



**CF INSPECTION**  
A CYPRESS ENVIRONMENTAL AFFILIATE

## Advanced Non-Destructive Examination (NDE)

### Eddy Current Array (ECA):

When it comes to pipeline crack detection, Magnetic Particle Inspection (MPI) is often used. However, MPI has known limitations and inefficiencies that include: surface preparation, manual length sizing, no depth sizing, and lack of digital data.

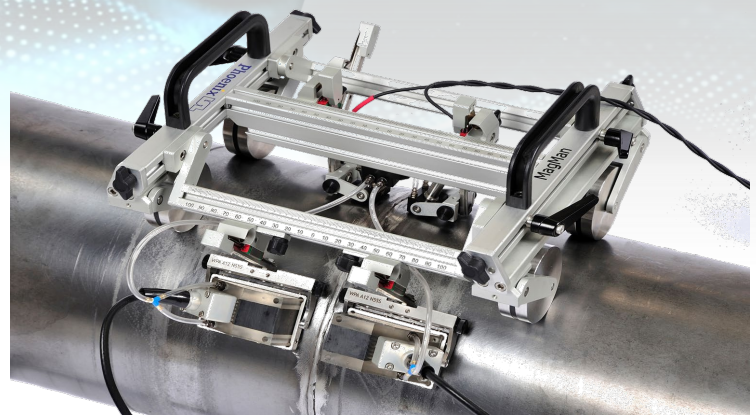
Eddy Current Array (ECA) is a digital electromagnetic NDE technique that has proven to be a more efficient alternative.



Eddyfi Spynet™ Reddy ECA

### The Eddyfi Spynet™

The Eddyfi Spynet™ is an adaptable surface ECA screening tool designed specifically to maximize productivity for the detection of stress-corrosion cracking (SCC), subsurface defects, and pitting in pipelines. With a higher PoD than MPI, its ultrafast capabilities pave the way to unprecedented efficiency. The Spynet™ works in combination with Reddy®, a rugged portable ECA instrument with a large multi-touch screen displaying the color-coded maps (C-scans) generated by the tool.



Phased Array UT (PAUT)

### Phased Array UT (PAUT)

PAUT instruments produce accurate, detailed cross-sectional pictures of internal structures at fast inspection speeds. PAUT technology uses multiple ultrasonic elements and electronic time delays to create beams that can be focused electronically for fast inspection, full data storage, and multiple angle inspections. PAUT technology provides precise measurement with the most reliable results. PAUT applications include manual and encoded weld scanning. Encoded scans offer extremely accurate sizing of weld flaws along with cross sectional planar views of the entire encoded scan area.

### Automated ID Corrosion Mapping:

PAUT corrosion mapping systems utilize 64 transducer elements versus conventional corrosion mapping systems, which typically have only one. This provides the accuracy of PAUT with an acquisition speed five times faster than that of conventional systems.

## SCAN → ANALYZE → REPORT

- High resolutions capture all corroded areas
- Fast surface acquisition to increase efficiency
- Ideal scanning performance for small features such as pitting
- Feature pipe detection using real geometry
- Automatically applied interaction rules
- Estimated burst pressure calculation
- Virtual pit gauge capabilities near welds and obstacles
- Reports include worst-case profile and predicted failure path
- Export to CSV available for further analysis
- Mesh export available
- Snapshot tool for 3D reporting

## OD ANOMALY ASSESSMENT

We combined our Creaform laser scanner and Pipecheck software to provide extremely accurate (up to 50 micron) and repeatable results with acquisition speeds up to 80 times faster than manual pit depth gauging.

**Corrosion:** The Pipecheck corrosion module offers very fast and reliable data processing that generates instant, on-site results. In comparison with traditional measurement that are beyond expectations. methods, this software offers accuracy and repeatability.

**Mechanical Damage:** The Pipecheck mechanical damage module has been developed specifically for pipeline mechanical damage analysis. This module features numerous key functionalities that increase dent understanding and facilitate the decision-making process.

**Corrosion in Mechanical Damage:** Pipecheck software is the one and only solution on the market to offer sophisticated tools able to extract corrosion depth that is located within a mechanical damage. This confidence will result in lower maintenance cost and reduced risk of costly failure.



Creaform HandySCAN 3D™



Silverwing MFL Floor Scanner

## OES (Optical Emission Spectroscopy)

Lab results from the field Portable OES offers chemical analysis, material composition, and carbon equivalency. New technology is allowing advancements in development and use of smaller, more portable, hand-held analyzers.

## Instrumented Indentation Testing (IIT)

Unlike existing destructive measurement equipment and evaluating method, Frontics AIS Series delivers IIT testing method which is non-destructive, economic and an efficient measuring method to provide reliable Ultimate Tensile and Ultimate Yield Strength Testing. Our stated tolerance is +/- 10% of Ultimate Yield and Tensile Strengths. The result of the testing allows an MAOP certification to be obtained to satisfy PHMSA Mega Rule requirements.

## Other NDE services offered

- Pipeline Integrity Rehab NDE
- External Corrosion Direct Assessment (ECDA)
- Internal Corrosion Direct Assessment (ICDA)
- Stress Corrosion Cracking Direct Assessment (SSCA)
- Re-Coat Project NDE Services
- NACE CIP Level II Coating Inspection



Flaw Detector and Corrosion Inspection System



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