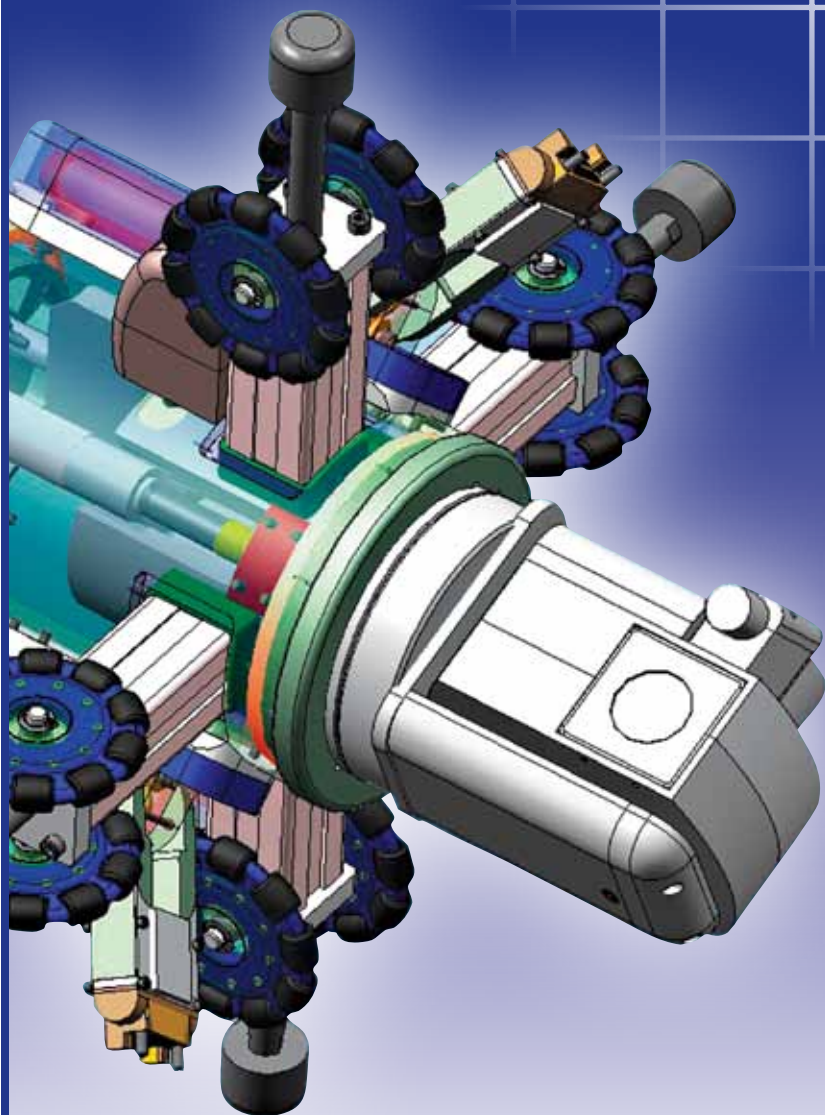


Pipe Inspection Maintenance Services



 **BROOKS**

Pipe Inspection History

R. Brooks Associates, Inc. has a history of providing unique and innovative piping inspection solutions to customers in the Nuclear and other high technology industries. In 1994 Brooks introduced robotic wheeled pipe crawlers to the Nuclear industry in an attempt to replace manual pipe inspections. Brooks later expanded its robotic inspection system applications to include the Aerospace, Pharmaceutical, and Petrochemical industries, eliminating the need to place valuable personnel in hazardous environments and reduce costly disassembly, excavations or 'destroy and replace' operations.

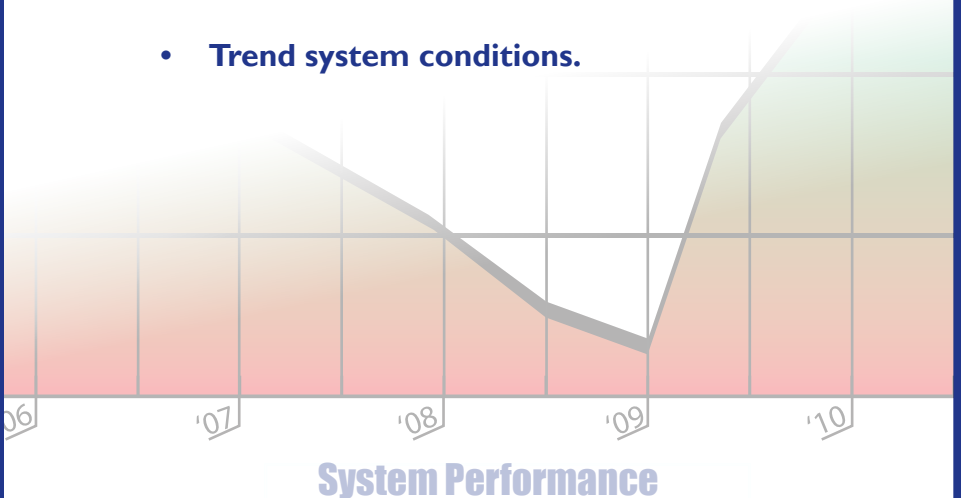
Brooks now offers a full line of robotic delivery systems that has revolutionized our remote inspection processes. These processes give Brooks the unique ability to perform diverse inspection, testing, cleaning and repair functions in a variety of lengths, sizes and types of piping systems. This is a testament to Brooks' level of expertise and ingenuity in the development and implementation of innovative solutions.



Pipe Inspection Benefits

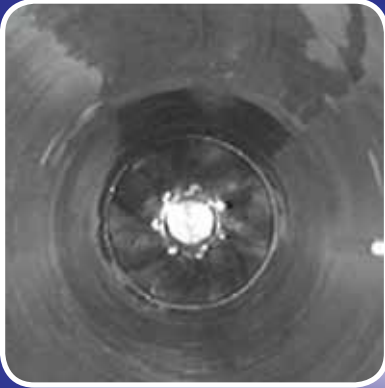
Routine pipe inspection is an integral part of keeping any piping system running at peak performance. It can also save time and money by trending system conditions and revealing areas that might cause problems in the future.

- **Reduce or eliminate personnel exposure to hazardous environments.**
- **Reduce the risk of forced shutdowns due to foreign object damage or component degeneration.**
- **Improve system performance.**
- **Eliminate costly disassembly, excavations and 'destroy and replace' operations.**
- **Detect system erosion and corrosion.**
- **Perform maintenance and repair of piping systems.**
- **Support system condition monitoring.**
- **Trend system conditions.**



Quality Images

Our robotic inspection probes are outfitted with the latest innovations in video equipment. Each inspection performed by Brooks is fully documented and can be accessed through CIS (Component Information Systems) on our web site at www.rbrooks.com. CIS is security enabled and password protected for each individual inspection, allowing only the customer to view their specific inspection.



View the lining and interior surfaces of your system in full detail. Our laser scanning measurement capabilities can also provide information on erosion and potential future problem areas.



Inspect weld integrity as well as lateral intersections to maintain the highest level of security in any piping system.



State of the art camera equipment allows the viewing of system components in great detail.



Improve systems performance with the removal of build up, debris and corrosion.

Push Fixture

A variation of the camera on a pole, this system is mounted to rigid yet flexible push rods. This system is designed for piping with minimal vertical travel.



Features	Applications	Areas of Application
<ul style="list-style-type: none">• 10 lb. Payload Capacity• 50 ft. Travel Distance• Full Color PTZ Camera• Modular Design Allows Multitude of Pipe Sizes to be Inspected	<ul style="list-style-type: none">• 12" - 36" ID Pipe• Inspection• Repair• Retrieval	<ul style="list-style-type: none">• Linings• Interior Surfaces• Valve and Seating Surfaces• Feed Water• HVAC Duct Work

Walker Lite

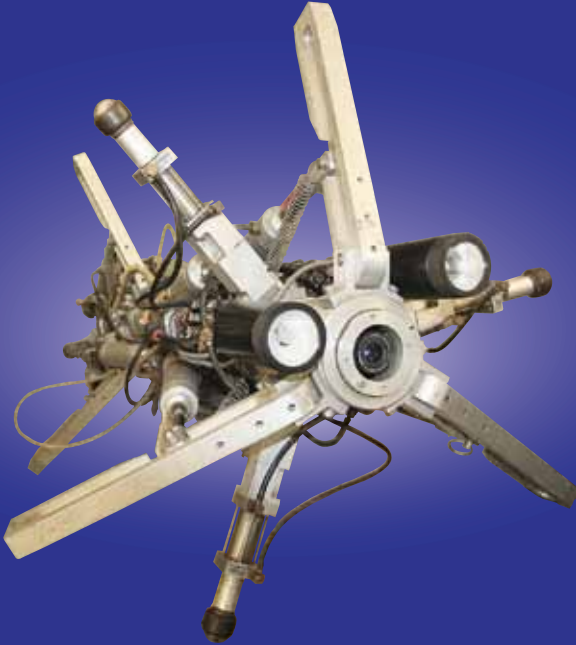
This system was the first robotic crawler designed to scale vertical pipe runs. Walker Lite has pneumatic legs and body extension with inchworm style locomotion ideal for short pipe runs.



Features	Applications	Areas of Application
<ul style="list-style-type: none">• 100 lb. Payload Capacity• 100 ft.. Travel Distance• Traverse Horizontally and Vertically• PTZ Color Camera• Operational in Wet or Submersed Environments	<ul style="list-style-type: none">• 16" - 36" ID Pipe• Inspection• NDT	<ul style="list-style-type: none">• Linings• Interior surfaces• Valve and Seating Surfaces• Feed Water

Walker L.I.P.

Walker L.I.P. (Lift Inspection Platform) has an inchworm locomotion style which delivers a 5-axis robotic arm.



Features	Applications	Areas of Application
<ul style="list-style-type: none">• 10 lb. Payload Capacity• 50 ft. Travel Distance• Color Camera• Traverse Vertically and Horizontally• Modular Design Allows Multitude of Pipe Sizes to be Inspected	<ul style="list-style-type: none">• 16" - 28" ID Pipe• Inspection• Retrieval• Repair	<ul style="list-style-type: none">• Linings• Interior Surfaces• Valve and Seating Surfaces• Feed Water• HVAC Duct Work

Mini Walker

This system is a scaled version of Walker Lite designed for 6 inch ID pipe runs. It is equipped with a black and white forward view camera.



Features	Applications	Areas of Application
<ul style="list-style-type: none">• 5 lb. Payload Capacity• 75 ft. Travel Distance• Forward View Camera• Traverse Vertically and Horizontally	<ul style="list-style-type: none">• 6" ID Pipe• Inspection• Repair• NDT	<ul style="list-style-type: none">• Linings• Interior surfaces• Valve and Seating Surfaces• Feed Water• HVAC Duct Work

Rad Runner

This system is a tracked pipe crawler with pneumatic leg extensions. It is ideal for inspecting long pipe runs.



Features	Applications	Areas of Application
<ul style="list-style-type: none">• 10 lb. Payload Capacity• Fast Travel at 8 ft./min.• 475 ft. Travel Distance• PTZ Color Camera• Capable of Laser Scanning Measurement	<ul style="list-style-type: none">• 18.8" - 19.6" ID Pipe• Inspection• NDT	<ul style="list-style-type: none">• Linings• Interior surfaces• Valve and Seating Surfaces• Feed Water

Navigator

This system is the latest remote inspection technology that is designed to perform post construction cleanliness verification. Several end effectors have been developed specifically for deployment from Navigator including vacuum, tape and tape residue removal, grippers, and noncontact laser measurement.



Features

- 20 lb. Payload Capacity
- 100 ft. Travel Distance
- Full Color PTZ Camera
- Traverse Vertically and Horizontally
- Clean Design – No External Wires or Air Lines
- Customized Contingency Tooling End Effectors
- Laser Scanning Measurement

Applications

- 18" - 22" ID Pipe
- Inspection
- Retrieval
- Repair
- NDT

Areas of Application

- Linings
- Interior surfaces
- Valve and Seating Surfaces
- Feed Water
- Weld Profiles

Other Services Provided

Brooks offers a full range of products and services supporting the Nuclear, Fossil, Petrochemical, DOD/DOE, Pharmaceutical, Security and Aerospace industries.

Audio/Visual

- Equipment Repair
- System Design
- Installation
- Training



Inspection Services

- Steam Generators
- Reactor Vessels
- Piping



Metrology

- Long Range Scanning
- Hard Probing
- Reverse Engineering
- Noncontact Inspection

Industries Served

- Power Generation
- Petrochemical
- DOD/DOE
- Pharmaceutical
- Security
- Aerospace

