Southwest Research Institute® (SwRI®) has developed a nondestructive evaluation (NDE) system to rapidly screen heat exchanger tubing without attenuation. With the guided wave probe inserted 12-24 inches inside the tube, waves are generated in the tube wall using various electromagnetic techniques.

Screening heat exchanger tubing using SwRI’s patented GWT magnetostrictive transducer (MsT®) technology has developed rapidly over the past decade due to its success in finding anomalies that are a challenge for conventional NDE techniques.

With performance strongly dependent on tube conditions, more localized NDE techniques such as internal rotary inspection system (IRIS) or remote field eddy current (RFEC) should be used to determine the remaining wall thickness of detected defects.

Advantages of Using GWT

- Effective for any type of heat exchanger tubing (carbon steel, titanium, brass, thin-walled ferritic stainless steel)
- Entire heat exchanger tube bundle at 1-4 tubes per minute, depending on type of material, can be screened
- Full tube coverage, including U-bends, rolled expansion areas, under-tube support plates
- Full coverage of tube metal volume (internal and external corrosion)
- Up to 100 feet inspection range (based on tube condition)
- Accurate readings of defect positions with metal loss assessment
- Built-in probe calibration for accurate flaw ranking
We welcome your inquiries. For more information, please contact:

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Screening of 5/8” alloy condenser tubing using 90kHz torsional mode guided waves

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