

Miniature Air-Operated Diaphragm Valves For Corrosive and Ultra-Pure Liquids 1/4" to 1 1/2" Sizes - Pressures to 100 PSI

Features:

- Unique Teflon® wetted diaphragm provides the ultimate in purity and chemical resistance.
- Compact - light in weight.
- Can be mounted in any direction.
- 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:

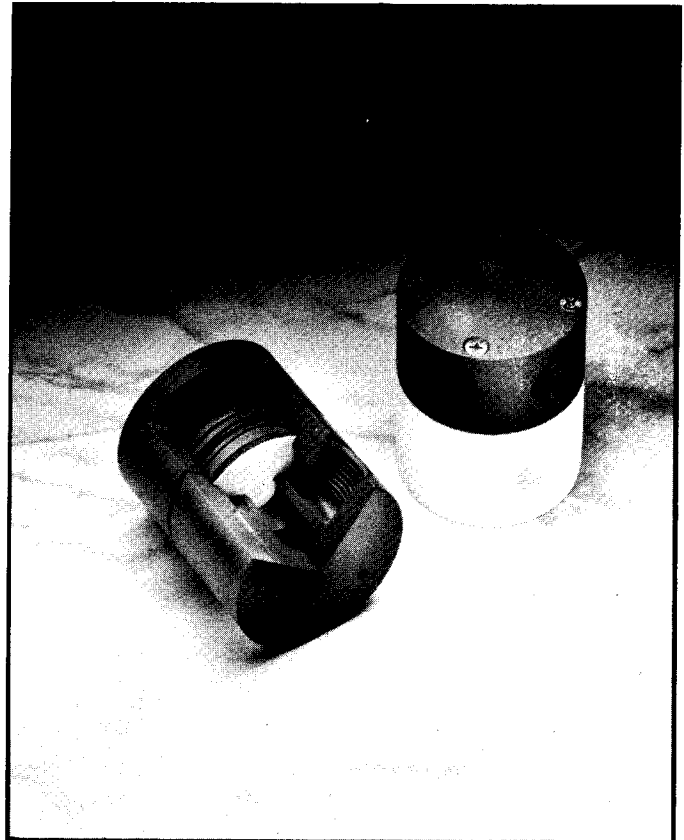
Series BSD... The miniature air-operated diaphragm valve that performs like a heavyweight. Designed for pressure applications with highly corrosive or ultra-pure liquid systems when space is critical. The valve is ideal for a broad range of industrial applications, from electronics to chemical plants, 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. Liquid line pressure assists in opening the valve, hence the minimum inlet pressure rating shown in the table. Other options are available. Not designed for vacuum service.

Series BSDA attached diaphragm is direct acting for pressure (0-100 PSI rating) and drain applications. There is no minimum inlet pressure required. Not designed for vacuum service.

Materials of Construction:

Diaphragm: The standard diaphragm material is a combination of Teflon® on the wetted side backed up with Viton® for strength and flexibility. For unusual contaminating situations a thin PVDF (Kynar®) diaphragm can be placed between the Teflon and the Viton diaphragms. The PVDF prevents impurities from migrating back into the liquid. Consult factory for other options.

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



Normally Closed Operation: *

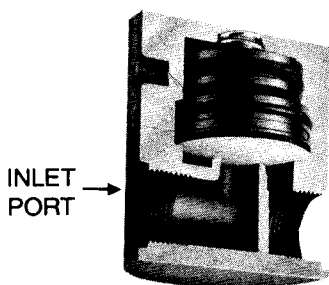
A 3-way air solenoid valve connected to the 1/8 NPT port is required to actuate the diaphragm valve. When air pressure (40 to 100 PSI or 2 to 7 Bars) is applied the diaphragm valve opens and when removed spring force closes the valve. For normally open operation consult factory.

Designs for user and OEM Applications:

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

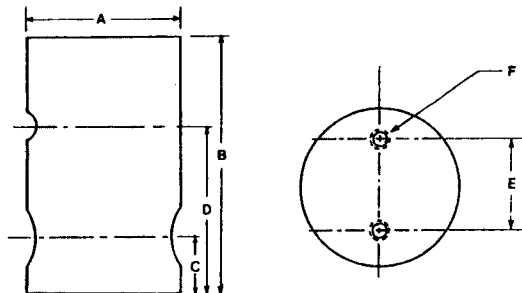
* For normally open or air by air operation - consult factory.

Miniature Air-Operated Diaphragm Valves



SERIES BSD DIMENSIONS								
SIZE	A		B		C		D	
	IN	MM	IN	MM	IN	MM	IN	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) Series BSDA with attached diaphragm has the same dimensions and specifications as series BSD.
 Note: 2) 1/8" & 3/8" sizes are also available on special order. Consult factory for details.



MOUNTING HOLE DIMENSIONS				
Pipe Size	E		F	
	IN	MM	Thread Size	Depth 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 TEMPERATURE vs PRESSURE															
Mat'l	Max. Temp. Rating	Max. inlet pressures and temperatures													
		75°F (24°C)		110°F (43°C)		140°F (60°C)		180°F (82°C)		220°F (105°C)		240°F (116°C)		284°F (140°C)	
		PSI	BARS	PSI	BARS	PSI	BARS	PSI	BARS	PSI	BARS	PSI	BARS	PSI	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.
Teflon 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 below specification table for valve pressure ratings.

SERIES BSD & BSDA SPECIFICATIONS AND MODEL NUMBERS														
	Pipe Size	Orifice Size	C _v	MAX. Inlet Pres.		MIN. Inlet Pres.		MAX. Back Pres.		MAX. Air Pres.		MIN. Air Pres.		PVC Body With Teflon Diaphragm Model No. ***
				PSI	BARS	PSI	BARS	PSI	BARS	PSI	BARS	PSI	BARS	
BSD	1/4	5/16	1.1	100	6,90	20	1,38	25	1,72	100	6,89	40	2,76	BSD025T-NC-PV
	1/2	1/2	3.4	100	6,90	10	0,69	25	1,72	100	6,89	40	2,76	BSD050T-NC-PV
	3/4	5/8	5.8	100	6,90	10	0,69	25	1,72	100	6,89	40	2,76	BSD075T-NC-PV
	1	3/4	6.3	100	6,90	10	0,69	25	1,72	100	6,89	40	2,76	BSD100T-NC-PV
	1-1/2	1-1/4	17.0	100	6,90	10	0,69	25	1,72	100	6,89	40	2,76	BSD150T-NC-PV
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 Materials: Bodies – Change the PV in model number to PP for Natural Polypropylene, TF for Teflon®, and PF for PVDF (Kynar®).

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