*i***Polymer** | Mini Pneumatic Diaphragm Valves

Mini Pneumatic Diaphragm Valves

Miniature Pneumatic Diaphragm Valves offer precision performance under extreme conditions. Offered as 2-Way and 3-Way valves with four internal body configurations and three valve seat sealing methods, these valves are suitable for ultra-clean to highly corrosive media applications. Their PTFE flow paths are ideal for semiconductor, pharmaceutical, biomedical and chemical process applications. Configurable with a PTFE Hard Seat, FKM (Viton Eq.) O-Ring Seat or FFKM (Kalrez Eq.) O-Ring Seat the valves provide unsurpassed chemical compatibility for a variety of media. The PTFE body, valve stem and one-piece diaphragm maintain a material inert boundary for ultra-clean applications.

Custom Options

- Valves with special port connections such as combinations of pipe, tube and flared ends
- Valves without mounting studs or valves with 4 mounting studs (2 are standard)
- · Manifold valve assemblies

Highlights

- · PTFE design optimized for ultra-clean and chemical compatibility
- · Lightweight pneumatic actuator with compact valve design
- · Pneumatic actuator available in standard polypro or high-temp models
- PTFE diaphragm completely isolates media from the actuator
- 100% pneumatic driven does not require power only supply air
- O-ring seat configurations for vacuum and complex media applications
- · Designed for aggressive media and elevated temperature



3/8" 3-Way FNPT

1/4" 3-Way Tube

1/4" 2-Way FNPT

Custom Manifold Assemblies



Specifications

Inlet Port

Outlet Port

General Valve Parameters	
1/8" Orifice Cv (2W-NC, 2W-NO, 3W)	0.35 / 0.18 / 0.18
1/4" Orifice Cv (2W-NC, 2W-NO, 3W)	0.60 / 0.35 / 0.35
3/8" Orifice Cv (2W-NC, 2W-NO, 3W)	0.90 / 0.60 / 0.60
Common Port Vacuum in-Hg (max)	25
Actuator Pressure (range)	40 - 60 psi
Media Temperature (range)	0-80°C/32-176°F
Ambient Temperature (range)	0 - 60°C / 32 - 140°F
Max. Port Pressure Rating	3-Way
Common Port	60 psi
Normally Closed Port	30 psi
Normally Open Port	60 psi
	2-Way NC
Inlet Port	60 psi
Outlet Port	30 psi
	2-Way NO

60 psi

60 psi

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Ordering Format

$\underbrace{\mathbf{MTV}}_{0} - \underbrace{\mathbf{22}}_{1} \underbrace{\mathbf{2C}}_{2} \underbrace{\mathbf{F}}_{3} \underbrace{\mathbf{S}}_{4} - \underbrace{\mathbf{T}}_{5} - \underbrace{\mathbf{123}}_{6}$

0. Valve Series

MTV = Miniature Pneumatic Diaphragm

1. Port Size, Max. Orifice

Port selection must match below. 22 = 1/8" FNPT, 1/8" Orifice 44 = 1/4" FNPT, 1/4" Orifice 66 = 3/8" FNPT, 3/8" Orifice 86 = 1/2" FNPT, 3/8" Orifice 43 = 1/4" Tube, 1/16" Orifice 43 = 1/4" Tube, 3/16" Orifice 65 = 3/8" Tube, 5/16" Orifice 86 = 1/2" Tube, 3/8" Orifice 42 = 1/4" Flare, 1/4" Orifice 86 = 1/2" Flare, 3/8" Orifice

2. Valve Configuration

2C = 2-Way Normally Closed 2O = 2-Way Normally Open 3W = 3 Way (See Port Arrangements)

3. Port Selection

F = FNPT T = Tube Ends FF = Flare Ends

4. Body Shape S = Square

5. Valve Seat

T = PTFE V = FKM (Viton Eq.) K = FFKM (Kalrez Eq.) E = EPDM

5. Port Arrangement

(Only for 3-way config., 123 = NC-C-NO 132 = NO-C-NC

Contact us for custom configurations.

Top View of Coil



Auxiliary Plate ("AP")

For highly corrosive or caustic gas applications, such as Chlorine Gas, our Auxiliary Plate Option ("-AP") give an extra line of protection. The valve is configured with an auxiliary plate between the upper diaphragm and solenoid coil. The AP (Auxiliary Plate) is ORing sealed on the Stem of the diaphragm and supported at the outer body-to-coil interface.



