

V² Valve

Value squared switching solenoid valve

FEATURES

- 2-way or 3-way, 2 position valve (NO, NC & Distributor)
- Meets performance characteristics for a minimum of 25 million cycles
- Cost-effective, unique PBT body
- Manifold mount design or molded barbed fittings to fit a range of needs



MEDIA COMPATIBILITY

Non-corrosive gases

WETTED MATERIALS

Body:

PBT (Polybutylene Terephthalate)

Stem base:

360 HO2 brass

All others:

FKM; 430 FR series stainless steel (passivated);

302 series stainless steel; Loctite® 290

ELECTRICAL

Power 0.5, 1.0 or 2.0 W

Voltage 5, 12, 24 V_{DC} ± 10%

PHYSICAL PROPERTIES

Operating environment 0 to 70 °C

Storage temperature -40 to 70 °C

Length 43.9 mm (1.73 in)

Width 15.9 mm (0.625 in)

Height 17 mm (0.67 in)

Porting Barb fittings for 1/8 in I.D. tubing or manifold mount

Weight 34 g (1.2 oz)

Internal volume 0.016 cm³ (nominal)

Filtration (recommended) 40 µm

Lubrication None required

Loctite® is a registered trademark of Henkel Consumer Adhesives, Inc.

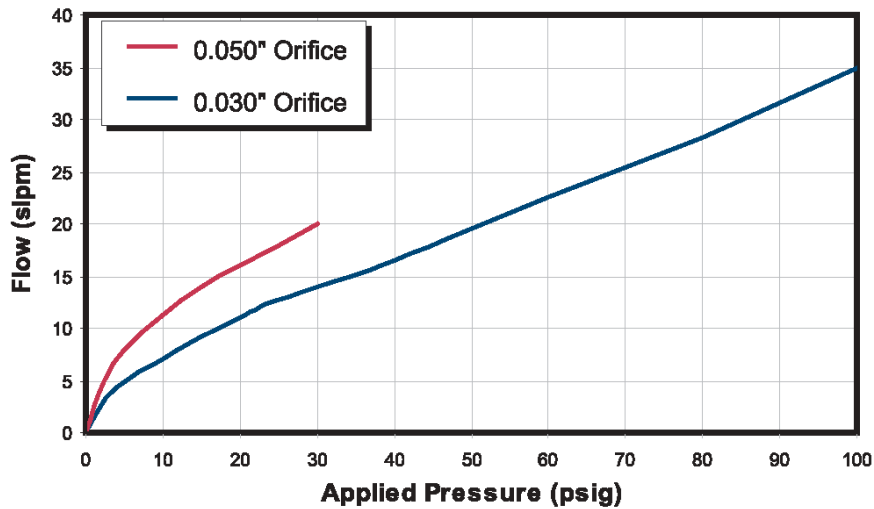
V² Valve

Value squared switching solenoid valve

PERFORMANCE CHARACTERISTICS

Part no.	Pressure	Vacuum	Orifice sizes/ Equivalent C _v ¹	Leak rate ²	Response
V210...	0...100 psig	0...27 "Hg (0...13 psi)	0.030" (0.762 mm)/ 0.017 C _v	≤0.2 sccm	<30 msec cycling (2 Watt)
V213...	0...50 psig				
V214...	0...30 psig		0.050" (1.270 mm)/ 0.035 C _v		<30 msec cycling (2 Watt)
V217...	0...15 psig				
V220...	0...6 psig				

FLOW CURVES (typical air flow)³



Notes:

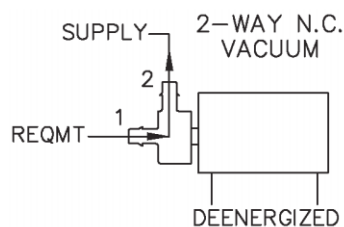
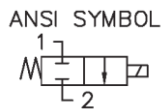
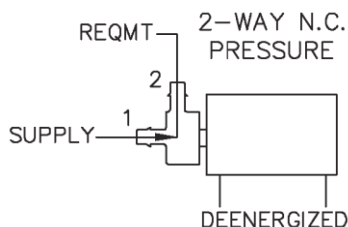
- ¹ The C_v value is the volume flow in US gallons/min under specific flow conditions and describes the relative flow capacity of a valve. If several valves with the same nominal diameter are compared, the valve with the highest C_v value has the best flow dynamics design. The equivalent european measure is the k_v value expressed in m³/h (k_v = 0.86 C_v).
- ² 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.
- ³ 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.

V² Valve

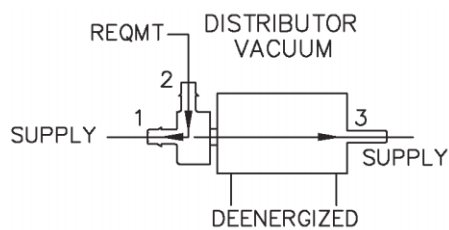
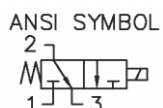
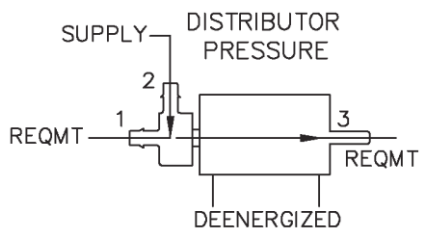
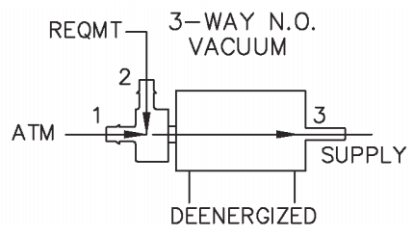
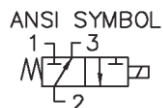
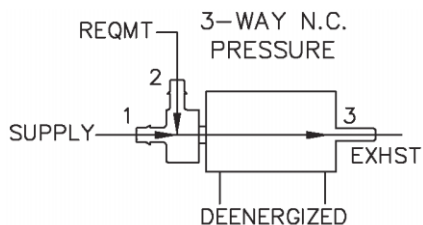
Value squared switching solenoid valve

VALVE TYPE

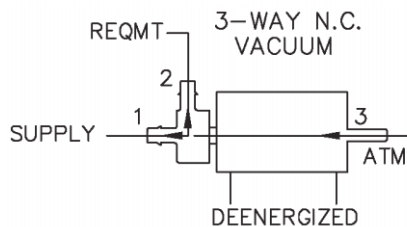
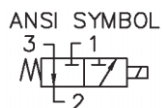
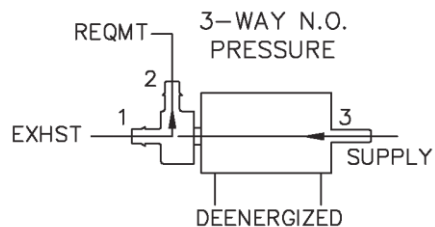
Type 1



Type 3



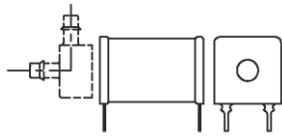
Type 4



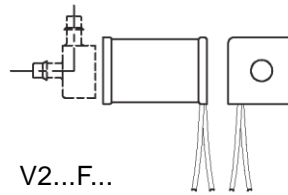
V² Valve

Value squared switching solenoid valve

COIL STYLES

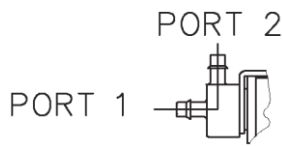


V2...P...
(PC mount, 4 PC pins)

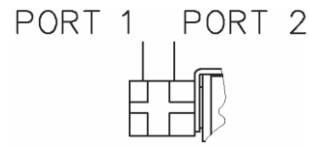


V2...F...
(Wire leads,
no terminals)

BODY STYLES

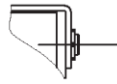


V2...8...
(1/8" I.D. tubing)

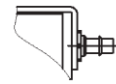


V2...0...
(Manifold mount)

STEM BARB STYLES



V2...0
(Type 1 top seat, plugged)



V2...8
(0.125" top seat, 1/8" I.D. tubing)

ORDERING INFORMATION

Options	Series	Model no.			Type	Material		Voltage	Coil type	Body styles	Topseat barbs							
		Max. pressure	Orifice size	Coil wattage		Body	Plunger & seal											
	V2	10:	0...100 psi	0.030" (0.762 mm)	2 W	1:	2-way NC	PV:	PBT	FKM	5:	5 V _{DC}	P:	PC mount, 4 PC pins	0:	mani- fold	0:	none (manifold mount)
		13:	0...50 psi	0.030" (0.762 mm)	1 W	3:	3-way NC or distributor				12:	12 V _{DC}			8:	1/8" barbs	8:	1/8" barbs
		14:	0...30 psi	0.050" (1.270 mm)	2 W	4:	3-way NO				24:	24 V _{DC}	F:	Wire leads, 18"				
		17:	0...15 psi	0.050" (1.270 mm)	1 W													
		20:	0...6 psi	0.050" (1.270 mm)	0.5 W													
Example:																		
	V2	14			3		PV		12		P		8		8			

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

First Sensor reserves the right to make changes to any products herein. First Sensor does not assume any liability arising out of the application or use of any product or circuit described herein, neither does it convey any license under its patent rights nor the rights of others.