Using our VGC crawlers, gas companies can assess the conditions of their mains and locate cracks, damaged pipe, unknown branches, service tees, valves, fittings, water intrusion or debris. The inspection is performed while the main remains live without any interruptions in service.
ULC Pipeline Robotics developed the VGC Crawler Systems to assess and evaluate up to 1,500’ of pressurized medium and large diameter gas distribution mains without taking them out of service. These crawlers enter through small tapped holes to provide a detailed look inside the main while reducing disruption caused by excessive excavation and roadworks.

**Robotic Visual Inspection of Live Gas Distribution Mains**

12”–48” | Cast Iron, Steel & PE Mains

**Benefits for Leakage Projects**

- **Corrosion Investigation**
  - High resolution pan/tilt cameras on the crawlers can assist in identifying various types of corrosion or inspecting welds.

- **Aid in Leak Detection**
  - VGC Crawler are able to assist in leak detection in gas mains by identifying cracks in the pipe wall or obvious leak paths.

- **Damage Prevention**
  - Pipeline features can be marked out on the street surface prior to excavation to prevent contractor damage to mains and services.

- **Locate and Assess Features**
  - Assess features inside gas mains, such as valves, to determine proper orientation, type and proper functionality.

- **Locating Pipeline Features**
  - Pipeline features can be marked out on the street surface prior to excavation to prevent contractor damage to mains and services.

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- **Cracks in the pipe wall**
- **Visual evidence of corrosion**
- **Visual identification of water intrusion locations**
- **Identification of unknown leak prone features**

Using the custom developed onboard sonde, the location of the leak can be pinpointed from above ground for efficient repair.

**IMPROVE YOUR INSERTION PROGRAM**

1. Identify undocumented offsets, fittings, bends, syphon pots, valves and protruding services that may block the PE pipe as it is being inserted.

2. Reduce delays that cause extended periods of service disruption and prolonged road closures that negatively affect public perception.

3. Locate features in the main that may damage the PE pipe during insertion for repair or removal before damage occurs.

4. Improve your ability to plan insertion projects by avoiding project delays and increased project costs due to unknown obstacles.

5. Ensure the main is a good candidate for insertion and identify all anticipated costs before the insertion project begins.
The Small VGC is a tracked crawler system that enters 12”-18” mains through a 3” tapped hole. Once inside the main, the camera lifts upwards to center the pan/tilt high resolution camera and lighting in the main. From a single excavation, the crawler can assess up to 700’ of main and, using a custom developed sonde, the crawler is locatable from the street surface with pinpoint accuracy.

In addition to viewing the inspection in real-time, inspections can be recorded to DVD or digital media to keep on record. Crews have the ability to detail the inspection through written reports that detail features and anomalies in the pipe as well as their location.

The Large VGC is a tracked crawler system that enters 20”-48” metallic and plastic mains through a 4” tapped hole. Once fully inside, the tracks expand outward allowing the crawler to ride above the bottom of the main, navigate past debris and provide a more centered camera view. From one excavation, the Large VGC can inspect up to 1,500’ of main. The crawler also has a custom developed sonde to locate features in the main from the street surface.

Robotic inspection crews utilize the Small VGC and Large VGC Crawlers to visually assess live medium and large diameter gas mains. These crawlers are equipped with high resolution pan/tilt cameras with high intensity LED lighting to provide a clear and detailed view of the main.
On a daily basis, energy and utility companies face infrastructure, technical and operational challenges that range from government mandates to public concern and budget restrictions. At ULC Robotics we develop and deploy technology which assists our clients in overcoming these issues, allowing them to get more done with fewer resources.

Our team develops advanced robotic tools and cameras capable of entering live pressurized gas mains to perform inspection and repair. We can analyze and redesign standard processes in order to decrease the time and costs associated with planning and performing routine work. The results we produce enable utility companies to reduce disruption to the public by minimizing excavation and simplifying the engineering process. ULC Robotics can even supply a supplemental workforce to tackle technical services; such as meter exchanges and inspections.

Contact ULC Robotics at 1-631-667-9200 or visit us on the web at www.ulcrobotics.com