

Actuated Valves Technical
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) or Air-to-Spring Closed (optional spring open) 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.



Typical Illustration

Diaphragm Valve Specifications

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

Standard 2-Position Actuator Specifications

Valve Sizes 1/2" - 2" Type Standard Operation	Linear action Air-to-Air (double acting) or Air-to-Spring Closed (optional spring open)
Supply Pressure Air Connection Body	80 psi 1/8" PES (Polyethersulphone)
Valve Sizes 2-1/2" - 4": Type Standard Operation Standard Operation Pressure Air Connection Body	Linear action Air-to-Spring and Air to Air 80 psi 1/4" (3" & 4" valves) Polyester coated

Special Valve Options & Accessories

- Diaphragm & O-ring Replacement Kits
- Hypalon® (CSM) Diaphragms
- EPDM backed PTFE Diaphragms
- FKM 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, FKM 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. Pneumatic Actuators shall be factory installed, linear type with preset stops. Operation shall be Air-to-Air (double acting) or Air-to-Spring Closed (optional spring open) for 80 psi supply pressure range. Actuator shall be equipped with [selected options list], as manufactured by Spears® Manufacturing Company.