Overview

Laser pipe profiling is an essential tool for determining the accurate internal condition of a pipe. A laser profiler is a slim probe that is mounted on the front of a CCTV crawler inspection unit.

The laser projects a ring of light onto the interior of a pipe wall, as the camera moves through the pipe. Machine Vision software analyzes the laser data to build a profile of the pipe interior surface.

CCTV Laser Profiler Specifications

- Pipe Diameter: 8 to 72 in. (200 mm – 1830 mm)
- Over 4,000 measurements per second
- Data exports to standard modelling software
- Complete long-range inspections
In early 2017, the RAFT tool completed a five-mile (8 km) inspection of a 36-inch bar-wrapped concrete cylinder pipeline that carries millions of gallons of water per day to a water treatment plant for processing. Installed in the late 1940’s, the feeder main is a critical part of the local water system and asset managers wanted to perform a detailed, non-destructive condition assessment. The inspection identified several areas of thinning of the steel cylinder, which if left untreated would have resulted in serious pipeline failure in the near term. Some of these areas were verified by removal of the internal concrete liner which surprisingly showed no sign of distress.

Laser Profiling Applications

- Assess pipe ID shape and cross-sectional area
- Quantify holes, fractures and other defects
- Identify corrosion and erosion on pipe wall
- Define debris quantity and depth or water levels
- Predict best rehabilitation method
- Verify lining condition
- Confirm new capacity post rehabilitation
- Create a baseline record for new construction and future monitoring

Laser pipe profiling defines pipe ovality, capacity, diameter, and alignment. It can also identify faults, infiltration, and general deterioration in piping infrastructure.

Data collected are rendered in 2-dimensional and 3-dimensional images. Location and measurement details of any anomalies are reported. Clients can use this information to create a baseline record of new construction, and to make informed decisions regarding repair, re-lining or other rehabilitation methods for their existing infrastructure.

*PICA CCTV inspection technicians are NASSCO (National Association of Sewer Service Companies) trained with certifications in PACP (Pipeline Assessment/coding) and MACP (Manhole Assessment/coding).*

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