

REAL TIME RADIOMETRIC PROFILING

BACKGROUND

The Lixi Profiler is a unique device designed to rapidly assess the condition of process piping. It is essentially a hand-held portable density gauge that uses a low curie gamma radiation source (Gadolinium ¹⁵³) mounted on a C-arm with a detector on the opposite side.

The Profiler may be used to inspect insulated piping without insulation removal, including straight runs of pipe, elbows, tees, reducers, weld-neck flanges, and most other piping components. Furthermore, it is capable of inspecting all known materials used in pipe fabrication, including carbon steel, stainless steel, cast iron, aluminum, plastic, and PVC.

APPLICATIONS

Overall, the Profiler is an excellent, rapid assessment tool, used to carry out spot measurements or as a baseline-screening tool to identify areas of concern. Current applications include:

- Detection of internal & external corrosion (Inc HAZ and CUI).
- Weld identification
- Characterizing blockages and fouling
- Detecting water and ice in insulation
- Assessing product levels

PROCEDURE

1. To “scan” along the length of the pipe, or
2. To “slice” through the pipe at 90 degrees.

The Profiler is operated in 2 distinct ways:

Scans are carried out at various orientations (primarily at 6 o'clock/12 o'clock), depending on the pipe process, corrosion expectations and inspection requirements. Slices can also be taken at different angles to help clarify areas of concern. During a standard screening programme, Inspecta will utilize both to provide a complete assessment of the pipework

The density readings are produced instantly in real time and graphed on the Profiler computer console. Data is saved and reports are customized to include spreadsheets providing thickness readings for each scan / slice, along with photographs and isometrics to help identification, and allow for future repeatable inspections.



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ADVANTAGES

- Works on insulated and bare piping, with no need to remove coating.
- No contact is needed with piping therefore can be used on high temperature pipes.
- Fast – No surface preparation, instant, real-time results.
- Safe – Low dose radiation (1 Curie) therefore no cordon off area.
- Can be used on metallic and non-metallic piping.
- Lightweight & battery operated allows easy operation, including rope access.

LIMITATIONS

- Maximum diameter piping of 18" (external).
- Maximum pipe wall thickness of 25mm.
- Access is needed on both sides of the pipe for the C-arm.
- Not recommended for detection of pinholes / cracks
- Extensive training and experience necessary for operation and data interpretation.
- Accurate information required from client to allow adequate compensation calculations.

Pipe Sizes	Up to 18" including insulation
Wall Thickness	Up to 25mm
Couplant	None
Surface Preparation	None
Material	All
Temperature Range of Pipe	All
Sensitivity	Greater than 1mm
C-arm Sizes	6", 13" and 18"
Isotope	Gadolinium ¹⁵³ (1 Curie)
Inspection Time	20m to 150m a day

Should you require further information regarding our Radiometric Profiling service, please contact Inspecta International by emailing technical@inspectagroup.org, or contact your local office who will be happy to answer any queries www.inspectagroup.org



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Asset Integrity Inspection & Offshore Services



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