



Unlocking Innovation: The Power of p-CAT™ Nexus & Infinity

CONDITION
ASSESSMENT



Unlocking Innovation

p-CAT™ Nexus is a non-invasive, non-destructive technology for performing pipe condition assessment while the system is in operation. p-CAT™ Infinity uses the same technology but provides utilities with a lower resolution outcome.

p-CAT™ Nexus and p-CAT™ Infinity can both determine remaining wall thicknesses over long sections (many kilometres) of pipeline as well as detecting and locating defects such as air and gas pockets, internal blockages and restrictions, unknown connections, pipe material changes and cement matrix loss from metallic, concrete and AC pipes.

They work by analysing the partial reflection of a small, controlled transient signal that is injected into the pipeline. The signal is monitored and recorded by sensors that are temporarily installed on existing pipe fittings. The transient wave experiences partial reflection when it encounters any change in pipeline structure, including both known features of the system as well as other issues related to pipe deterioration.

p-CAT™ Nexus and p-CAT™ Infinity can be applied on any pressurised fluid filled pipeline carrying potable, raw or wastewater and saves on costs by locating defects within the pipeline and limiting repairs and replacements to only the sections in need of attention. To date, p-CATTM is the most comprehensive and advanced solution for long distance pipelines.

- No risk of water contamination
- No requirement for mains shutdown
- Locating anomalies with +/- 10m precision
- No loss of invasive equipment in the pipeline
- Suitable for all metallic, concrete and AC pipes
- Determining remaining thickness of pipe wall to 0.2mm accuracy

ADVANCING VALUE AND PERFORMANCE

One of the key challenges facing utilities today is managing a portfolio of assets that cannot be economically replaced.

Many pipelines are located in high impact areas and require a comprehensive risk assessment to determine pipeline integrity



Reliable and Proven	✓	✓
Non-invasive, Non-destructive	✓	✓
Suitable for metallic, concrete and AC pipes	✓	✓
Suitable for pressurised pipe, no mains shutdown	✓	✓
Applicable to potable, raw and wastewater pipes	✓	✓
No risk of water contamination	✓	✓
Blockages and restrictions	✓	✓
Closed or restricted valves	✓	✓
Air and gas pockets	✓	✓
Unknown connections	✓	✓
Pipe material changes	✓	✓
Cement matrix loss	✓	✓
Diameter change	✓	✓
Ideal for complicated environments	✓	✗
Smaller diameter reticulation main with no closure of off-takes	✓	✗
Subsectional analysis	✓	✓
Wall loss measurements <0.2mm	✓	✓
Larger diameter main with closure of off-takes	✗	✓
Enhanced subsectional resolution	✗	✓



p-CAT™ Obstruct is a non-invasive, non-destructive technology to accurately locate trapped air and gas pockets.

Trapped air and gas pockets can have a detrimental impact on the operational costs of managing and maintaining water and wastewater pipelines. They can affect flow rates, efficiency, production and can cause significant damage such as broken pumps, valves and pipes.

Gas pockets in rising sewer mains are highly corrosive and cause localised deterioration of the main and premature failure. Air pockets present in pumped water and wastewater pipelines, can greatly reduce the ability to maintain demand and increase pumping.

p-CAT™ Obstruct employs an advanced algorithm based on the speed of a transient signal to determine the locations of the air pockets with a +/- 10 m accuracy and is suitable for all metallic, concrete and AC pipes.

- Reduce pumping costs
- No risk of water contamination
- No requirement for mains shutdown
- Minimise corrosion in wastewater mains
- Identify incorrectly operating air valves
- No loss of invasive equipment in the pipelines
- Locate potential corrosion failures in advance

Our Mission

To deliver intelligent, sustainable pipeline management solutions essential to the water and wastewater industries.

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