ULC ROBOTICS

CISBOT

ROBOTIC CAST IRON JOINT SEALING

Internal Joint Sealing for 6- to 12-inch Low Pressure Mains

ULC Robotics seals cast iron pipe joints in live gas mains with 6- to 12- inch diameters using the CISBOT robot. Working inside live low-pressure mains, CISBOT can seal up to 25 joints in a single day through one small access pit. Use CISBOT prior to road paving to seal your mains and ensure that you won't need to excavate new paving to seal old joints.

Alternative to Cast Iron Pipe Replacement

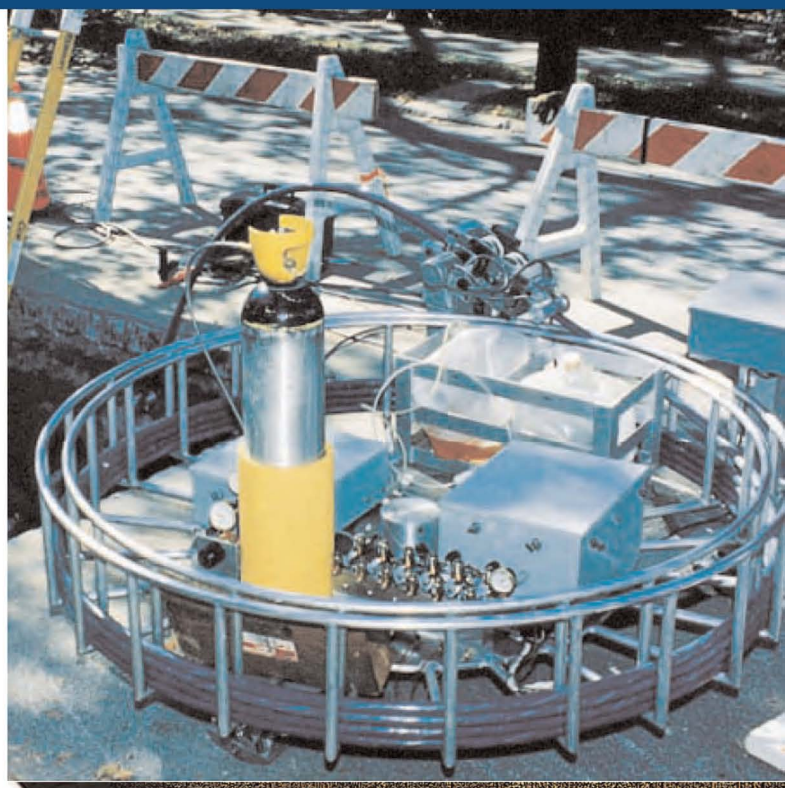
Live internal joint sealing is an excellent alternative to cast iron pipe replacement. Use ULC's Robotic Joint Sealing Service to extend the life of your cast iron mains with minimal excavation. Save money, time and improve customer satisfaction by eliminating the disruption caused by direct burial construction.

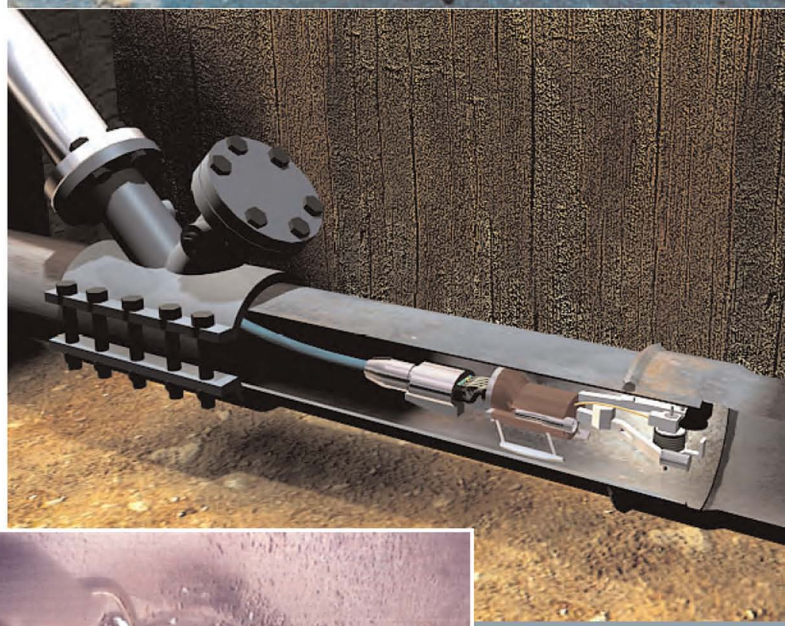
Proven Performance

ULC Robotics has sealed more than 3000 cast iron joints for Con Edison and gas companies throughout the Northeast USA using the CISBOT robot. It uses Anacure: the same well-proven, externally injected anaerobic sealant that has been used for more than 15 years. Anacure's 50-year effective life has been tested and verified by Cornell University. CISBOT was developed with support from Con Edison of New York and Enbridge of Toronto Canada.

More Cost Effective

CISBOT is more productive and cost effective than external joint sealing methods, which can cost up to 50% more. From one 4 x 6-foot excavation, CISBOT can seal up to 25 joints in a single day by traveling up to 150 feet in each direction. For rehabilitation of up to 300 feet, CISBOT requires only one excavation and thus lowers permit and pavement restoration costs.





Robot operator's view down the main

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CISBOT Procedure

Step 1

The gas company excavates a 4 x 6-foot pit and installs a permanent full encirclement bidirectional fitting on the main. The fitting may be supplied by ULC Robotics or purchased directly from the manufacturer.

Step 2

ULC Robotics drills the main in both directions and installs the CISBOT robot launch tube on the fitting.

Step 3

Working from the operator's cabin inside our robotics truck, ULC's robot operator drives the robot down the main to its farthest distance away from the excavation, typically 150 feet. Once the robot reaches the end of the run the operator begins sealing all the joints.

Step 4

Each joint is sealed by drilling a small chamfered hole through the spigot into the jute inside the pipe joint. After the hole is drilled an injection nozzle is pressed into the hole and Anacure is injected into the jute. All elements of the sealing process are preset by the robot's computer and monitored by its operator. Precise control over drill thrust pressure, drill depth, drill speed, injection pressure, flow rate and volume help to ensure a good seal every time.

Step 5

After all of the joints in the first direction are sealed our crew removes the robot from the main and installs the launch tube on the fitting heading in the opposite direction.

Steps 3 and 4 are repeated until all joints are sealed.

Documentation

ULC Robotics provides detailed documentation of all work performed, including a Daily Work Report, a Joint Sealing Report and a Site Map.

ULC ROBOTICS

Innovative pipeline inspection and rehabilitation equipment and services

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