

2-W Manual Ball Valve

Product Overview

The 2-W PTFE Ball Valves are designed for use in high purity semiconductor applications, and are also ideally suited for use in ultra-pure water and aggressive chemicals. All sizes have wetted parts made entirely of PTFE. All valves are designed full port for minimal flow restrictions and are operated 1/4 turn with minimal torque.

Features

Floating ball design without o-rings ensures bubble tight sealing at high pressure.

Full port design; 1/4 turn operation with low torque tee handle.

Panel mounting is an option on all sizes.

Benefits

Bidirectional flow to 120 psi liquid or gas; High cycle life.

Ideal for quick shut-off in contamination-free applications.

Ideal for process instrumentation applications.



Specifications

Materials of Construction

Wetted: PTFE
Non-wetted: HDPE, PVDF and PVC

Pressure Ranges

25" HG vacuum (846 mbar) to 120 PSIG (8.3 bar)

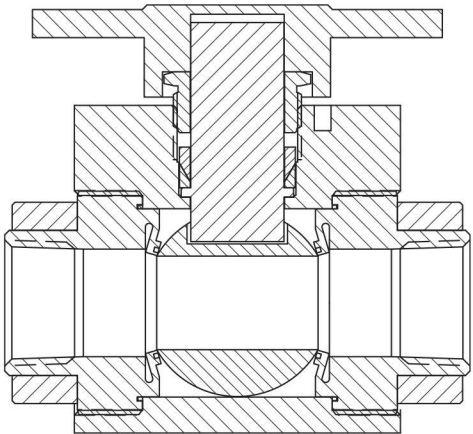
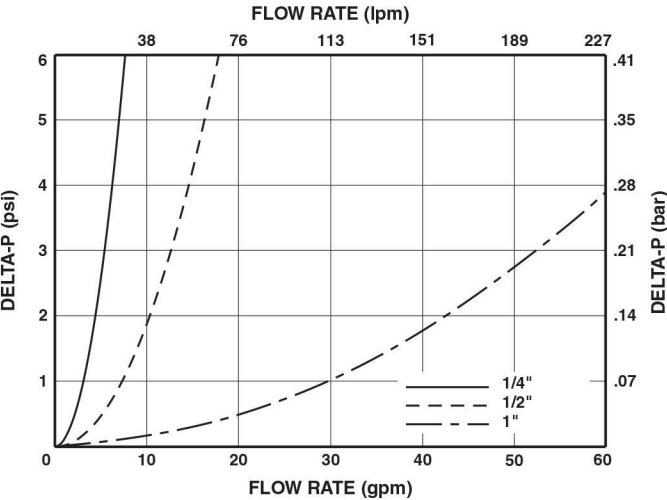
Pressure ranges for operation at ambient temperatures. For use at higher temperatures consult Pressure/Temperature chart on page 3.

Temperature Ranges

Ambient: 41° - 104° F (5° - 40° C)
Fluid: 41° - 104° F (5° - 40° C)

Model Number	Cv	Kv	Flow Config.	Port Config.
2-W-1414-0	1.88	26.81	ON/OFF	1/4"
2-W-1818-0	6.59	93.97		1/2"
2-W-116116-0	28.06	400.14		1"

PRESSURE DROP VS. FLOW RATE



3-W Manual Ball Valve

Product Overview

The 3-W PTFE Ball Valves are designed for use in high purity semiconductor applications, and are also ideally suited for use in ultra-pure water and aggressive chemicals. All sizes have wetted parts made entirely of PTFE. All valves are designed full port for minimal flow restrictions and are operated 1/4 turn with minimal torque.



Features

Floating ball design without o-rings ensures bubble tight sealing at high pressure.

Full port design; 1/4 turn operation with low torque tee handle.

Panel mounting is an option on all sizes.

Benefits

High cycle life.

Lower replacement costs.

Less downtime.

Ideal for process instrumentation applications.

Specifications

Materials of Construction

Wetted: PTFE
Non-wetted: HDPE, PVDF and PVC

Pressure Ranges

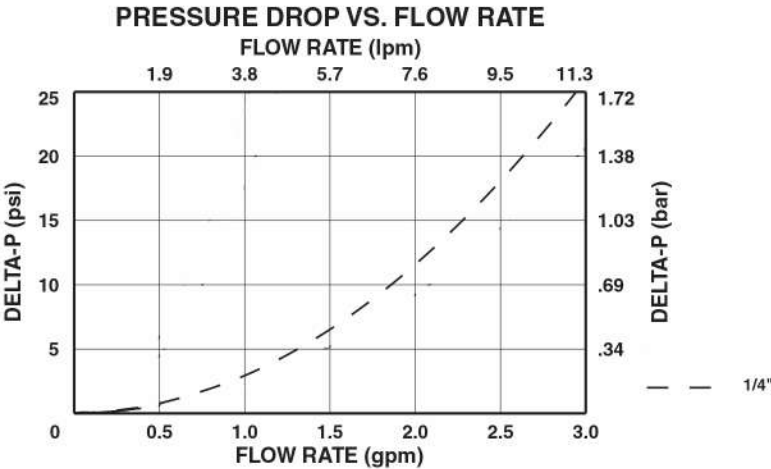
Forward: 27" HG vacuum (913 mbar) to 80 PSIG (5.5 bar)
Backward: 27" HG vacuum (913 mbar) to 80 PSIG (5.5 bar)

Pressure ranges for operation at ambient temperatures. For use at higher temperatures consult Pressure/Temperature chart on page 3.

Temperature Ranges

Ambient: 41° - 104° F (5° - 40° C)
Fluid: 41° - 104° F (5° - 40° C)

Model Number	Cv	Kv	Flow Config.	Port Config.
3-W-1414-0	1.88	26.81	ON/OFF	1/4"



PTFE is a fluorocarbon resin that is isostatically compression molded into various shapes and configurations. It is chemically resistant to all chemicals and solvents with the exception of some molten alkali metals, molten sodium hydroxide, elemental fluorine and certain fluorinating agents. we use PTFE for machining the bodies and components of various valves and manifolds. It offers chemical resistance and stability at high temperatures.

Chemical Properties

- Resistivity to corrosive agents
- Non-solubility
- Long term weatherability
- Non-adhesiveness
- Nonflammability

Electrical Properties

- Low dielectric constant
- Low dissipation factor
- High arc resistance
- High surface resistance
- High volume resistivity

Mechanical Properties

- Flexibility at low temperatures
- Low coefficient of friction
- Stability at high temperatures

C_V and K_V Formulas

$$Q = C_V \sqrt{\frac{\Delta P}{SG}}$$

Q = Flow (GPM)
 ΔP = Pressure Drop (PSIG)
 SG = Specific Gravity

$$Q = K_V \sqrt{\frac{\Delta P}{Y}}$$

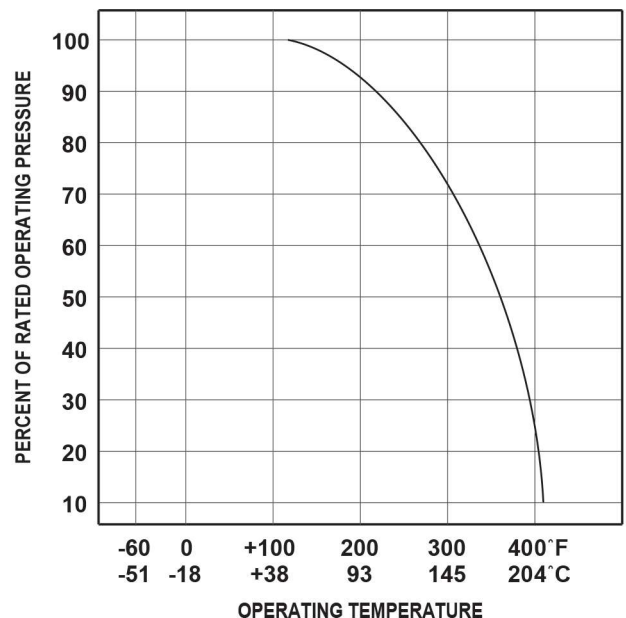
Q = Flow (LPM)
 ΔP = Pressure Drop (BAR)
 Y = Specific Gravity (kg/cm³)

$$1 K_V = 14.26 C_V$$

"C_V" flow factor is the number of gallons of fluid that pass through a given orifice area in one minute, at a pressure drop of 1 PSIG.

"K_V" flow factor is the number of liters of fluid that pass through a given orifice area in one minute, at a pressure drop of 1 bar.

PERCENT OF RATED PRESSURE VS. TEMPERATURE



For operation at temperatures above ambient conditions, please refer to the chart above for reduced pressure ratings.

2-W Manual Needle Valve

Product Overview

The 2-W Needle Valve is designed for high purity or aggressive chemical and gas applications.



Benefits

High strength and corrosion resistance.

Safer operation.

Reduces connections, mounting space, and overall cost.

Specifications

Materials of Construction

Wetted: PTFE
Non-wetted: PFA, ETFE, PVDF

Pressure Ranges

27" HG vacuum (913 mbar) to 100 PSIG (7 bar)

Pressure ranges for operation at ambient temperatures. For use at higher temperatures consult Pressure/Temperature chart on page 3.

Temperature Ranges

Ambient: 0° - 212° F (17° - 100° C)
Fluid: 0° - 266° F (17° - 130° C)

Model Number	Orifice Size	Inlet / Outlet Port Configuration
2-W-13-170	.188	1/4" FNPT X 1/4" FNPT

