# John Henry Foster
# IS YOUR COMPRESSED AIR SYSTEM WASTING ENERGY?

Compressed air is one of those things that most people don't see, hear or think about very often. It's always there, working behind the scenes, yet most companies have no idea how much it costs them each month.

They might be surprised to find out.

Compressed air typically accounts for 10 to 15 percent of a company's total energy bill. When it isn't used efficiently, it can account for even more.

"The biggest mistake I see companies make is using more compressed air than they need," said Ryan Koepsell, mechanical engineer for John Henry Foster (JHF). "They're running 100-horsepower compressors when they could get by with 40 horsepower. Or they just run their plant at a higher pressure, thinking that will offer them more reliability."

It takes about eight horsepower of electricity to generate just one horsepower of compressed air, he explained, so if a compressed air system isn't running efficiently, it could end up wasting a lot of electricity and money.

For that reason, Koepsell recommends compressed air audits and annual leak checks.

"You want to make sure you're using the most efficient technology possible and not spending more money on compressed air than you need," Koepsell said. "For some companies, that means replacing equipment, but for others, it's just a matter of adjusting their controls or changing a process so they're using less compressed air."

In addition to distributing compressed air and vacuum equipment, JHF conducts compressed air audits for a variety of companies. They have conducted more than 400 audits to date, saving companies over $3 million.

The audit begins with an in-depth look at the entire compressed air system and establishes a baseline to address "what if" scenarios for system improvements. It ends with practical recommendations and data to support return on investment.

Ryan Koepsell, mechanical engineer for John Henry Foster

"Compressed air and vacuum technology isn't something that's really taught in college, so most employees and even engineers have limited knowledge in these areas," said Ron Nordby, vice president of sales at JHF. "However, this is all we do. Our job is to help companies figure out how they can use it most efficiently in order to reduce their overall operating costs."

JHF is an employee-owned company that has been in business for more than 70 years. Based in Eagan, it provides both capital and pneumatic components consultatively, allowing the company to partner with both the supply side and the demand side of compressed air systems.

In addition to supplying products, JHF provides education on the latest trends in compressed air automation, air compressors, electrical motion controls and aluminum framing systems.

## JHF Saves Packaging Firm Thousands

When a local packaging firm was searching for new ways to improve its efficiency and reduce environmental impact, it turned to Xcel Energy to explore rebate possibilities offered through its compressed air efficiency program.

John Henry Foster was retained to analyze the company's entire compressed air system and offer a bigger picture of the opportunities for improvement.

The study revealed energy being unnecessarily lost throughout the system. Not only was it running at a high operating pressure, it was causing significant amounts of blow off as a result of artificial demand. In addition, the existing dryer was running continuous, and the drains were slowly, but constantly, leaking air.

The solution was to install a smaller compressor and cycling dryer, which would reduce losses from blow offs and leaks. Also, a new demand receiver, pressure controller and mist eliminator allowed overall operating pressure to be reduced, saving thousands of dollars per year in operating costs and extending the life of the equipment.

The new system qualified for a $23,000 rebate from the power company and is

"Following a compressed air audit on our 250,000-square-foot facility, John Henry Foster discovered several areas that needed repair, including numerous air leaks. In just the first two months, we have already seen energy savings of over 30 percent! And we expect those savings to increase over time."

- Pete Madsen, maintenance supervisor at Ryerson Inc. in Plymouth.

on track to save the company more than $20,000 per year in electric costs.

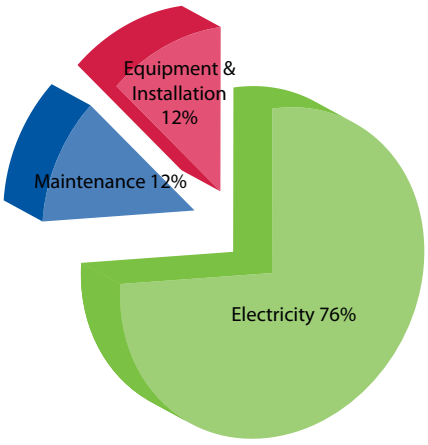
### Financial Rebates Available

Most energy companies offer rebates and incentives for either compressed air efficiency studies or new compressed air equipment. As a matter of fact, Xcel Energy offers up to $15,000 in rebates for compressed air studies. On top of that, it awards a rebate of $400 for every Kw of peak energy saved. Federal and state programs are available as well.

According to Xcel Energy, one 1/8 inch hole in a compressed air system can cost up to $2000 in wasted energy costs each year. Indeed, most of the money that is spent on a compressed air system is on energy, not equipment, which is why energy companies like Xcel partner with JHF.

JHF helps companies identify the most efficient equipment for their needs and can help find and fix leaks immediately. It can also help companies identify savings initiatives.

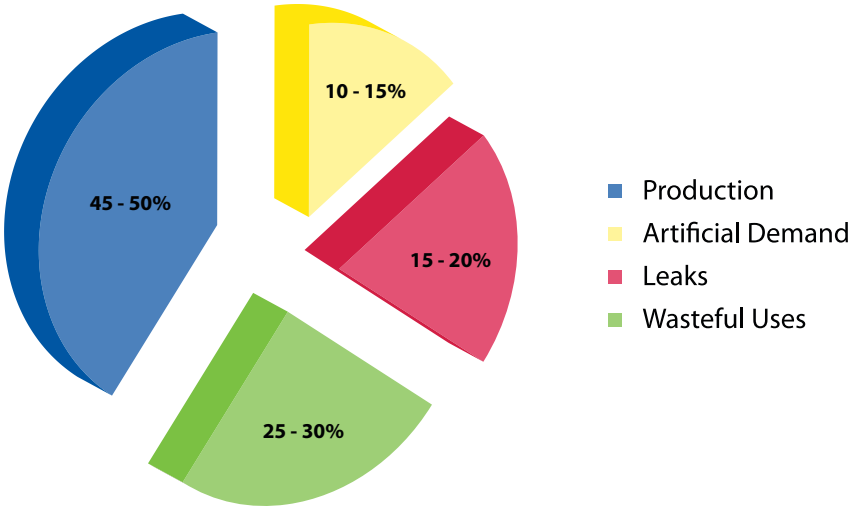
Typical Lifetime Compressed Air Costs




"When businesses purchase equipment based on cost rather than efficiency, they spend more money in the long run," Nordby said. "So as businesses are searching for new ways to save money, it's prudent to conduct an energy audit to examine how efficiently a compressed air system operates year after year." PM

"By replacing our outdated equipment and utilizing John Henry Foster's technology expertise, we have enjoyed a 40 percent reduction in energy costs. JHF's compressed air audit along with power factor data comparisons between old equipment and new was instrumental in our decision to replace our existing equipment. LSI will realize its ROI in less than 13 months through energy savings and rebates."

- Dave Eberhardt,
director of manufacturing,
LSI Corporation of America




Air Loss

**For more information on John Henry Foster visit www.jhfoster.com.**

**To learn more about Compressed Air Efficiency Audits, contact Ryan Koepsell at 651.681.5756 or ryan.koepsell@jhfoster.com.**