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Imagine your plant as a big ship travelling toward your chosen destination. At some point, waves sweep across the bow, rain pours in and salt water begins eating holes through the hull. Leaks start—*first a trickle, then a torrent.*

What are your options?

- Turn on more pumps.
- Buy a really big pump.
- Fix the leaks.

When it comes to compressed air leaks, it's surprising how many people choose the first two options to solve their problems—*at a huge financial penalty in terms of ongoing operating costs and the equipment budgets.*

Participants in the Compressed Air Challenge (CAC) "Fundamentals of Compressed Air Systems" seminar (also available as a Webinar) learn about the high cost of producing compressed air and the inherent inefficiencies in a compressor room. While understanding the supply-side of the system is crucial, it's more important to first look at demand—*including leaks.*

Leaks can be a huge source of wasted energy (sometimes 20-30% of a compressor's output). In fact, a typical, less-than-optimally maintained plant may have a leak rate equal to or higher than 30% of total compressed air production capacity. Conversely, proactive leak detection and repair can reduce leaks to less than 10%.

In addition to wasting energy, leaks can contribute to other operating losses. Leaks cause a

drop in system pressure—*which can make air tools function less efficiently, adversely affecting production.* By forcing machinery to cycle more frequently, leaks also can shorten the life of most system equipment (including the compressor package itself). Increased running time, in turn, can lead to increased maintenance and unscheduled downtime. Finally, leaks can lead to adding unnecessary compressor capacity.

Leaks occur most often at joints and connections at end-use applications. Stopping them can be as simple as tightening a connection or as complex as replacing faulty components like couplings, fittings, pipe sections, hoses, joints, drains and traps. Leaks also can be caused by bad or improperly applied thread sealant. Select high-quality fittings, disconnects, hose and tubing—*and install correctly with the appropriate thread sealant.*

Non-operating equipment can be an additional source of leaks. Equipment that's no longer in use should be isolated with a valve in the distribution system.

An effective leak-prevention program will cover the following elements: identification (including tagging), tracking, repair, verification and employee involvement. All facilities with compressed air systems should establish an aggressive leak-reduction program. A cross-cutting team with decision-making representatives from production should be formed.

A good leak-repair program is vital to the efficiency, reliability, stability and cost-effectiveness of any compressed air system. The CAC offers a wealth of information about leaks and related issues for download from our online library at www.Compressedairchallenge.org . (Our information-packed manual,
Best Practices for Compressed Air Systems
, is available for purchase from the site's Bookstore.)
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