



TAYLOR
CONDITION MONITORING

Ultrasound Inspection Services



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Introduction:

Compressed Air / Steam Leakage Service

In response to an ever increasing demand for increased energy efficiency and reductions in energy costs, we are pleased to introduce the Ultra Sonic Compressed Air / Steam Leak Detection Service. A highly efficient properly sealed delivery system of Compressed Air or Steam will ensure that your energy consumption for this essential service is at its minimum. In many cases, leaks go unnoticed and unrepaired thus increasing your energy consumption costs on an ongoing basis.

What does this service offer?

- Inspection of all plant areas identified using the Ultra-probe 10'000.
- All leaks identified will be photographed, their location logged and each leak tagged for identification.
- A detailed report will be issued identifying each leak together with the wastage cost associated with each leak and a cumulative cost based on all leaks identified. This is an accurate monetary cost analysis whose calculation is based on actual rates applicable to each facility.

Benefits to Customer

- The completion of a service whose purpose it is to improve energy conservation.
- A Report which details photos and location of all items identified for repair.
- A calculation of the energy cost for each leak.
- An overall Energy Conservation figure attainable when identified leaks are repaired.



Common Ultrasound Condition Monitoring Uses Are:

Compressed Air Leak Detection:

Compressed air is not Free! It takes a lot to convert ambient air into clean, usable compressed air. System inefficiencies can lead to a tremendous loss of money and can severely effect your company's bottom line. Ultrasound is the perfect technology for compressed air system leak inspection. By focusing on the high frequency emissions of a leak, these instruments can pinpoint even the smallest compressed air leaks in the noisiest environments.

Using the most modern equipment and analysis software available we will -

Detect – even the smallest compressed air leaks,

Identify – by tagging and photograph each leak,

Cost – each leak individually using analysis software,

Report – all leaks detected, their locations, cost individually and combined.

Steam Trap Inspections:

Leaking steam traps can raise a company's operating expenses by as much as one-third! This is why many energy conservation programs start with a steam trap survey. Steam system inefficiencies result in wasted energy, faulty product runs, environmental pollution and a dramatic loss of revenues. A major part of system efficiency is properly functioning steam traps and valves. Experts estimate that in a plant with no active steam trap testing and repair program, 50% of the traps are blowing steam. With accurate inspection and diagnosis on a regular basis with prompt repair, this figure can be reduced to under 3%.



Ultrasound inspection is ideally suited for on-line steam system inspection, which would include leaks around fittings as well as through valves and steam traps. Ultrasound is a short wave signal that is very localized. This enables users to listen to the translated ultrasound signal produced by trap and valve operation in a "real-time" basis and evaluate trap/valve condition. Leaks can be readily heard, blockage recognized and outright blow-by clearly detected.



Electrical Inspections:

Ultrasound surveys detect Corona, Tracking and Arcing in Plant Electrical Distribution systems. Issues like Corona for example in HV systems cannot be detected by straightforward Thermal Imaging as there is insufficient heat signature present. Ultrasound is used primarily in Medium and HV systems either stand alone or in conjunction with Thermal Imaging. Particularly beneficial in enclosed/interlocked systems of any voltage Ultrasound is a reliable, quick and cost effective method of detecting underlying faults at an early stage.

Mechanical:

Ultrasound is used to detect Bearing Faults - all speeds, particularly low speed bearings that can be difficult for Vibration techniques. Under/Over lubricated bearings, compressors, pumps (cavitation), motors, gears/gear boxes, hydraulic systems, fans, couplings, trending, trend reports, spectral analysis.

Vacuum Leak Detection:

Ultrasound can be used to detect leaks in vacuum systems, chambers, pipe/ducting, valves etc. The same principles apply as with pressurised system leak detection except in reverse.

Equipment Used:

Ultraprobe 10,000 –
The World's Most Advanced
Ultrasound Inspection System



Frequency Range:	20 kHz to 100 kHz (tunable in 1 kHz increments)
Sensitivity:	Detects .005" (.127 mm) diameter leak @ 5 psi (.34 bar) at a distance of 50 feet (15.24m)

**Data Handling Software – Ultratrend DMS 3.0 Data Management System
Analysis Software – Spectralyzer 3.0**

Certification – Level 1 in Accordance with UEQ-TC-1A, Rev 6

(Recommended Practice for Qualification and Certification of Airborne
Ultrasound Personnel)