



# GUIDED WAVE

## ADVANCED CORROSION INSPECTION TECHNOLOGY FOR PIPELINES AND PROCESS PIPING

Are you sure about the condition of your piping? What about the buried sections or the insulated parts? It is not easy to assess their condition in an effective way. The piping may be located many metres above the ground where they cross roadways or other pipe racks and what do you know after some local spot measurements?

As process piping is a vital element of your facilities good understanding of their reliability is preventing unexpected shutdowns or delays during maintenance periods. Guided Wave technology is a relatively new inspection technology with very big advantages above any other spot measurement.

The Guided Wave technology screens 100% of the volume of the piping inspected for metal loss features such as corrosion and erosion. The piping can be in operation, insulated and even be buried. Guided Wave technology will supply more data than we ever had to found decisions on further inspection and even replacement.

# ADVANCED CORROSION INSPECTION TECHNOLOGY FOR PIPELINES AND PROCESS PIPING

## METAL LOSS DETECTION IN PIPELINE AND PROCESS PIPING

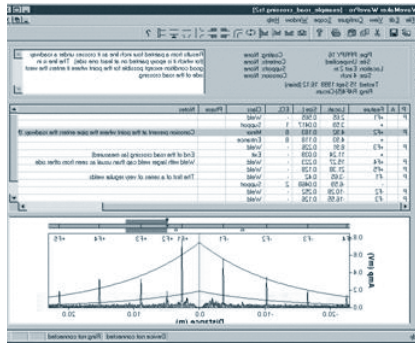
The Guided Wave technology uses a low frequency guided ultrasound waves travelling along the pipe, providing 100% coverage of the pipe length. In normal application, tens of meters of piping may be inspected from a single location.

Effectuated areas are precisely located in terms of distance from the transducer ring and highlighted for further local examination by visual or other conventional NDT methods. This non-destructive screening technique can be used without extensive scaffolding and minimizes the requirement of removing insulation along the piping.



Our state of the art Wavemaker 3 used is generates waves propagating long distances, even beneath a layer of insulation. The ultrasound is transmitted and received from one single location. The response from the metal loss feature is a function of the depth and circumferential extent of the metal loss.

Guided Wave tools are available in fixed ring and modular ring format. The fixed ring designs are suitable for pipe diameters up to 8-inches. For larger diameters, a modular ring up to 42-inches has been adopted. Guided Wave inspections help you to limit follow-up inspection and maintenance to the areas of real interest where the piping was found to be defective.



This considerably reduces the time and total cost of these activities. With Guided Wave you lift your inspection plan to a much more effective level than ever before.

### APPLICATIONS

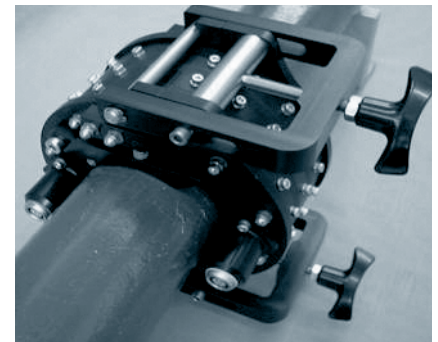
- Diameters 2" to 42"
- Temperatures from -40 to 120°C
- Road crossings and buried pipelines
- Testing of elevated or complex piping from convenient locations
- Detection of corrosion/erosion under insulation
- Offshore process piping/riser inspection
- Refinery piping
- Chemical plant
- Power generation plant

### FEATURES

- Screens pipelines and process piping for metal loss features
- 100% coverage at rates of up to ½ km per day, dependent upon the attenuation characteristics and geometry of the pipe
- Able to distinguish between metal loss and pipe features (welds, supports, bends, etc.)
- Incorporation in your inspection plan aligned with VT, UT and RT inspections]
- Our Enhanced Focussing Capability result in better localization of defects
- Unique presentation of the inspection result with "Unrolled pipe display" software

## THE SGS EXPERTS

SGS Industrial Services has the knowledge, expertise and experience to perform conventional and advanced NDT inspections around the world using our unique network. Our service offer varies from Guided Wave and the conventional NDT techniques to Risk Based Inspection (RBI/AIM), Time of Flight Diffraction (TOFD), Corroscan, Positive Material Identification (PMI), Magnetic Flux Leakage (MFL), ACFM, Leak Testing, Thermography, Electromagnetic Testing (ET), (ET), RFEC, IRIS, Digital Radiography, Radiation detection RVI and Endoscopy inspections.



We are pleased to inform you anywhere around the world about how SGS can help you in improving the reliability of your processes and assets.

### SGS INDUSTRIAL SERVICES COMPETENCE CENTRE

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# SGS

WHEN YOU NEED TO BE SURE