PLAST-O-MATIC

PRODUCT DATA

CATALOG PS

For Process Liquid Applications Requiring High Flow Capacity and High Pressure Capability!

Pilot Operated Thermoplastic Solenoid Valve...

Inlet Rating 140 PSI, Back Pressure Rating To 70 PSI.

Superior Features:

- Normally closed, in-line design with bubble-tight shut-off.
- Minimum 5 PSI differential required.
- High pressure: Particularly for applications where high back-pressures (up to 70 PSI) are required e.g. controlling flow spray nozzles, high pressure chemical injections, etc. Inlet pressure to 140 PSI.
- High flow rates – Cv's from 5.2 on the 1/2" size to 80 on the 3" size.
- Unique Design: PTFE Bellows barrier-type dynamic seal prevents leaking of fugitive emissions to the atmosphere.
- Safety/Dependability: Patented Fail-Dry® safety design feature provides advance visual warning if seal malfunctions, while permitting valves to continue operating until maintenance can be scheduled.
- Cycle life in excess of 1,000,000 cycles.
- Versatility: Can be used with all types of solutions including acids, caustics, solvents and chlorine solutions.
- Rugged thermoplastic construction is resistant to both internal and atmospheric corrosion. No metal parts in wetted areas.
- Positive valve closure in the event of electrical failure.
- Energy-efficient 11 watt coil.
- Molded coil and standard DIN connector; designed to meet NEMA 4X.
- Sizes: 1/2", 3/4", 1", 1 1/2", 2 and 3".

Materials of Construction:

Series PS Pilot Operated Solenoid Valves are available with standard delivery in PVC (Type 1, Grade 1) and with slightly longer delivery in CPVC (Corzan™), Polypropylene and PVDF (Kynar®). Consult factory.

PLAST-O-MATIC VALVES, INC.

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Series “PS” Pilot Operated Solenoid Valves

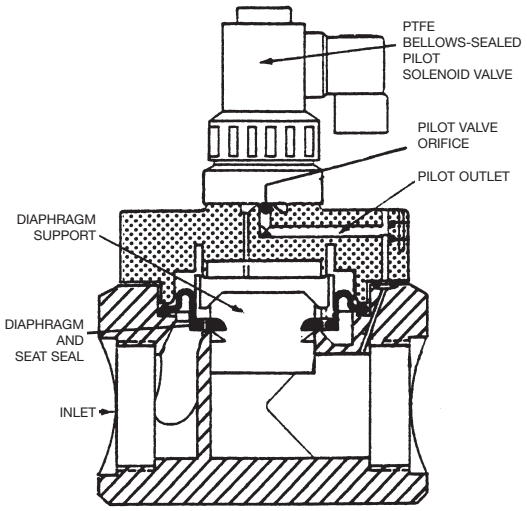
OPERATION

The Series “PS” valve illustrated at right is pilot-operated and normally closed by design. It requires line pressure and flow for operating assistance. Under the correct pressure conditions (see chart below) the coil, when energized (power on), creates an electromagnetic field in the top section of the core tube. This force pulls the core and pilot seat upward, opening the pilot valve.

The liquid pressure above the diaphragm is then vented through the open orifice of the pilot valve to the downstream piping. At this moment, the inlet pressure under the diaphragm lifts the diaphragm and opens the main valve orifice, thereby permitting full flow through the valve.

When the coil is de-energized (power off), the pilot solenoid spring (not in the wetted area) pushes the core and pilot seat downward, closing the pilot valve. This causes pressure above the diaphragm to rise to inlet pressure level, forcing the diaphragm downward against the main valve seat sealing the valve. Note - Series “PS” solenoid valves require a minimum differential pressure of 5 PSI to operate properly.

W11 Coil: This continuous duty NEMA 4X style coil is water and dust tight and is suited for corrosive atmospheres compatible with polyester. Voltage tolerances +10%, -15% @ 104°F.



COIL SPECIFICATIONS

Insulation Class	Coil Surface Temperature	Max. Allowable Ambient Temp.	VA Inrush	VA Holding
F	185°F (85°C)	104°F (40°C)	66	24
VOLTAGE OPTIONS				
AC	24/60, 120/60, 240/60, 230/50			
DC	12 VDC, 24 VDC			
Most coils CSA certified				

SPECIFICATIONS

Pressure	PSI	(Bars)
Maximum Inlet @ 75°F (24°C)	140	(9.5)
Maximum Inlet @ 140°F (60°C)*	40	(2.8)
Minimum Inlet	5	(0.4)
Maximum Outlet @ 75°F (24°C)	70	(4.8)
Minimum Differential	5	(0.4)

Flow Capacity vs. Pipe Size						
Pipe Size:	1/2"	3/4"	1"	1 1/2"	2"	3"
Cv:	5.2	7.6	9.5	28	35	80

Media
Not suitable for liquids containing particulate matter. Liquid should be filtered with 80 Mesh (.007) filter or finer.

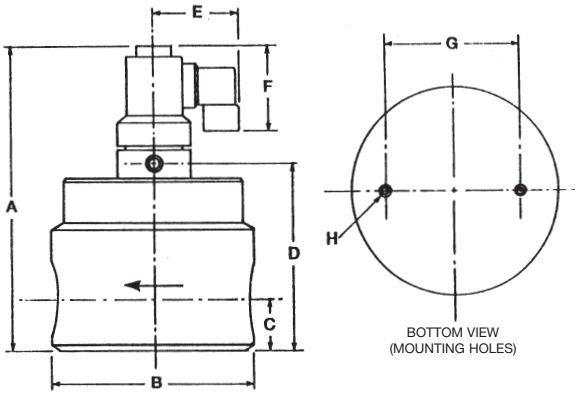
*This rating is for PVC. For other materials consult factory.

SERIES “PS” MODEL NUMBERS

Valve Size NPT	Valve Seals	Part Number For PVC Body.
1/2"	FKM EPDM	PS050VW11-PV PS050EPW11-PV
3/4"	FKM EPDM	PS075VW11-PV PS075EPW11-PV
1"	FKM EPDM	PS100VW11-PV PS100EPW11-PV
1½"	FKM EPDM	PS150VW11-PV PS150EPW11-PV
2"	FKM EPDM	PS200VW11-PV PS200EPW11-PV
3"	FKM EPDM	PS300VW11-PV PS300EPW11-PV

For CPVC, change -PV to -CP.
For Natural Polypropylene, change -PV to -PP.
For PVDF, change -PV to -PF.

DIMENSIONS



“PS” DIMENSIONAL SPECIFICATIONS

Valve Size NPT		A	B	C	D	E	F	G	H
1/2"	IN	6 5/8	3 1/2	23/32	3 5/16	2 5/8	2 5/16	2 1/2	¼"-20 x .70
	MM	168.3	89	18.3	84.4	66.7	58.7	63.5	
3/4"	IN	7 9/32	4	1 5/32	4	2 5/8	2 5/16	3	¼"-20 x .70
	MM	185	101.6	29.4	101.6	66.7	58.7	76.2	
1"	IN	7 9/32	4	1 5/32	4	2 5/8	2 5/16	3	¼"-20 x .70
	MM	185	101.6	29.4	101.6	66.7	58.7	76.2	
1½"	IN	9 17/32	6	1 13/16	6 3/32	2 5/8	2 5/16	5	¼"-20 x .70
	MM	242	152.4	46	159.5	66.7	58.7	127	
2"	IN	9 17/32	7	1 13/16	6 3/32	2 5/8	2 5/16	5	¼"-20 x .70
	MM	242	178	46	159.5	66.7	58.7	127	
3"	IN	11 7/8	9	2 1/2	8 7/8	2 5/8	2 5/16	7 1/2	⅜"-16 x 1.25
	MM	302	229	63.5	225	66.7	58.7	190	

AUTHORIZED PLAST-O-MATIC DISTRIBUTOR

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