

The Next Generation of Insertion Valves

Many water systems in Pennsylvania, whether rural or urban, are aging and in need of continual maintenance. Sometimes the maintenance required is minimal and other times extensive. System managers are trying to balance making quality improvements to their piping while keeping within their budgetary constraints. To keep their systems in proper working order, there are times when the installation of an insertion valve is the best option. As communities grow, and more development takes place, the water systems must continue to invest in the infrastructure to meet these new service needs. As new services are added to a water system it leaves less isolation valves to permit repairs and maintenance without causing widespread water outages. These growing systems are an ideal instance where insertion valves are the most effective application to be used. Installation of an insertion valve permits smaller isolated outages, giving the system manager greater control over the system. The top priority for any system manager is to keep the system up and running so that there are as few as possible disruptions to the customer's waterflow which could cause water contamination concerns.

There are several manufacturers of insertion valves. Fox Tapping Inc., a PA-based tapping contractor, is an installer of the Mueller PermaSeal™ Insertion Valve and will outline below its capabilities.

The PermaSeal™ Insertion Valve is the first inserting valve solution that is a true resilient Wedge Gate Valve capable of delivering reliability, longevity, functionality, and repeatable water shut-off throughout the valve's lifetime. With a 350 psi rating and available in 4", 6", 8", 10" and 12" standard (DI, CI, PVC, STEEL pipe) and oversized (A-C pipe) variants, the PermaSeal™ Insertion Valve's design allows for insertion into existing water mains with minimal service disruption and dependable functional service life, making it an ideal solution for any water network. They meet the PA STEEL Procurement Act and AIS "American Iron and Steel Act".

The Mueller H-2361 PermaSeal™ Insertion valve is designed to be installed in existing lines where additional valving is required and having a shutdown of the line is impractical or dangerous. It is installed under pressure without interruption of service. Each Insertion Valve consists of a sleeve and a valve body. The sleeve is in two parts, which are installed around the main. After the main is cut and a section of the pipe is removed, the valve body containing the gate valve mechanism is inserted in the sleeve (gate valve mechanism is identical to that of the



Mueller A.W.W.A Standard Gate Valves). The valve may then be operated like any standard gate valve. PermaSeal™ Insertion Valves can be furnished with a handwheel and post indicator plates when specified. All PermaSeal Insertion valves have a full-size water way. MUELLER PermaSeal™ Resilient Wedge Insertion Gate Valves meet or exceed all pertinent requirements of ANSI/AWWA C515-15 gate valve standard. They are ANSI/NSF 61 & 372 certified for drinking water components.

The valve gate seats on the precision cast surface that is an integral part of the removable valve body (not on host pipe or sleeve assembly) that is clean and unobstructed of buildup/tuberculation to provide for reliable watertight shutoff. To ensure service with long-term capability of repeat watertight shutoff no recess/pocket is allowed in the bottom of the seat area to trap sediment or debris. The design accommodates the removal of either the valve bonnet, or the entire valve body assembly from the sleeve body, allowing for the inspection, maintenance, and replacement of the components, including the precision cast seat.

MUELLER PermaSeal™ Insertion Valves are cast, machined, assembled, and tested in the USA and are warranted by the manufacturer against defects in materials or workmanship for a period of ten (10) years from the date of manufacture. The manufacturing facility for the valves is ISO certified, and the valves are compatible with most major types of pipes.

Typical uses for insertion valves:

1. Installation in a hydrant stub when no valve is present, and the hydrant needs repairs.
2. Installation in a line when inoperable valves, already in the line, need repair.
3. Installation in a line where better control and additional control valves are needed.
4. In an existing and operating water distribution system.
5. When no valves are present for relocation of an existing main.

Having PermaSeal™ Insertion Valves installed in a water system takes a financial commitment by an authority, but

the benefits of having a point of repeatable isolated shutoffs justifies the cost. Their use minimizes the environmental disruption because fewer excavations and a reduced use of pipe and secondary materials are required. In addition, less system staff time is required and the benefits of minimizing customer downtime are priceless. As system managers plan for their budgetary needs, they should be reaching out to certified PermaSeal™ Insertion Valve installers to discuss the best options and pricing for their systems. If there is development planned in a manager's service area, it is important to plan for quality improvements to provide the most cost-effective solution with long-term benefits to the system. We all know that citizens appreciate low bills upfront, but water quality issues and price spikes for repair work are worse in the long run for their wallets. Smarter spending choices will benefit all involved, particularly for rural water systems with a smaller customer base to draw revenue from. Planning for the future is crucial in these systems. ♦

Fox Tapping, Inc. is celebrating its 45th year in the piping industry servicing the mid-Atlantic region. Fox provides hot/wet tapping, line stopping, valve inserting and the sale of specialty valves and fittings. Owner and President, Jeffrey Fox, has a wealth of knowledge about the piping industry and takes great pride in the excellent customer service and working relationships maintained with customers.



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