

ACOUSTIC RANGER



Oceaneering Inspection offers a fast reliable system for the detection of holes, leaks and complete or partial blockages in tubes and pipes up to 500 mm diameter. Based on sonar technology, the Acoustic Ranger offers an alternative to the established approach that usually requires insulation removal or scaffolding erection and is more disruptive and expensive.

Applications include:

- Proving vent lines and pressure relief steam lines clear
- Examination of Heat Exchanger and condenser tubing for debris and through wall holes
- Positioning blockages and equipment within pipework
- Proving process pipework serviceable
- Detection of collapsed linings

Operation

An acoustic transducer is applied to the end of the tube under test and a sound wave transmitted through the air in the tube. Changes in the cross section for example a partial blockage produces reflections of sound that are detected by the receiver within the transducer.

Data analysis provides:

- Type of defect (hole or blockage)
- Size of defect
- Distance from transducer

Advantages of the Acoustic Ranger

- Fast and efficient, up to 1000 heater tubes per shift
- One man operation
- Long range, up to 500m from a single access point
- Tube sizes 6mm to 500mm
- Fully portable
- High sensitivity, blockages and foreign bodies equivalent to 1% and holes of 0.1% of the tube cross section
- All data digitally stored
- Unaffected by bends and is equally effective on straight or complex spiral tubing

