

Finding Profits in your Compressed Air Room

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I paid a visit to a customer the other day; a medium sized internationally known plant that makes aluminum wheels for the automotive industry. My customer's responsibility is utilities optimization, which means he looks at any technology that can save his company money, builds a project around the idea, and if the numbers add up the project goes ahead. Sitting across from his desk I noticed on his chalkboard in bold writing:

Compressed Air Savings
\$140K in 6 months

I asked Dave about it and he told me that in the 6 months since purchasing his Ultrawave 170 leak detector he calculated ongoing savings of \$ 140,000. That's \$280,000 per year wasted to compressed air leaks. Most companies would have to sell an additional \$5 to \$10 million in revenues to make up that lost profit. Dave admits that reducing compressed air waste is his most successful energy saving idea to date.

Compressed air makes up a significant portion of facility costs for most manufacturers. Much is written and said about controlling waste energy in compressed air systems. In the early 1990's most, if not all provincial



utilities initiated aggressive programs that focused on the compressor room to help Canadian companies reduce energy. Only a handful of those initial programs still exist but they did leave their mark. More companies than ever use ultrasonic leak detectors to reduce compressed air waste.

Aside from the financial benefits, these programs breed a more conscious worker. Dave receives complaints from co-workers when a hose fitting needs replacing or the packing on a valve is blowing by. "These are problems that don't interfere with making our product," he says, "But the success of the project has made us all more aware of energy waste and that's good news for more than just the compressor room."



Ultrasonic leak detectors are portable listening devices that extend the human hearing range. They pick-up high frequency ultrasounds and convert (heterodyne) the signal to the audible range which the operator can hear in a quality headset. Compressed air and other pressurized gases will always follow Bernoulli if given the opportunity. Therefore any small opening in a pipe, joint, or fitting, provides an excellent escape route for the pressurized gas. The journey through the leak orifice creates turbulence on the downstream side that generates a white noise predominant in the ultrasonic range. During production the banging and clanging of production machinery mask the audible components of a leak. Quality digital ultrasonic detector filters out parasite noise and focuses on the leaks.

I recall my first visit to the aluminum wheel plant. Dave had read about the Ultrawave 170 in a trade journal and knew it had potential to be a winning optimization project. We started in the compressor room – the noisiest room in the plant due to the closeness of the walls and the constant whining of the screw compressors. Dave put on the headset, adjusted the sensitivity, and pointed the Ultrawave at compressed air lines. A smile came across his face as he started wrapping red fluorescent tape around joints that he suspected were leaking but had previously no method of confirming. Despite

the drone of the compressors, the advance micro filtering capacity of the Ultrawave 170 enabled Dave to pinpoint 8 leaks in 10 minutes. Shortly after my visit Dave's project was approved and he bought an Ultrawave 170. 6 months and \$ 140,000 later we have another happy customer and more proof of the power of ultrasonic detection.

Dave has since upgraded the functionality of the Ultrawave 170 device to incorporate more predictive maintenance applications. Through a simple reprogramming of the unit's firmware, Dave now uses the tool to monitor and measure acoustic vibration levels in the plant's rotating equipment. A maintenance technician takes monthly ultrasonic readings on bearing points and records the level digitally in the Ultrawave's dynamic database. He transfers the data to a desktop PC and is able to accurately trend lubrication and predict bearing failures.

SDT brought ultrasonic detection to Canada in the early 1980's. The Ultrawave represents the latest and most accurate equipment available on the market. It is a scalable tool that can grow with the needs of the customer. Multifunctional inputs for measuring temperature, RPM, dBA, and SCFM make it a complete "all-in-one" predictive maintenance tool. For more information contact the sales department at 1-800-667-5325 or visit SDT on the web at www.sdtnorthamerica.com