

WATER MAIN VALVE INSERTION



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DEPARTMENT OF PUBLIC WORKS
WATER & WASTEWATER DIVISION

Overview

- Applications
- Valve Insertion Options
- Valve Insertion Process
- Valve Insertion Project
- Lessons Learned

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Water Main Valve Installation



Typical Valve Installation

- Requires the isolation of the existing water main
- Distribution of water service to residents and businesses
- Risk of contamination of existing water main.

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Water Main Valve Insertion

What is a Valve Insertion?

- A method to install a new valve on an existing, in-service, pressurized and operating water main without the need to shut down the flow of water.
- A special sleeve is installed on the water main and a hot tap is performed, then a valve body is installed.
- Once the work is complete, you have a functioning gate valve.

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Water Main Valve Insertion

Valve Insertion – Why?



- Existing water main cannot be isolated due to malfunctioning or missing valves.
- Existing water main cannot be isolated due to critical customer.
- Utility does not want to shut off watermain due to possible contamination of existing water main.

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Valve Insertion Options

Four Manufacturers for Valve Insertions

1. Advanced Valve Technologies – EZ Valve

- Cut slot in pipe
- Valve “seats” on existing pipe
- Built in isolation valve for installation purposes



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Valve Insertion Options

Four Manufacturers for Valve Insertions

2. Hydra Stop – Insta Valve

- Cut hole in top of pipe
- Valve “seats” on existing pipe



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Valve Insertion Options

Four Manufacturers for Valve Insertions

3. Romac Industries –
Quik Valve
 - Cut hole in top of pipe
 - Valve “seats” on existing pipe



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Valve Insertion Options

Four Manufacturers for Valve Insertions

4. Team Industrial - InsertValve
 - Remove entire section of pipe
 - Valve “seats” on new valve body

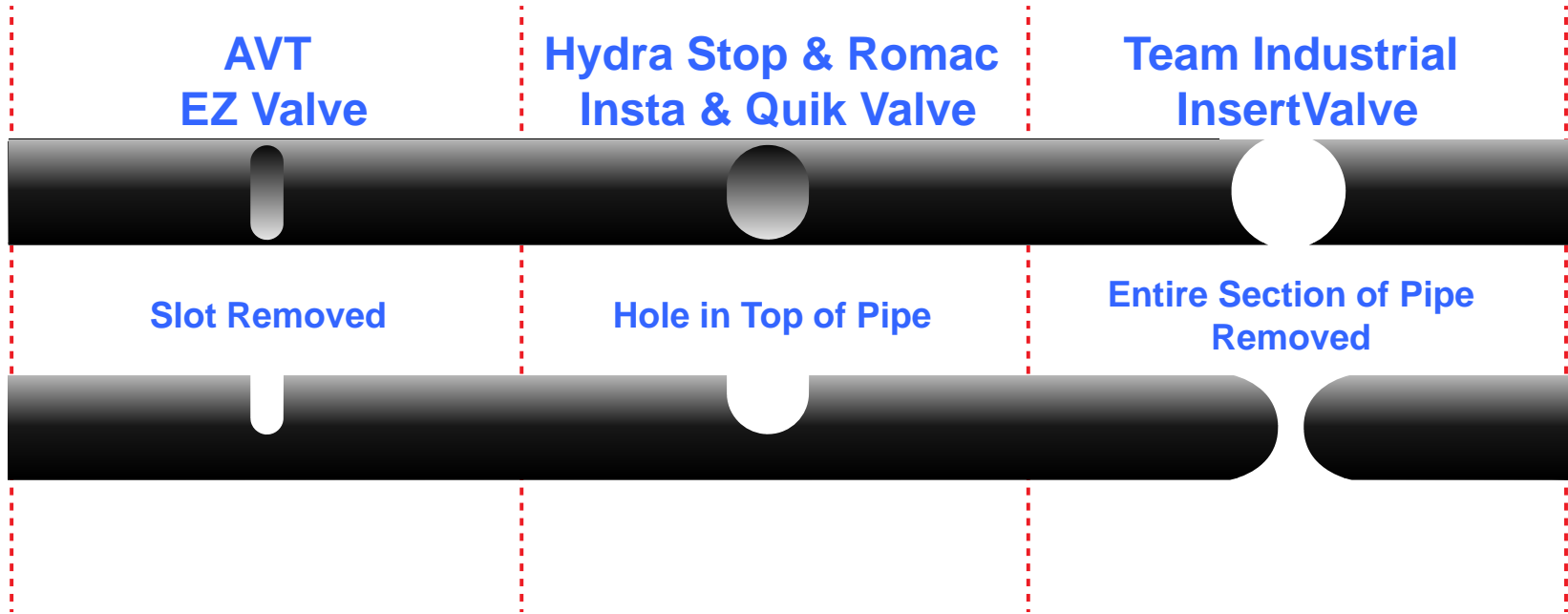


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Valve Insertion Options

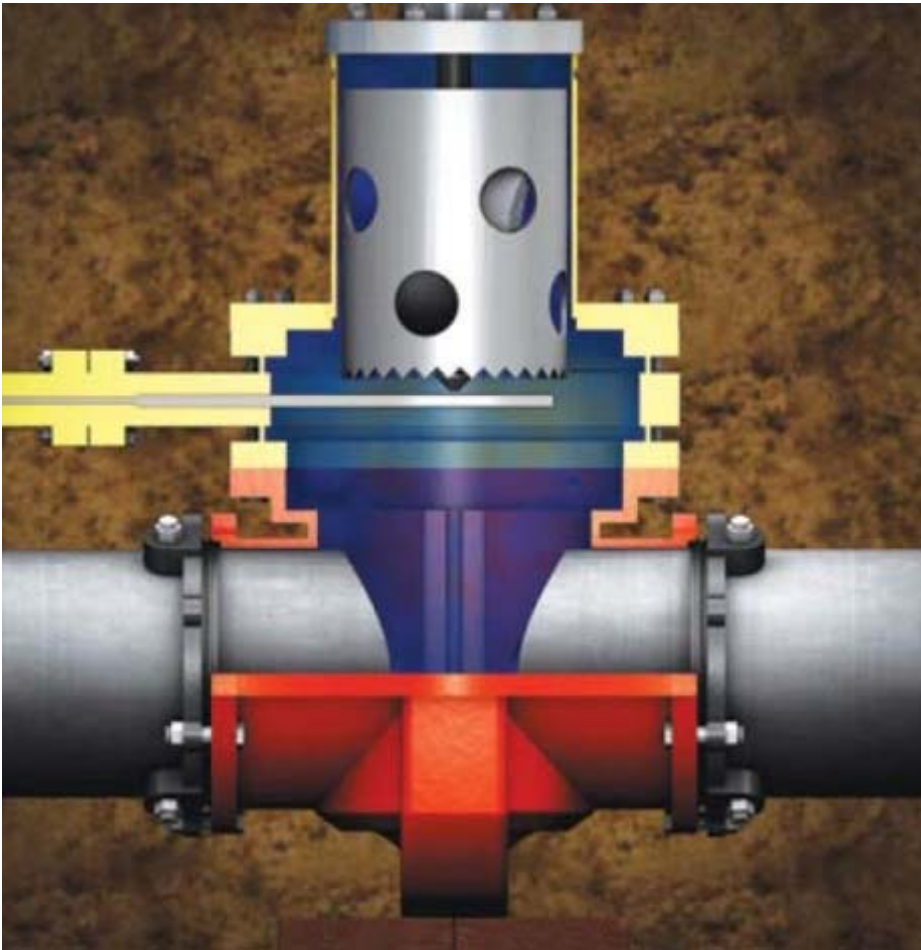
Insertion Valve Comparison



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Valve Insertion Process



Step 1

- Install Sleeve

Step 2

- Pressure Test Sleeve and Check for Leaks

Step 3

- Install Isolation Valve

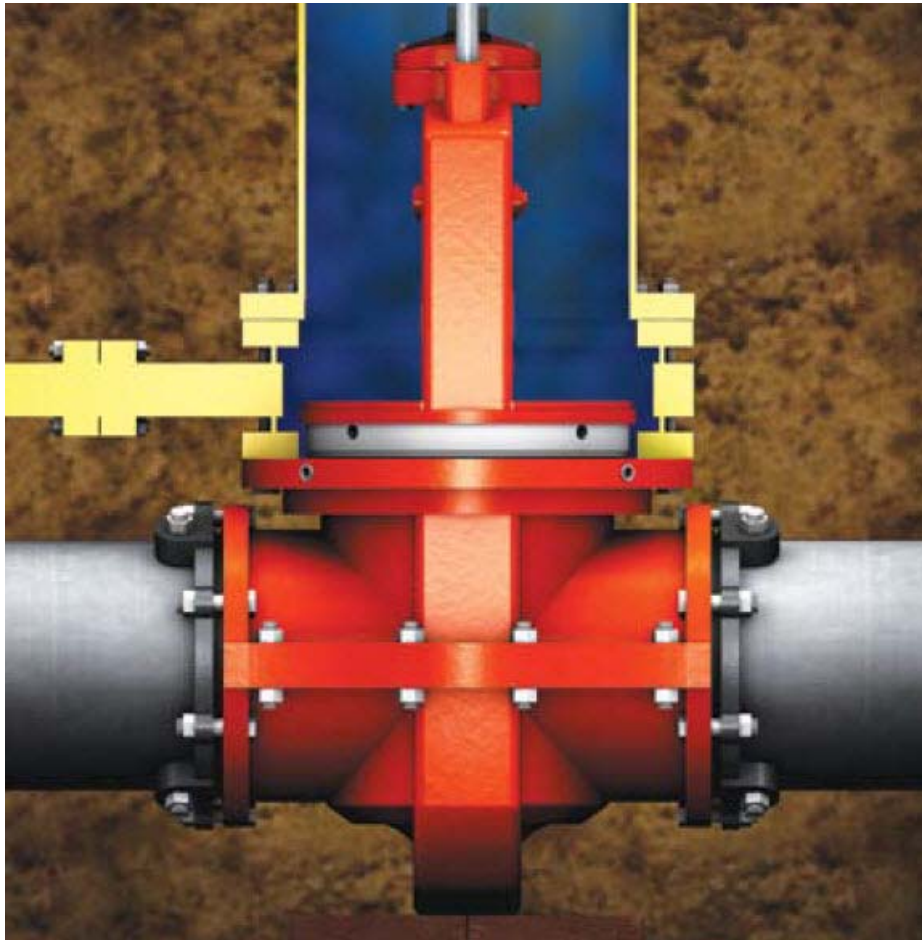
Step 4

- Cut Hole in Pipe

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Valve Insertion Process



Step 5

- Close Isolation Valve

Step 6

- Remove Cutter / Drill

Step 7

- Install Gate Valve Assembly

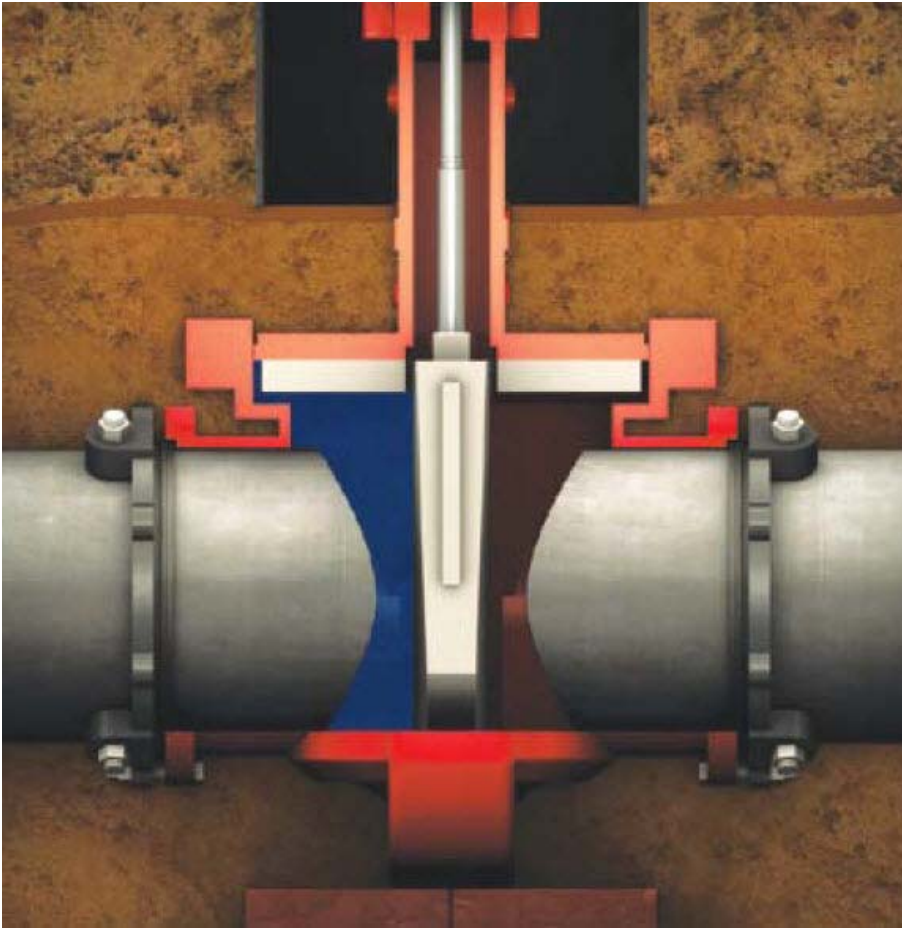
Step 8

- Remove Isolation Valve

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Valve Insertion Process



Step 9

- Secure Valve Assembly

Step 10

- Check Operation of Gate Valve

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Valve Insertion Project



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Lessons Learned

Valve Insertions were successful

- Would consider using again

Planning is Critical

- Prior to the start of the job there was months of planning
- Know the size and exact diameter of the water main
- Conduct Pre-Job Meeting with Contractor(s)
- Know what is expected from all parties involved

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A nighttime photograph of St. John's, Newfoundland, showing the city lights and harbor. The city is illuminated with warm yellow and white lights, reflecting on the water. The harbor is filled with boats and structures, and the city extends up a hillside in the background. The sky is a deep blue, and the overall scene is a vibrant display of urban lights at night.

Thank You

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