

Compressed Air System Leaks—Save Big by Staying Vigilant

By Billy Dougherty

If your plant uses compressed air to power railcar, truck, or bin vibrators; hopper car gate openers; air cannons; bin aerators; sonic horns; flow control valves; or any pneumatic equipment – this blog is for you.

Believe it or not, companies lose thousands of dollars every year due to leaks in their compressed air systems. The damages accumulate in the form of lost productivity, reduced equipment life, and unnecessarily high energy use. To compensate for leaks, some users will turn up the air pressure, which only leads to more waste. Maintaining pressure in a leaky system forces the compressor to run more. More compressor run time means more frequent maintenance, reduced equipment life, and higher electric costs.

Without a doubt, every compressed air system has leaks, and in every case, it's worthwhile to find and fix them.

Look Everywhere, from Beginning to End

Leaks can be found anywhere in the system, from the compressor to the points of use. The more piping, valves, fittings, and hoses a compressed air system has, the more leaks it is susceptible to. Problem areas include:

- Air receiver tanks
- Manifolds
- Filters, regulators, and lubricators (FRLs)
- Piping systems
- Fittings and pipe joints
- Quick disconnects or air couplings
- Flanges
- Seals and packing
- Hoses and tubing
- Shut-off or pressure relief valves



PLANT MATTERS



Missed welds and worn or missing O-rings can also result in leaks. The good news is that it's not difficult to address these problems.

Pinpoint the Problem Spots

The first step is, of course, to find your leaks. There are several ways to do this:

Some leaks are large enough that you can hear them. The soapy water test can lead you to others: Apply soapy water with a brush to areas where you suspect leaks. Soap bubbles will form where air is escaping the system.

A more sophisticated approach is ultrasonic leak detection. With this method, you can quickly find leaks as small as a pinhole. Plus, it allows for a leak audit to be conducted without any downtime.

Once you've found your leaks, tag each and make a list of them all, including notes about their severity. Begin repairs by tackling the biggest problems first. Your goal should be to reduce total leakage to less than 10 percent of your total compressed air production.

Repair and Repeat

Checking for leaks should be something you do on a regular basis. In fact, a formal audit should be conducted annually. Instruct everyone on your team to keep an eye out for leaks at all times. As your system ages or is changed, new leaks can occur anywhere—and previously repaired leaks sometimes need further attention as well.

Conclusion

Addressing compressed air system leaks is one of the most cost-effective steps a plant can take to reduce energy costs, improve profitability, and increase the power and efficiency of air vibrators, air cannons, and sonic horns. An ongoing leak detection audit and repair program will quickly pay for itself. Note too that leak reduction also supports your company's goals to reduce its carbon footprint.

Billy Dougherty is Vice President of Operations at AIRMATIC and has more than 23 years of experience in the transport, storage, and processing of bulk solids.

Thanks for reading our post. If you'd like to learn more about the use of compressed air vibrators, gate openers, air cannons, bin aerators, sonic horns, or flow control valves to keep bulk material flowing, please contact one of our experts at **+215-333-5600** or at **infocenter@airmatic.com**.