

Miniature Air-Operated Diaphragm Valves For Corrosive and Ultra-Pure Liquids

1/4" to 1 1/2" Sizes – Pressures to 100 PSI



Features:

- Unique PTFE wetted diaphragm provides the ultimate in purity and chemical resistance.
- Compact – light in weight.
- Can be mounted in any position.
- Normally-closed design provides bubble-tight shut off in the event of air or electrical failure.
- Patented Fail-Dry® safety design warns of seal failure; permits valve to continue operating.
- Million-cycle, non-sticking design.

Application:

Series BSDA: The miniature air-operated diaphragm valve that performs like a heavyweight. Designed for pressure and drain applications with highly corrosive or ultra-pure liquid systems when space is critical. The valve is ideal for a broad range of industrial applications, from electronic to chemical plants, commercial laundries, car wash operations, etc. For applications with ultra-pure water and concentrated etchants, such as in the semi-conductor industry, it provides the ultimate in non-leaching, contamination-free sealing. The standard valves are air pressure to open with spring return to close (0-100 PSI). There is no minimum inlet pressure required. Other options are available. Not designed for

Materials of Construction:

Diaphragm: The standard diaphragm material is a combination of the PTFE on the wetted side backed-up with FKM for strength and flexibility. Consult factory for other options.

Body: Body material available in PVC, Polypropylene, PTFE and PVDF. The upper air section is always PVC. There are no metal parts in the wetted areas.

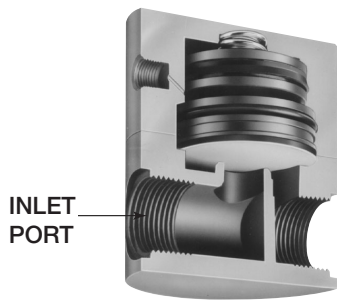
Normally-Closed Operation:

A 3-way air solenoid valve connected to the 1/8 NPT port is required to actuate the diaphragm valve. When air pressure (40 to 100 PSI or 2 to 7 Bars) is applied, the diaphragm valve opens and when removed spring force closes the valve. For normally-open operation or air by air operation consult factory.

Designs for User and OEM Applications:

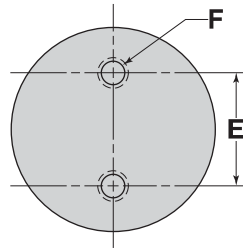
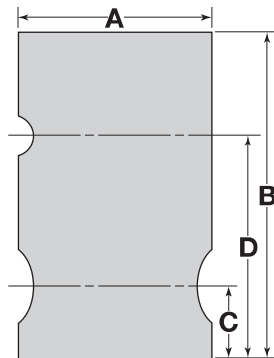
The standard valves are machined from bar stock and have female threads for pipe connections. For customers with with quantity requirements of 25 pieces or more, the end connections can be made with male threads, socket, or unions as well as various mounting hole arrangements. Spigot ends available, consult factory.

MINIATURE AIR-OPERATED DIAPHRAGM VALVES



SERIES BSD DIMENSIONS								
Size	In.	A mm	In.	B mm	In.	C mm	In.	D mm
1/4	2.0	50.8	2.37	60.2	0.470	11.9	1.86	47.2
1/2	2.5	63.5	2.98	75.7	0.687	17.5	2.38	60.5
3/4	3.0	76.2	3.75	95.3	0.780	19.8	2.62	66.5
1	3.5	88.9	5.12	130.0	1.187	30.2	3.56	90.4
1 1/2	5.0	127.0	8.00	203.2	1.750	44.5	5.44	138.2

Note: 1/8" and 3/8" sizes are also available on special order. Consult factory for details.



MOUNTING HOLE DIMENSIONS					
Pipe Size	E		Thread Size	F	
	In.	mm		In.	mm
1/4	1.625	41.3	8 - 32	.625	15.9
1/2	1.625	41.3	8 - 32	.625	15.9
3/4	2.000	50.8	1/4 - 20	.750	19.1
1	2.000	50.8	1/4 - 20	.750	19.1
1 1/2	3.000	76.2	1/4 - 20	.750	19.1

MATERIALS / TEMPERATURES vs. PRESSURES

Material	Maximum Temperature Rating	Maximum Inlet Pressures and Temperatures													
		75°F PSI	24°C Bars	110°F PSI	43°C Bars	140°F PSI	82°C Bars	180°F PSI	82°C Bars	220°F PSI	105°C Bars	240°F PSI	116°C Bars	284°F PSI	140°C Bars
PVC	140°F 60°C	100	6,8	100	6,8	40	2,7	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.
PP	180°F 82°C	100	6,8	100	6,8	80	5,4	40	2,7	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.
PTFE or PVDF	284°F 140°C	100	6,8	100	6,8	100	6,8	100	6,8	60	4,1	30	2,0	10	0,7

See specification table below for valve pressure ratings.

N.R. = Not Recommended

SPECIFICATIONS AND MODEL NUMBERS

Valve	Pipe Size	Orifice Size	C _v	Inlet Pressure		Minimum PSI Bars	Back Pressure Maximum PSI Bars	Air Pressure		PVC Body with PTFE Diaphragm Model Number***			
				Maximum PSI Bars	Minimum PSI Bars			Maximum PSI Bars	Minimum PSI Bars				
BSDA	1/4	5/16	1.1	100	6,90	No minimum inlet pressure required. Series BSDA is direct acting.	25	1,72	100	6,89	40	2,76	BSDA025T-NC-PV
	1/2	1/2	3.4	100	6,90		25	1,72	100	6,89	40	2,76	BSDA050T-NC-PV
	3/4	5/8	5.8	100	6,90		25	1,72	100	6,89	40	2,76	BSDA075T-NC-PV
	1	3/4	6.3	100	6,90		25	1,72	100	6,89	40	2,76	BSDA100T-NC-PV
	1 1/2	1 1/4	17.0	100	6,90		25	1,72	100	6,89	40	2,76	BSDA150T-NC-PV

***Other Material Bodies – Change the “PV” in the model number to “PP” for Natural Polypropylene; “TF” for PTFE; and “PF” for PVDF Kynar.

Authorized Distributor:

Aetna Plastics Corp. 1702 St. Clair Ave. Cleveland, Ohio 44114 • Tel: 800-634-3074
216-781-4421 • Fax: 216-781-4474 • sales@aetnoplastics.com • www.aetnoplastics.com