

RFTC Pipe Assessment Series

Condition Assessment of PCCP Pipelines

Introduction:

Remote Field Transformer Coupling (RFTC) technology accurately establishes the baseline condition of prestressed concrete cylinder pipe (PCCP). The system detects and quantifies the number of breaks in the prestressing wire that reinforces the concrete pipe. RFTC provides water and wastewater system operators with information on the location, distribution and number of wire breaks anywhere along the length of the pipeline.

How it works:

The RFTC technology functions much in the same way as a radio transmitter and receiver. The “transmitter” produces an electromagnetic field. The prestressing wires in the pipe amplify the signal that is recorded by the “receiver”. If there are broken wires, the signal is distorted. A measurement of the distortion quantifies the number of broken wires.

RFTC Series Advantage:

- Identify individual pipe segments that have wire breaks.
- Prioritize repair and replacement programs based on the actual condition of individual pipes.
- Periodic re-inspections of a given pipeline allow for the calculation of residual life expectancy.
- Accurately value pipeline assets, thereby complying with legislative requirements.
- Minimize the risk of pipeline ruptures that

can result in public safety issues, or lengthy pipeline shutdowns.

- Highest degree of wire break detection accuracy due to an optimized and patented RFTC design.
- PPIC operations staff are highly trained and have the most experience in inspecting, analyzing and reporting on PCCP condition.
- Multiple RFTC platforms for virtually any inspection situation.

Complementary PPIC Services:

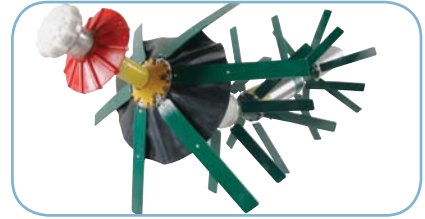
- Acoustic Emission Testing (AET) to monitor distressed PCCP pipe assets over a short or long-term.
- PPIC pipeline GIS software to store and quickly display condition assessment results to help optimize asset management.
- Remote Transient Pressure Monitoring (RTPM) to record the variation of pressures within a pipeline caused by sudden changes in velocity of the liquid, known as a “surge” or “water hammer”.
- Sahara® Leak inspection to confirm that there are no leaks causing erosion of the soil around the pipe or corrosion of the pipe.



RFTC Series Tools:

PipeDiver™

Description: In service inspection tool
Diameter of pipe: 24" – 48"
Perpetrations of the line: 12" taps



PipeWalker™

Description: Manned inspection tool
Diameter of pipe: 48" – 252"
Perpetrations of the line: Depressurized and dewatered



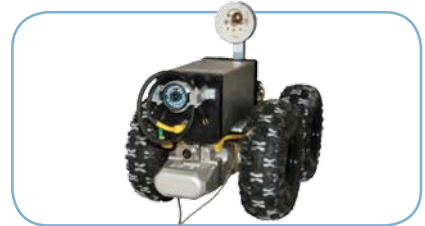
PipeRider™

Description: Manned inspection tool
Diameter of pipe: 48" – 72"
Perpetrations of the line: Depressurized and dewatered



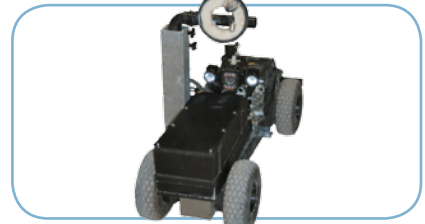
PipeRanger™

Description: Remote controlled tethered inspection tool
Diameter of pipe: 16" – 36"
Perpetrations of the line: Depressurized and dewatered at access points



PipeCrawler™

Description: Remote controlled tethered inspection tool
Diameter of pipe: 48" – 160"
Perpetrations of the line: Depressurized and dewatered at access points



PipeScanner™

Description: External pipe inspection tool
Diameter of pipe: Any
Perpetrations of the line: Excavated



PipeTracker™

Description: PipeTracker detects the RFTC signal from above ground to help locate and map pipeline assets.

