

## IN-SERVICE SOLUTIONS



### INSPECTIONS

- ② Welds
- ② Surface and Volumetric
- ② High-temperatures

### MEASUREMENTS

- ② Thickness
- ② Stress
- ② Material Properties



# OUR TECHNOLOGY

High-Power Ultrasonic Testing for challenging Non-Destructive Testing applications.

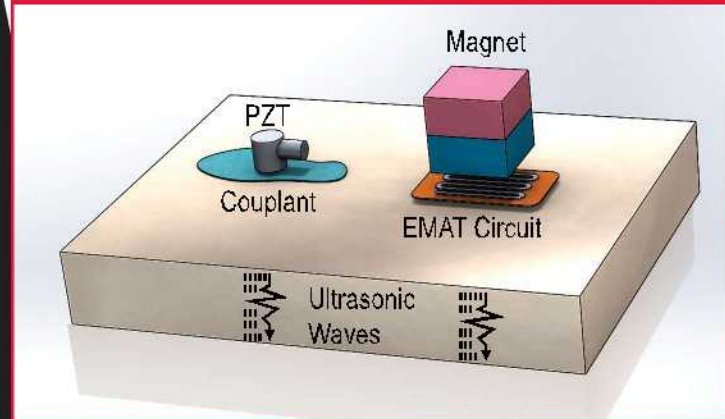
- Guided Waves (Rayleigh, Lamb and Shear Horizontal)
- Up to 20 kW per channel
- Easily integrated into industrial environments
- Portable devices for In-service applications

## WHAT IS EMAT?

Electro Magnetic Acoustic Transducer (EMAT) is an Ultrasonic Technique that generates the sound directly in the part inspected instead of the transducer.

- Non-contact
- No couplant
- Unique wave modes
- Volumetric inspection
- Easy one-sided inspection for inaccessible areas

### Conventional UT vs. EMAT



## ADVANTAGES OF EMAT

# 01

### DRY INSPECTION (NO COUPLANT)

Easy to automate and integrate in production

No couplant induced errors

High inspection speeds

Capable of high and sub-zero temperatures



# 02

### IMPERVIOUS TO SURFACE CONDITIONS

Capable of inspecting rough, dirty (oily/wet), painted, oxidized or uneven surfaces



# 03

### EASIER PROBE DEPLOYMENT

No wedges or couplant

Probe angle does not affect direction of propagation

No variations from probe to probe



# 04

### UNIQUE WAVE MODES

Horizontally polarized shear wave energy

Guided Waves





# INSTRUMENTS

## temate® TG-IS (B)

Designed exclusively for Innerspec's proprietary boiler tube inspection solution. The instrument includes custom software and requires a 110-220 VAC input. The instrument includes a ruggedized PC for field use.

## BRIO

Advanced, ultra-portable Eddy Current Array (ECA) instrument designed for in-service inspections in aerospace, oil & gas, power generation, and manufacturing industries.

The tablet user interface connected wirelessly to the instrument permits the operator to be highly mobile when working at heights, climbing structures, or moving from part to part during benchtop inspection.



## Innerspec PowerBox H

Cost-effective portable instrument designed specifically for normal beam applications. Standard software permits thickness measurement (spot and scanning) and flaw detection. Optional software available for stress measurement (railroad wheels, plates, beams), and bolt-load measurement using a patented double wave technique.

## VOLTA

VOLTA is a high-power 2-channel portable ultrasonic instrument custom-designed for Electro Magnetic Acoustic Transducer (EMAT) applications.

Standard software built on Innerspec Technologies Operating Platform (ITOP) includes an intuitive menu to set up any EMAT application using standard sensors from Innerspec's catalog for normal beam, angled beam, and MRUT & LRUT guided waves.

# APPLICATIONS



## APPLICATIONS FOR IN-SERVICE INSPECTION

- Corrosion Under Pipe Supports (CUPS)
- Surface and Subsurface Inspection
- Inspection of Inaccessible Areas
- Residual Stress Measurement
- MRUT (Medium Range UT)
- LRUT (Long Range UT)
- Thickness Measurement
- Bolt-Load Measurement
- Composites Inspection
- Boiler Tube Inspection
- Weld Inspection



# INTEGRATED INSPECTION SYSTEMS

In addition to Portable Solutions, Innerspec is the leading supplier of advanced integrated systems for inspections during the manufacturing process.

Our systems use state-of-the-art technologies including EMAT, conventional UT, Eddy Current, and Laser Measurement / Digital Imaging.

Visit our website to learn more about:

- Weld Inspection
- Surface inspection
- Inspection of laminated materials
- Thickness measurement without couplant
- Volumetric inspection
- Roll inspection
- Measurement of material properties (conductivity, stress, nodularity).



## MORE INFO? CONTACT US!

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