal system performance
- Maintains ideal flow through thermal compensation
- Oxygen and analytically clean
- RoHS compliant



## MEDIA COMPATIBILITY

Air, argon, helium, hydrogen, methane, nitrogen, oxygen & others

## ELECTRICAL

Power	max. 2 W
Voltage	max. 5.5, 8, 11.5, 13.5, 20 or 29 V <sub>DC</sub>
PWM	5-12 KHz recommended

## PHYSICAL PROPERTIES

Operating environment	0 to 55 °C
Storage temperature	-40 to 70 °C
Length	45.3 mm (1.785 in)
Width	16.5 mm (0.625 in)
Height	17 mm (0.67 in)
Porting	Barbs or 10-32 UNF female; manifold mount with screens
Weight	63 g (2.2 oz)
Internal volume	0.508 cm <sup>3</sup> (0.031 in <sup>3</sup> )
Filtration (recommended)	
VSONC1..., VSONC2...	17 µm
all others	40 µm
Lubrication	None required

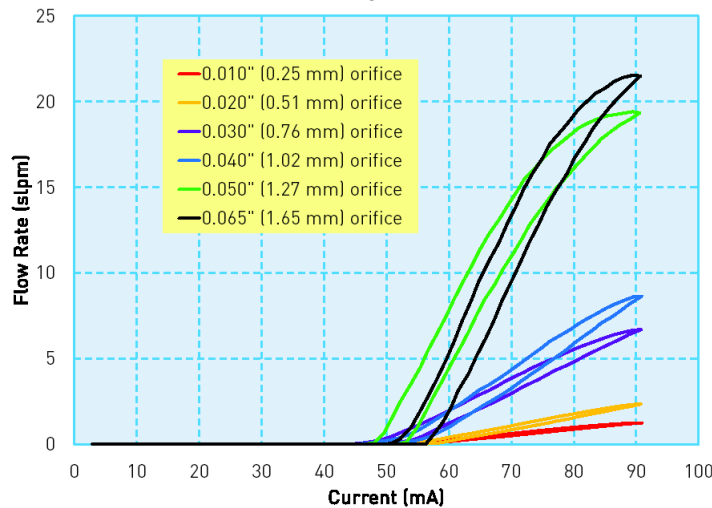
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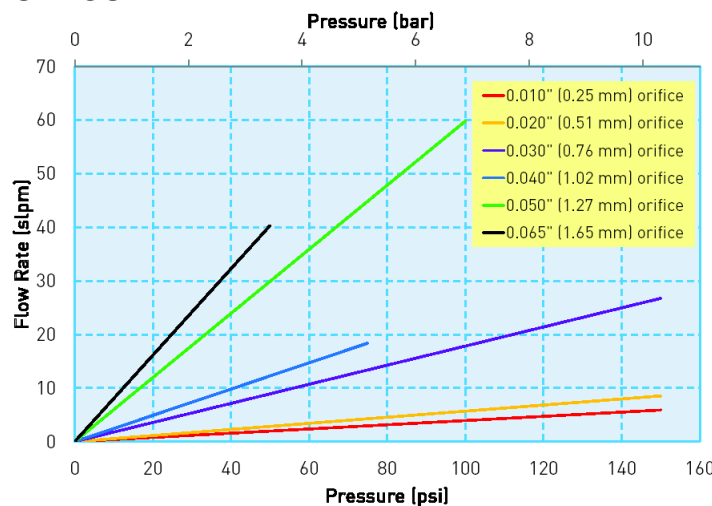
PERFORMANCE CHARACTERISTICS

Part no.	Pressure	Vacuum	Orifice sizes	Leak rate <sup>1</sup>	Response
VSONC1...	0..150 psid	0...27 "Hg (0...13 psi)	0.010" (0.245 mm)	≤0.2 sccm of helium (bubble tight)	<30 msec cycling (2 W)
VSONC2...	0...150 psid		0.020" (0.510 mm)		
VSONC3...	0...150 psid		0.030" (0.762 mm)		
VSONC4...	0...75 psid		0.040" (1.016 mm)		
VSONC5...	0...100 psid		0.050" (1.270 mm)		
VSONC6...	0...50 psid		0.065" (1.651 mm)		

FLOW CURVES (typical air flow with 20 V<sub>DC</sub> coil @ 25 psi)<sup>2</sup>



PRESSURE VS FLOW CURVE



Notes:

- <sup>1</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>2</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.

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## PRESSURE AND FLOW CAPABILITIES

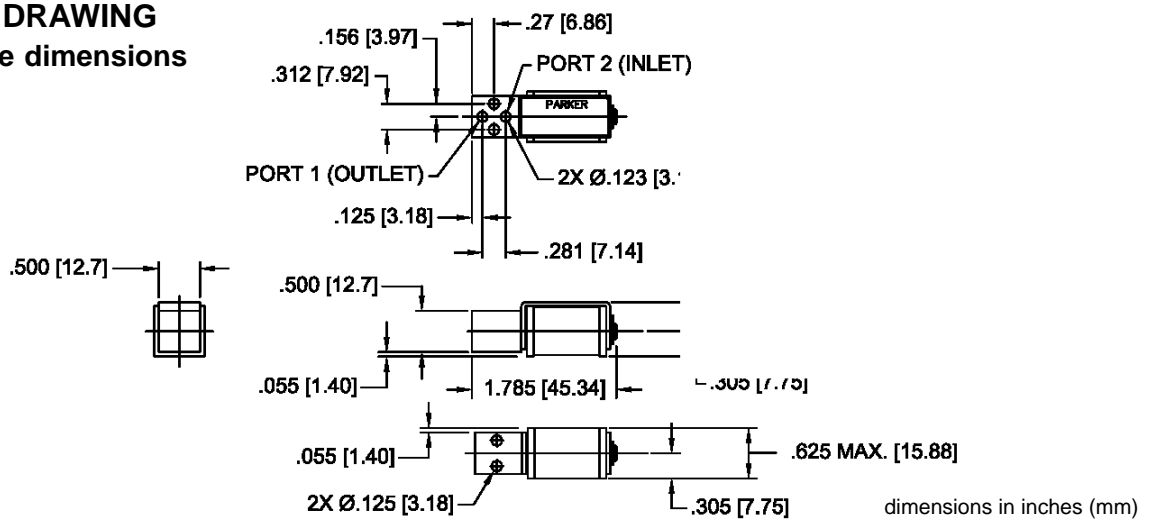
Orifice Diameter	Maximum Operating Inlet Pressure	Maximum Operating Pressure Differential
0.010in (0.245mm)	150 psig (10.34 bar)	150 psid (10.34 bar)
0.020in (0.510mm)	150 psig (10.34 bar)	150 psid (10.34 bar)
0.030in (0.762mm)	150 psig (10.34 bar)	150 psid (10.34 bar)
0.040in (1.016mm)	150 psig (10.34 bar)	75 psid (5.17 bar)
0.050in (1.270mm)	150 psig (10.34 bar)	100 psid (6.89 bar)
0.065in (1.651mm)	150 psig (10.34 bar)	50 psid (3.45 bar)

## ELECTRICAL REQUIREMENTS

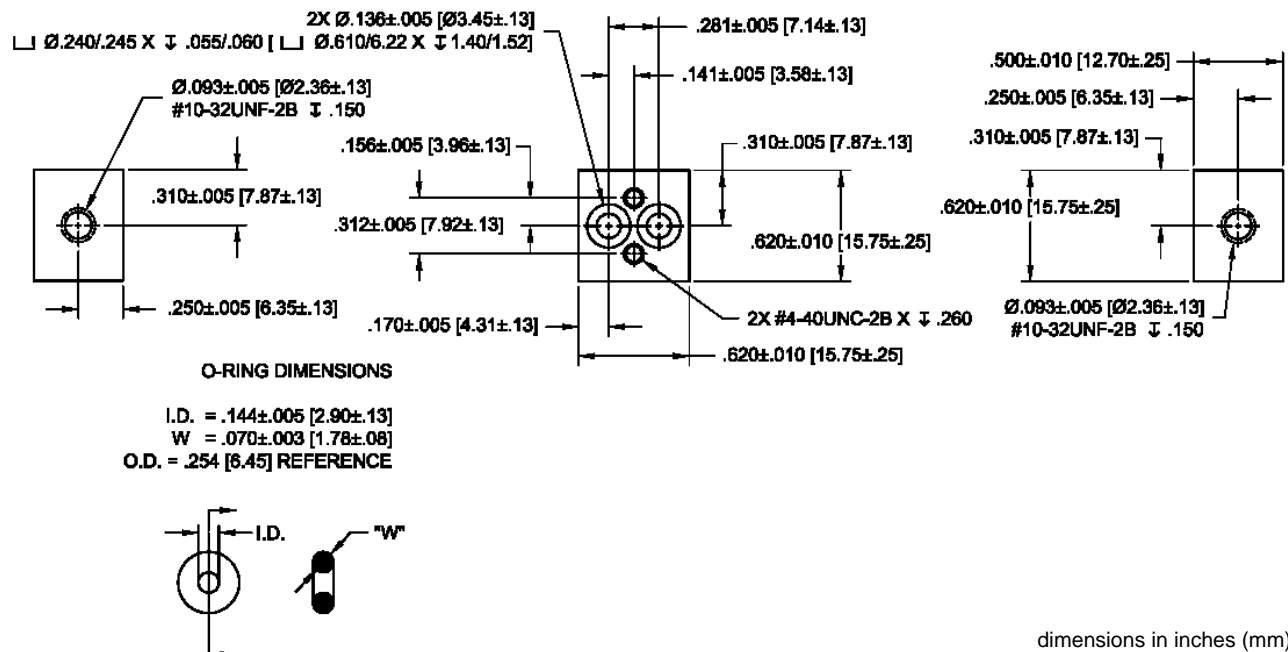
Minimum Available Voltage (VDC)	Nominal Coil Resistance @ 20°C (Ohms)	Input Current for Full Flow (mA)
5.5	11	304
8.0	23	212
11.5	47	152
13.5	68	125
20.0	136	91
29.0	274	66

## OUTLINE DRAWING

Basic valve dimensions

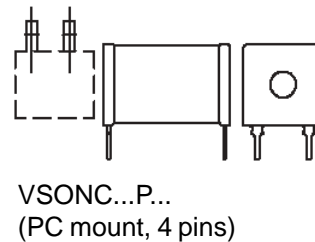
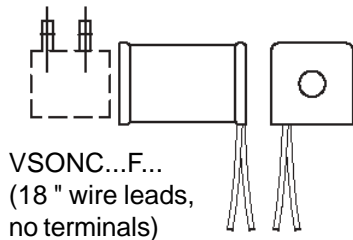


## Manifold & O-ring dimensions & design

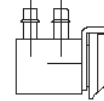
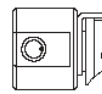
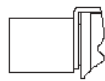
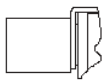


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## ELECTRICAL INTERFACE OPTIONS



## PNEUMATIC INTERFACE OPTIONS



## ORDERING INFORMATION

Standard	Model no.	Series	Body series	Elastomer	Coil selection			Electrical interface	Pneumatic interface*
					Max. pressure	Orifice	Max. voltage*		
Options VSONC	1: 150 psid	S	11: Series 11	V: FKM/brass	A: 5.5 V <sub>DC</sub>	11 Ω	0.304 A	F: wire leads, 18" P: PC board mount, 4 PC pins	0: manifold mount
	2: 150 psid		25: Series 25*	C: FFKM*/brass	B: 8 V <sub>DC</sub>	23 Ω	0.212 A		1: manifold mount with screens**
	3: 150 psid		I: FKM/stainless steel	C: 11.5 V <sub>DC</sub>	47 Ω	0.152 A	5: 10-32 UNF threaded female (Series 25) 8: 1/8" barbs		
	4: 75 psid		H: FFKM*/stainless steel	D: 13.5 V <sub>DC</sub>	68 Ω	0.125 A			
	5: 100 psid		F: 20 V <sub>DC</sub>	136 Ω	0.091 A				
	6: 50 psid		F: 29 V <sub>DC</sub>	274 Ω	0.066 A				
			* available in nickel-plated brass only	* this option will affect price; contact Sensortech for details	* max. voltage for continuous full flow, ambient temp. 55°C ** coil resistance for room temp. *** input current for full flow			* Series 11 only except with option 5 * * this option will affect price	
Example: VSONC 1 S 11 V A F 8									

**Note: Not all combinations might be available. Please contact First Sensor for further information.**

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

Order No.	Description
190-007024-002 (FKM)	Manifold mount O-ring

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