Tufline Plastic-Lined Clamp Valves handle varieties of corrosives at temperatures from –20°F to 400°F (–28°C to 204°C) by combining the best properties of two different materials of construction.

On the outside, a metal body provides strength, shock resistance, ease of installation, and a high pressure handling capability.

On the inside, the PTFE tube offers corrosion resistance that stainless steel and high alloy metal valves can’t match.

The Teflon® PTFE Clamp Valve with its full-flow, straight-through packless design, is capable of bubble-tight shutoff and fine throttling. These features coupled with minimum maintenance and unexcelled corrosion resistance, makes the PTFE clamp valve the most economical valve available for tough CPI applications.

The clamp valve consists of a flexible PTFE tube and a clamp. Unlike pinch valves, the tubing is never kinked, creased or pinched. PTFE Clamp Valves are available in sizes 1" through 8" in various configurations and with a number of optional accessories.

Because all wetted surfaces are PTFE, the clamp valves offer unsurpassed chemical resistance at temperatures up to 400°F (350°C) for 6" and 8" valves. The minimum burst pressure for sizes 1" through 8" at 70°F is 900 psi and at 400°F is 600 psi.

*Teflon® is a registered trademark of DuPont.

Note: Contact Xomox for applications beyond maximum nominal pressure and temperature ratings.
The Clamp valve is a flexible tube and a clamp. The tubing is made from Teflon PTFE.

A Teflon PTFE reinforcing jacket heat shrunk over the tube element increases strength without sacrificing flexibility.

The clamping mechanism consists of a compressor which travels down a stem with rotation of the hand-wheel or power operator, and a yoke which travels up the stem at the same time. Together these components clamp off flow bubble-tight.

Teflon inserts - teardrop shaped in cross section - on each side of the Teflon tube prevent the tube element from being overstressed. All flexing takes place on the center line of the valve between the teardrops, insuring long life for the valve.

The radius clamps are connected to the yoke and to the compressor by means of links and link pins. These components, working together, provide a scissor-jack action which pushes the tube element inward during the opening cycle and pulls it outward during closing.

Valve Size | C_v | F_L
---|---|---
1" | 35 | 0.610
1 1/2" | 112 | 0.420
2" | 163 | 0.439
3" | 396 | 0.330
4" | 527 | 0.514

F_L is a coefficient which permits calculation of valve flow capacity at low inlet pressures.

\[ F_L = \frac{q \text{ max.}}{C_v \sqrt{P_V - r_c P_V}} \]

C_v = Valve sizing coefficient
q = Flow rate, gal/min
\( \Delta P \) = Pressure drop, psi.
G = Specific gravity of fluid
r_c = Critical pressure ratio

C_v is a coefficient which relates the rate of fluid flow through a valve to the pressure drop across the valve. Valves with higher values of C_v will provide higher rates of flow for a given pressure drop. C_v values for PTFE Clamp Valves are dependent upon inlet pressure. C_v values shown above were determined with inlet pressure of 65 psi or higher.

Operating parts are encased in a ductile iron body with Standard ANSI Class 150 flanges. Because the valve is symmetrical and completely bi-directional, either end can be placed upstream.
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**Notes:**

* Recommended in 3" size for line pressure over 150 psi and in 4" size for line pressure over 75 psi. An enclosed gear box is included.

† Recommended for use with line pressure over 75 psi, these models are furnished with 3-to-1 gear reducers.

‡ Recommended for use with line pressure over 75 psi, these models are furnished with 5-to-1 gear reducers.

All flange bolt holes straddle the center lines.

All valve flange dimensions conform to ANSI B16.42. The face-to-face dimensions in valve sizes through 4" conform to ANSI B163.10, Class 150.