

# AVT™ EZ VALVE®

## AVT Designs New EZ Valve to Isolate Aged Transmission Main

### CASE STUDY:

## Malden Massachusetts, USA

### SUMMARY

- 14-inch (350-mm) AVT EZ Valve was installed to repair a leaking a cast iron pipe that was more than 100 years old
- AVT engineers designed a new 14-inch (350-mm) version of the AVT EZ Valve specifically for this project and managed fabrication and testing of the design, delivering the new valve within 10 weeks
- 3 technicians installed two 14-inch (350-mm) AVT EZ Valves over 2 days, working 4.5 hours/day
- The AVT EZ Valve allowed water flow to continue during installation

When city engineers in Malden Massachusetts, found a leak on a 14-inch (350-mm) cast iron transmission line running through a major thoroughfare, they reached out for support to the Massachusetts branch of Everett J. Prescott (EJP) Company, a waterworks distributor that had managed projects for them in the past.

The first solution that came to mind was the AVT EZ Valve, but EJP did not have the capability to install a valve bigger than 12 inches (304.8 mm). The company contacted local distributor Hydra Tech, Inc. with a request for the company to provide the valve and perform the installation.

Having executed hundreds of installations using AVT products, Hydra Tech assumed this would be a conventional repair. The company got in touch with AVT to secure the appropriate valve, and it was only then that Hydra Tech realized there was a problem. Although AVT EZ Valves had been manufactured in a range of sizes, no valve had been designed for a 14-inch (350-mm) line.

Determined to provide the solution, AVT engineers set about designing a valve that could be used on the damaged line. The AVT engineering team immediately began devising a way to produce the necessary valve components and develop a rigorous testing program to be carried out at the AVT Elk Grove Village, Illinois, location to ensure the parts were up to specifications and that the valve would function as expected in the field. When the testing was complete, the newly produced 14-inch (350-mm) AVT EZ Valves was delivered to Hydra Tech. The new valve would allow for installation on pipes with an outer diameter of 15 to 15.5 inches (381 to 393.7 mm).



The installation team places the valve body to begin the installation on the 100-year old cast iron pipe.



Installers prepare to make a cut in the line using the AVT EZ Valve, newly designed for a 14-inch (350-mm) line.



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Technologies**

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Within 10 weeks, designers had developed and tested a solution that would allow the aged line to be replaced without shutting off the water. The pipe was more than 100 years old, and the team was sure it could be repaired with the proper equipment on hand, but there was no room for error. The location of the pipe and the advanced age of the existing shutoff valves made it nearly impossible to shut down the line if the repair did not go as planned.

Following the normal installation protocol, a team of 3 technicians installed the newly minted valve. The crew completed the project over 2 days, working 4.5 hours each day, delivering a perfect installation and providing concrete evidence of the efficacy of the new valve.

The successful installation of the two valves on this line brought the number of Hydra Tech's AVT EZ Valve repairs to 537 in less than 5 years.



The crew completed the project over the course of 2 days without shutting down the line.



The first project using an AVT EZ Valve designed for a 14-inch (350-mm) line was executed according to plan, delivering a perfect installation.



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