Ultrasonic Probes
Corrosion Rate Probes: Under Tanks & Under Insulation

 Tradition
We specialize in the fabrication of innovative ultrasonic sensors and multi-paramenter sensor networks for monitoring the mechanical integrity of piping, tanks, pressure vessels, and pipelines. We bring innovative technologies to the market that provide a positive environmental benefit, protect personnel, and enhance current and future energy resources. 35 years of worldwide commercial NDT services, installations, and applications.

 Overview
The Eagle Ultrasonic Corrosion Rate Probes eliminate coupon removal, cleaning, shipping, and weighing. They also provide quantitative data, with UT A-Scans, to improve process condition assessments. The probes acquire and store data with BSI’s proprietary universal logger. The data can be accessed via local PC/tablet or via cloud storage and data management.

 Features
• Monitoring the effectiveness of the tank CP system
• Extend the value of your corrosion inhibitor program
• Create a new level of asset protection
• Increase corrosion rate certainty
• Determine the precise rate of under insulation corrosion
• Monitor corrosion 360 degrees around pipes and tanks

 Connection
Two ways to connect:
• Plug-n-play
• Wireless:
  Wi-Fi
  Cellular Network
  Local Mesh Network

 Location
• Difficult to access environments
• Off-shore/on-shore
Electrical

- Coupon and adapter not energized until data is taken
- Suitable for hazardous locations
- UT Data Connector:
  - AWG silver plated pins in keyed shell
  - MIL-Spec service rating 250VCD
  - Operating temperatures from -55°C to 125°C
  - UL file E115497
  - CSA File LR69183

Materials

- Probe Body: G10 - FR4 fire-resistant, fiber reinforced laminate shell
- Probe Coupon: A36 carbon steel standard, wide range of material option
- Connection: olive drab chromate over cadmium plating on aluminum alloy shell

Mechanical

- Probe Diameter: 1.5" | 38.1 mm
- Probe Length: 18" | 457.2 mm - variable
- Probe Coupon Thickness: 1/4" | 6.35mm
- Probe Dimensions:
  - Length: 4" | 101.6 mm
  - Width: .625" | 15.875 mm
- Weight: 6 oz. | 170.097 g
- Temperature Rating: -20°F to +450°F (-28.9°C to 232.2°C)

Monitoring

Measure & Monitor Wall Loss with precision while:

- Measuring AC Current Density & Voltage
- Measuring DC Polarization & Current Display
- Evaluating Impressed Current System Performance
- Multi-channel AC/DC Close Interval Potential Surveys

Coupon Thickness Measurement (UT)

- Material Thickness Measurement Modality: Ultrasound
- Ultrasound Center Frequency: 500kHz - 5 MHz
- Pulse: Broadband or narrow band pulse echo
- Transducer Type: Piezocomposite, Lead Zirconate Titanate, or Lead Metaniobate
- Thickness Resolution: Approx. +/- 0.001 in. (frequency dependent)
- Ultrasonic Imaging Area: .250 - .625 in. per transducer (size dependent)
- Sensor Population: 2 typical
- Transducer to Metallic Surface Coupling: Elastic Non-conductive silicon
- Proprietary permanent couplant blend
- Designed to be read by BSI's IMPAcT datalogger
- Readable by standard handheld thickness gage using BSI adapter