



Sectional Focusing Inspection

MsS guided wave sectional focusing inspection (SFI) is a technique within the Magnetostrictive Sensor (MsS) system, used for non-destructive testing. It focuses ultrasonic guided waves on a specific area rather than covering the entire circumference of pipe. This allows for greater detailed inspection of pipe supports and (CUI), offering higher resolution and increased sensitivity, potentially up to 40 times higher compared to broader inspections. Typically, the sectoral probe is 4 to 12 inches long, focusing on the targeted areas and can detect defects as small as a 1% cross-sectional change helping to discriminate between relevant and non-relevant indications. (SFI) is not dependent on pipe size proving its versatility for both small and large diameter pipes, as well as plate-like structures.

(SFI) Is particularly effective in scenarios such as:

- ✓ **Cased Road Crossings:** Inspecting pipes in cased areas where access is limited.
- ✓ **Corrosion Under Insulation (CUI):** Detecting external corrosion within insulated piping.
- ✓ **Dike and Concrete Walls:** Ensuring integrity at points where pipes penetrate barriers.
- ✓ **Soil-Air Interface:** Inspecting areas where pipes transition from buried to exposed conditions.
- ✓ **Clamp Areas and Pipe Supports:** Focusing on areas prone to stress-induced fatigue and corrosion due to mechanical attachments.
- ✓ **Offshore Piping with Complex Geometry:** Handling the challenges of inspecting pipes in marine environments with intricate configurations.
- ✓ **Pipe elbow Inspection:** Addressing the difficulties of inspecting curved pipe sections.
- ✓ **Pressure Vessels, Tank Walls, and Spherical Tanks:** Extending to plate-like structures for comprehensive structural health monitoring.
- ✓ **Thick-Wall Plates:** Suitable for inspecting structures with significant material thickness.

