

# PROPORTIONATING SOLENOID VALVES

MODEL NUMBER	ORIFICE SIZE		Cv	*maximum flow [ml / min]	
	[inch]	[mm]		Air	Water
6APSV0101	0.020	0.51	0.009	3500	125
6APSV0102	0.040	1.02	0.033	13000	400
6APSV0103	0.055	1.40	0.055	21500	700
6APSV0104	0.063	1.60	0.068	25000	850
6APSV0105	0.125	3.18	0.240	100000	2873

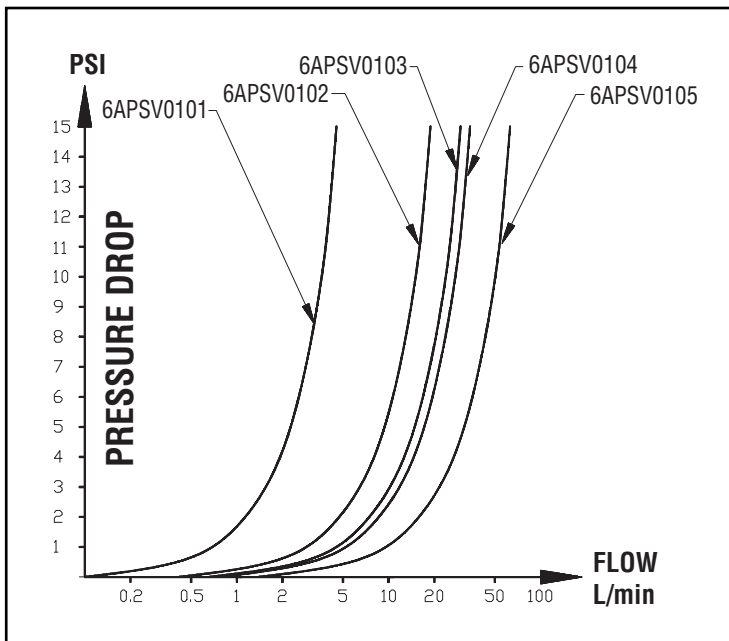
\* based on 10 psig [690 mbar] differential pressure.

## PREPARATION and OPERATION

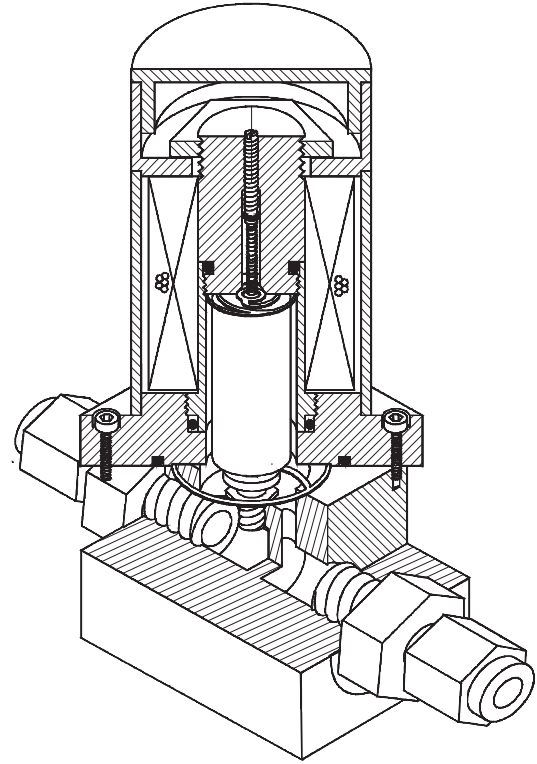
Prior to connecting gas/liquid flow lines inspect all parts of the piping system including ferrules and fittings for dust or other contaminants. Be sure to observe the direction of flow as indicated by the arrow on the front of the valve when connecting the fluid flow system to be monitored.

Insert tubing into the compression fittings until the ends of the properly sized tubing home flush against the shoulders of the fittings. Compression fittings are to be tightened according to the manufacturer's instructions to one and one quarter turns. Avoid over tightening.

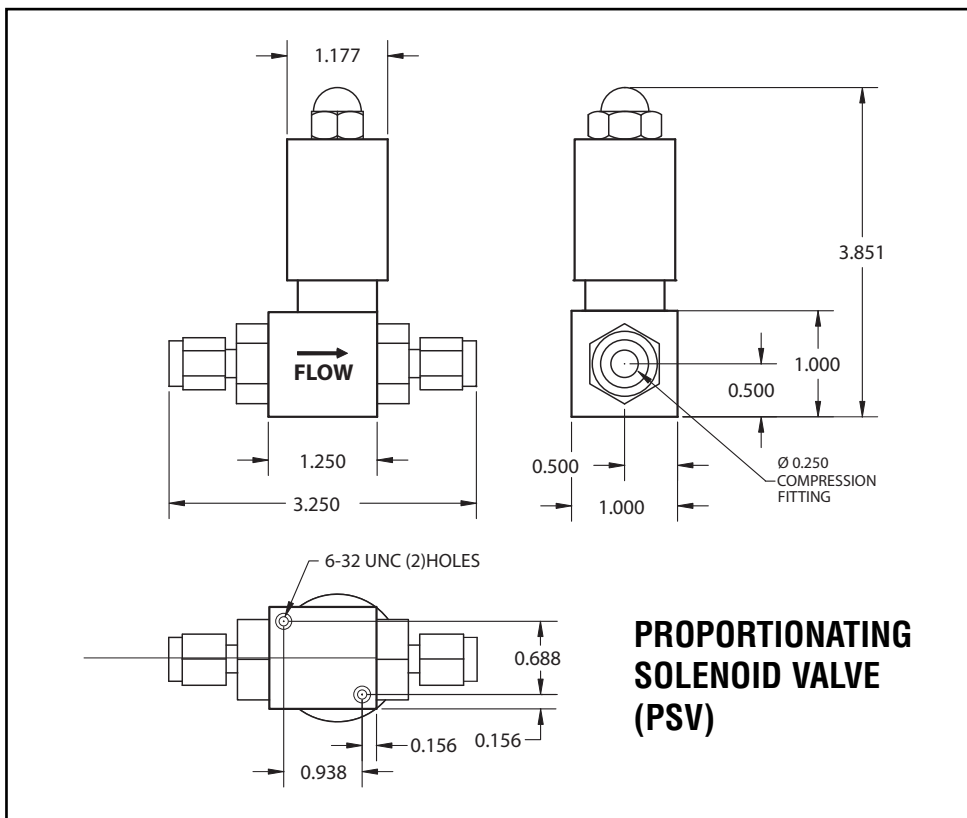
Once installed inline with the gas or liquid to be controlled, apply a variable DC power source at the two solenoid wires to proportionally open and close the solenoid valve (there is no polarity). The valve is set to begin opening at approximately 5 VDC. They can also serve as "on off" valves (valves are not guaranteed for absolute closure). Optional 6APSD101 DRIVER MODULE is available when use of a 0 to 5 VDC or 4 to 20 mA reference control signal is desired. Contact your distributor or Dakota® for more information.



Proportionating Solenoid Valves (PSV) uniquely designed to respond to variable power inputs (0-30 VDC) to regulate flow of liquids and/or gases proportionately. For added safety valves (PSV) normally closed (NC) when de-energized.



SPECIFICATIONS	
POWER INPUT:	0 to 30 VDC.
MAXIMUM CURRENT REQUIRED:	400 mA.
ELECTRICAL CONNECTION:	Male spade connectors.
TYPE OF OPERATION:	Normally closed (nc).
CONNECTIONS:	1/4 inch compression fittings, optional 1/8 inch and 3/8 inch.
DIMENSIONS:	3.55 inch (90.2mm) high x 3.25 inch (82.6mm) long (with fittings) x 1.00 inch (25.4mm) deep.
WETTED MATERIALS:	Types: 316 and 416 stainless steel, VITON® O-rings; BUNA-N®, EPR or KALREZ® O-rings are optional.
MAXIMUM PRESSURE:	500 psig (3448 kPa).
MAXIMUM DIFFERENTIAL PRESSURE:	50 psid (345 kPa).
MAXIMUM INTERNAL LEAK:	0.5% FS.
LEAK INTEGRITY:	1 X 10 <sup>-9</sup> scc / sec Helium.
FLUID TEMPERATURE:	14 °F to 122 °F (-10 °C to 50 °C).
MAXIMUM TEMPERATURE (TYPICAL):	174 °F (79 °C) inside, 130 °F (54 °C) outside surface at 24 VDC.
ENVIRONMENTAL (PER IEC 664):	Installation level II; pollution degree II.

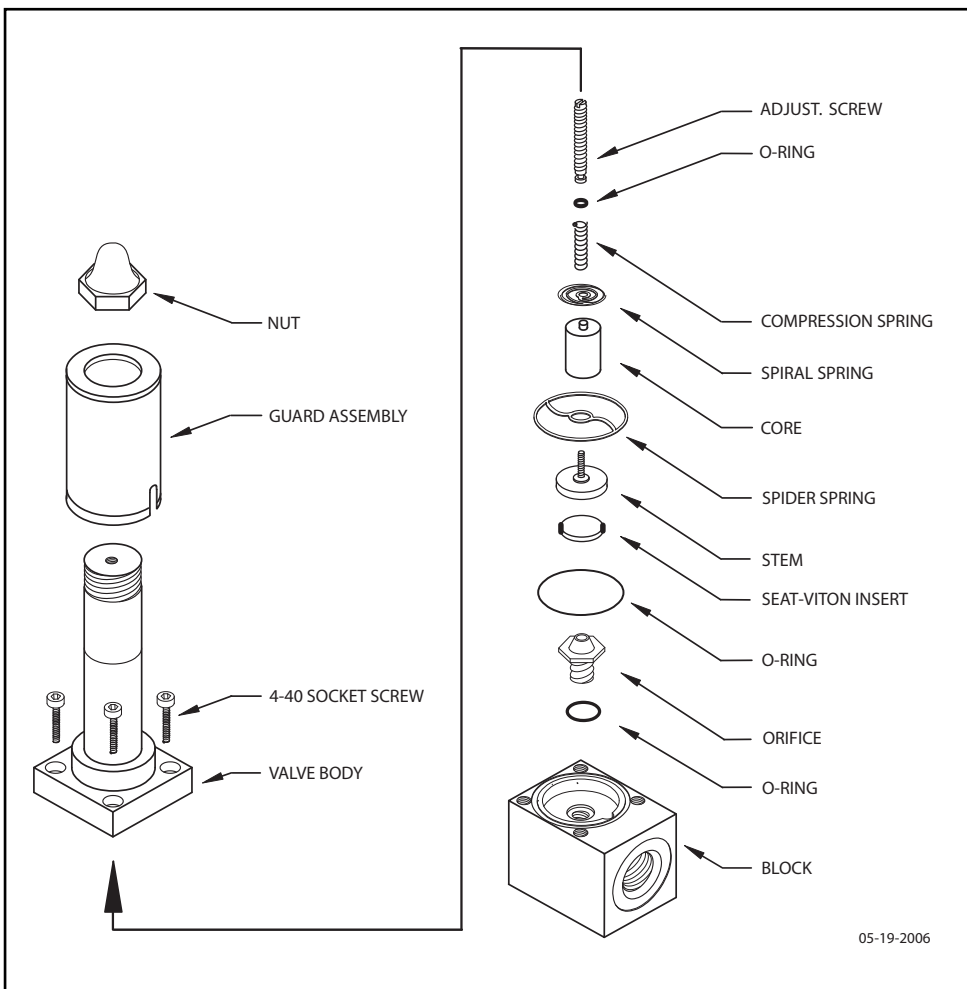


⚠ Flow equipment should not be used for monitoring OXYGEN unless specifically cleaned and prepared for such application. For more information, contact your distributor or Dakota®.

⚠ If the valve is left in the active mode for an extended period of time, it may become warm or even hot to the touch. Use care in avoiding direct contact with the valve during operation.

⚠ To protect servicing personnel it is mandatory that any instrument being serviced is completely purged and neutralized of toxic, bacteriologically infected, corrosive or radioactive contents.

⚠ Use of the valve (PSV) in a manner other than that specified in this instruction sheet, may impair the protection provided by the equipment.



## MAINTENANCE

The solenoid valve consists of 316 and 416 stainless steel, and VITON® (or optional BUNA-N®, EPR or KALREZ®) O-rings and seals. No regular maintenance is required except for periodic cleaning. Various corrosive gases or liquids may demand more frequent replacement of O-rings and seals inside the valve. Be sure to use an elastomer material, appropriate for your specific application. Contact your distributor or Dakota® for optional sealing materials available.

Set the PSV for maximum flow, and attempt to flush through in both directions with a clean, filtered, and neutral gas such as nitrogen. [Another option for fully opening the valve is to remove the plastic cap on top of the valve, and turn the set screw counterclockwise until it stops]. If blockage is not alleviated, return the unit to your distributor or Dakota® for servicing.

## TRADEMARKS

Dakota® is a registered trademark of Dakota Instruments Inc.  
 Buna® is a registered trademark of DuPont Dow Elastomers.  
 Kalrez® is a registered trademark of DuPont Dow Elastomers.  
 Viton® is a registered trademark of Dupont Dow Elastomers L.L.C.

Dakota® reserves the right to change designs and dimensions at its sole discretion at any time without notice.  
 For certified dimensions please contact Dakota®.

**TD 1293 Revision I**

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