

In Case of Emergency

By Brett Hanes

Insert valve technology simplifies water system capital improvements

According to CNN, an average of 700 water main breaks occur nationwide every day. Often the result of aging and decaying systems, these breaks never occur at a convenient time. Depending on the severity of the breaks, they can cause significant damage to roadways and other infrastructure, poor water quality, substantial wasted water and even massive sinkholes—all of which threaten public safety.

According to the American Society of Civil Engineers, water main breaks and leaks account for an estimated loss of 7 billion gal of water each day across the U.S. With continuing drought conditions throughout much of the nation, municipalities and water departments can ill afford to waste water.

Finding efficient, cost-effective solutions for emergency water system repairs and capital improvements has become a necessity. Municipalities and other water departments must be prepared to respond with proven solutions as required.

Dependable Solution

Insert valve technology has been around for a number of years. Water departments throughout the country are adopting new ductile-iron, resilient-seat insert valve technology that can simplify emergency water system repairs, routine maintenance and capital improvements, as well as provide a permanent solution. The insert valve installs in line and under pressure, eliminating the need for costly system disruptions and product waste.

The technology also addresses a wide range of weaknesses associated with traditional insert valve designs. The primary advantage of the full-body insert valve is that it seals onto the valve body itself instead of using the host pipe to attempt a seal. This feature provides a clear, unobstructed waterway that enables the repair of existing pipe or the installation of new pipe under full-rated working pressure.

Additionally, the insert valve technology accommodates full water and wastewater system hydraulic forces up to 250 psi. These valves meet ANSI/AWWA C515 material standards and eliminate backflow contamination, purging and bac-t-hits. They orient in any position on any type of pipe, including ductile iron, steel, cast iron, AC and PVC. Coated on the inside and outside with NSF-61 epoxy, the durable ductile iron construction maintains the strength of the existing infrastructure.

Capital Improvements Made Easy

Traditional insert valves use the host pipe as an integral part of the valve. Thus, the valves become part of the pipe infrastructure, which is often outdated and undersized. As a result, these valves must be completely removed and replaced when capital expansions are scheduled.

Conversely, new insert valve technology delivers a range of solutions for critical piping system

issues. They are available for emergency pipe repair, upsizing of downstream pipe (made possible because of the valve's integral mechanical joint or mechanical joint connections), downstream pipe replacement while maintaining upstream pressure, bypass operations, temporary line stops and even long-term operational fluid blocks.

This new insert valve technology recently simplified a capital improvement project at a senior living community in Colorado.

Liberty Heights

Located in Colorado Springs, Colo., the Liberty Heights senior living community is made up mostly of retired U.S. Air Force personnel. The 26-acre campus provides independent living, assisted living and skilled nursing care for senior citizens.

The Liberty Heights utility department recognized that it had an inadequate number of isolation valves in its system, should a water main failure ever occur. Rather than risking a system shutdown in the event of an emergency, the utility decided to implement a capital improvement program.

With two new valves to install on a 12-in. water main, the utility department had a significant challenge on its hands. It could not install new valves into the system using conventional technology and maintain water service to the community at the same time.

The utility department wanted a valve solution that would provide instant isolation zones, reliable shutdown characteristics and repeatable performance for years to come. Of the options explored, only an insert valve with a ductile-iron body and full-functioning, resilient wedge gate readily met all of the utility department's demands.

Two 12-in. Team Industrial insert valves were permanently restrained to the water line, maintaining pipe integrity. The entire installation process was conducted under pressure and without shutting down the system. The installation process was fast and simple.

With the new valve body securely attached to the host pipe, a temporary isolation valve was mounted to the valve body, and a complete section of the pipe was removed using a tapping machine. The valve bonnet then was installed into the valve body in a matter of minutes. The permanent, resilient seat valve became fully operational. The same installation process was repeated for the second valve.

The two new insert valves promise to provide instant isolation zones and dependable shutoff for years to come. www.teaminc.com

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New insert valve technology simplifies repair and installation of pipes by sealing onto the valve body and providing an unobstructed waterway.