



# PNEUMATIC ACTUATED DIAPHRAGM VALVES

## Spears® Diaphragm Valve Premium Pneumatic Actuation Package

This full-featured industrial grade valve is engineered to provide accurate throttling and shut off for chemical processing, industrial, and water treatment applications. Weir type design eliminates entrapped fluids in valve. Excellent for handling of liquids with suspended solids, viscous materials and slurries. Premium pneumatic actuators are Air-to-Air (Double Acting; optional Spring Return) Actuator for 1/2" -2" valves features a packless/glandless linear piston design and one-piece actuator/bonnet constructed from high integrity PES (Polyethersulphone), chemically resistant to virtually all acids, caustics, and solvents. Actuator for 2-1/2" - 4" valves features a linear diaphragm design and chemical resistant Polyester coated housing.



## Diaphragm Valve Specifications

Style	Diaphragm • Weir type • fully repairable
Material	PVC, CPVC, PP
Size Range	1/2" - 8"
Pressure Rating	PVC & CPVC 1/2" - 2" = 235 psi @ 73°F 1/2" - 2" Flanged = 150 psi @ 73°F 2-1/2" - 4" = 150 psi @ 73°F 6" = 100 psi @ 73°F 8" = 75 psi @ 73°F PP: 1/2" - 4" = 150 psi @ 73°F 6" = 100 psi @ 73°F 8" = 75 psi @ 73°F With PTFE Diaphragm 1/2" - 4" = 150 psi @ 73°F
Diaphragm	EPDM, Viton®, or elastomer backed PTFE
End Connector	PVC & CPVC = True Union socket/threaded, or Spigot Body (1/2" - 2") Flanged Body (1/2" - 8") PP: True Union threaded (1/2" - 2"), Flanged Body (2-1/2" - 8")

## Standard 2-Position Actuator Specifications

Valve Sizes	1/2" - 2":	
Type		Piston • Linear action
Standard Operation		Air-to-Air (double acting)
Supply Pressure		40-100 psi
Air Connection		1/8"
Body		PES (Polyethersulphone)
Valve Sizes	2-1/2" - 4":	
Type		Diaphragm • Linear action
Standard Operation		Air-to-Air (double acting)
Standard Operating Pressure		40-100 psi
Air Connection		1/4" (3" & 4" valves)
Body		Polyester coated
Valve Sizes	6" - 8":	TBA

## Special Valve Options & Accessories

- Diaphragm & O-ring Replacement Kits
- Hypalon® (CSM) Diaphragms
- EPDM backed PTFE Diaphragms
- Viton® backed PTFE Diaphragms

## Custom Pneumatic Actuation Options & Accessories

- Spring Return Operation (Fail Safe)
- Visual Position Indicator
- Pneumatic & Electro Pneumatic Positioners
- 3 & 4 Way Solenoid Valves
- Micro Limit Switches
- Custom ID Tags

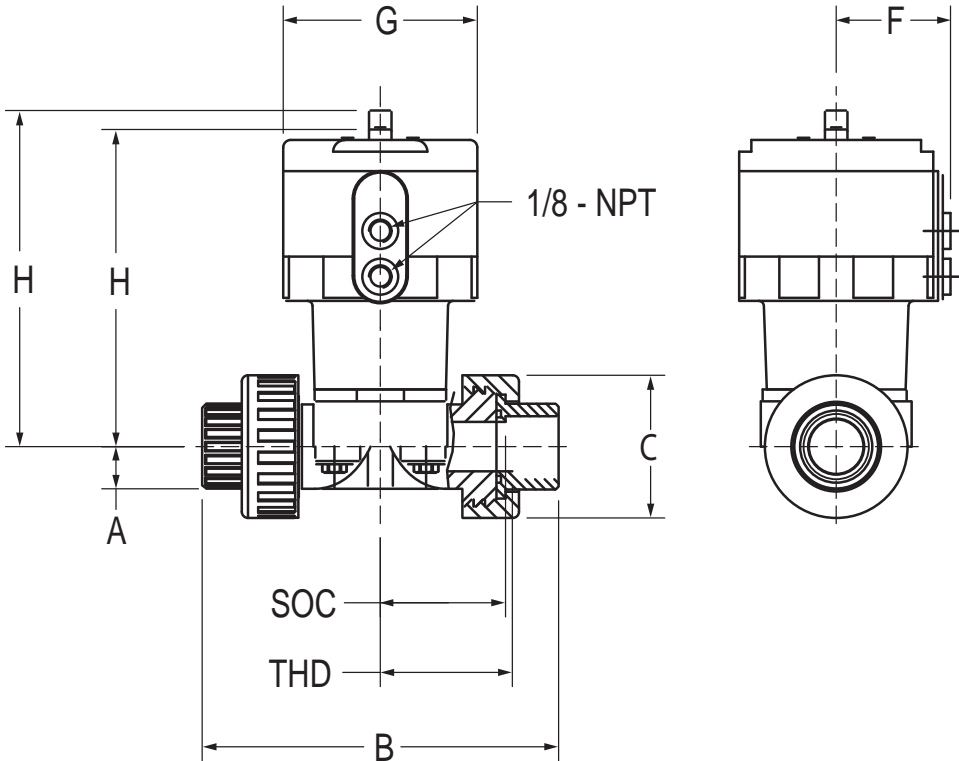
## Sample Engineering Specification

All pneumatically actuated diaphragm valves shall be True Union Socket/Thread or Flanged or Spigot type constructed from PVC Type I Cell Classification 12454 or CPVC Type IV Cell Classification 23447 or UV Stabilized PP. All valve diaphragms shall be EPDM, Viton® or Hypalon® or elastomer backed PTFE. All True Union valve union nuts shall have Buttress threads. All valve components shall be replaceable. All 1/2" through 2" valves shall be pressure rated to 235 psi, all 2-1/2" through 4" valves, 1/2" - 4" flanged valves and 1/2" - 4" PTFE diaphragm valves to 150 psi, all 6" valves to 100 psi, and all 8" valves to 75 psi for water at 73° F. Pneumatic Actuators shall be factory installed, linear type with preset stops. Operation shall be Air-to-Air (double acting) for 40 - 100 psi supply pressure range. Actuator shall be equipped with [selected options list], as manufactured by Spears® Manufacturing Company.

# PNEUMATIC ACTUATED DIAPHRAGM VALVES



### Standard Package Dimensional Information



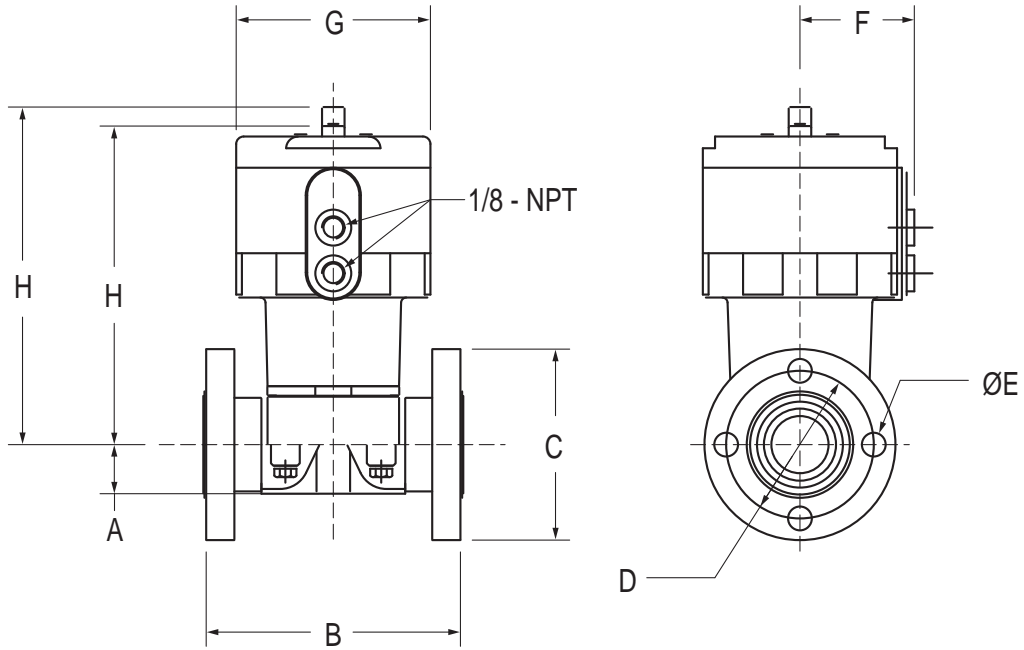
### Pneumatic Diaphragm Valve - Socket/Threaded

Size	A	B	C	F	G	H		Socket	Threaded
						Open	Close		
1/2	9/16	5-15/16	1-15/16	1-21/32	2-11/16	4-17/32	4-5/16	1-29/32	3-3/8
3/4	23/32	6-1/2	2-9/32	2-3/8	3-15/16	6-7/32	5-31/32	2-1/4	2-17/32
1	27/32	7-1/4	2-7/8	2-3/32	4-1/16	6-11/16	6-5/16	2-1/2	2-23/32
1-1/4	1-9/32	8	3-5/16	3-1/16	6-1/32	9-5/16	8-5/8	2-3/4	3-1/16
1-1/2	1-9/32	9-3/8	3-9/16	3	5	9-5/16	9-5/16	3-5/16	3-19/32
2	1-1/2	10-1/2	4-7/32	3-1/16	6-1/32	10-1/32	9-3/32	3-3/4	4-1/4



# PNEUMATIC ACTUATED DIAPHRAGM VALVES

## Standard Package Dimensional Information



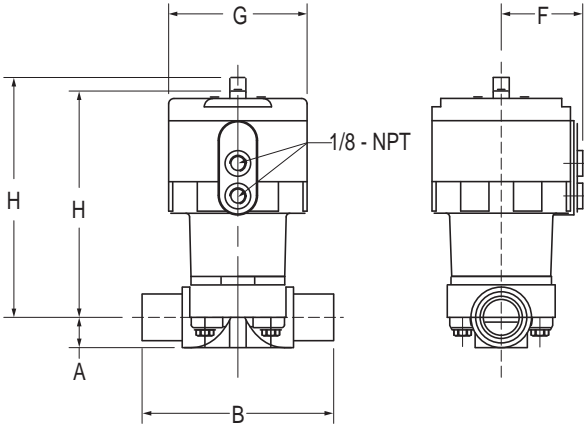
## Pneumatic Diaphragm Valve - Flanged

Size	A	B	C	D	E	F	G	H	
								Open	Close
1/2	9/16	4-5/8	3-1/2	2-3/8	5/8	1-17/32	2-13/16	4-17/32	4-9/32
3/4	23/32	5	3-7/8	2-3/4	5/8	2-3/32	4-1/16	6-7/32	5-15/16
1	7/8	5-5/8	4-1/4	3-1/8	5/8	2-3/32	4-1/16	6-11/16	6-5/16
1-1/4	1-9/32	6-1/2	4-5/8	3-1/2	5/8	3-1/16	6-1/32	9-5/16	8-5/8
1-1/2	1-9/32	6-3/4	5	3-7/8	5/8	3-1/16	6-1/32	9-5/16	8-5/8
2	1-1/2	8	6	4-3/4	3/4	3-1/16	6-1/32	10-1/32	9-3/32

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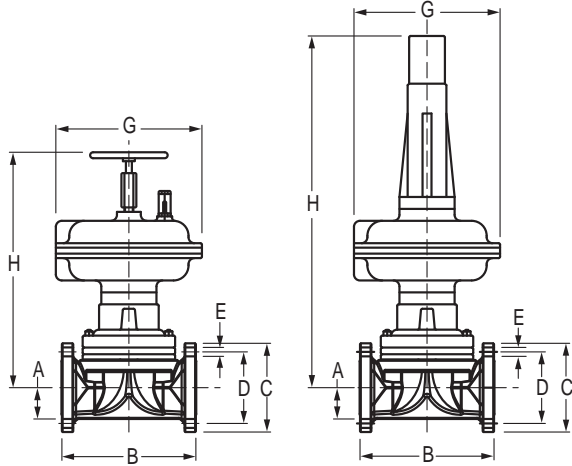


### Standard Package Dimensional Information



### Pneumatic Diaphragm Valve - Spigot

Size	A	B	F	G	H	
					Open	Close
1/2	9/16	4-3/8	1-17/32	2-13/16	4-17/32	4-9/32
3/4	23/32	4-3/4	2-15/16	4-1/16	6-1/4	5-15/16
1	27/32	5-3/8	2-3/32	4-1/16	6-11/16	6-5/16
1-1/4	1-9/32	6-1/4	3-1/16	6-1/32	9-5/16	8-5/8
1-1/2	1-9/32	6-1/2	3-1/16	6-1/32	9-5/16	8-5/8
2	1-1/2	7-3/4	3-1/16	6-1/32	10-1/32	6-1/32



### Pneumatic Diaphragm Valve - Flanged 2-1/2" - 8"

Size	A	B	C	D	E	G		H	
						Air to Air	Spring Return	Air to Air	Spring Return
2-1/2	2-5/8	11-7/32	7-1/2	5-1/2	3/4	12-1/4	12-1/4	18-5/8	28-1/8
3	2-13/16	11-1/4	7-1/2	5-15/16	3/4	9-5/8	12-1/4	13	28-1/8
4	2-3/4	13-1/4	9	7-1/2	3/4	16	16	22-11/16	31-13/32
6	TBA								
8	TBA								