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10 STEPS TO SAVINGS - WORKING WITH COMPRESSORS

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Air compression is a vital part of projects across various industries. It can also be one of the most expensive utilities in your facility, according to the U.S. Department of Energy.

Fortunately, there are some easy steps you can take with your current air compressor system to help ensure it is optimized for efficiency and durability/longevity. In this blog, we will discuss things you can do today to improve or maintain the health of your air compressor system and maximize its efficiency as much as possible.

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1. Understand your facility's demand

Every facility is different, and factors like altitude and room temperature can impact how efficiently your compressor will run. And, frequently, the demand on your compressed air system can change based upon changes in your operation – even things like shift change can impact demand.

An air audit from an authorized Sullair distributor can help you determine the level of demand for air in your facility and contribute to finding the best fit to supply that air.

Authorized Sullair distributors can assist with selecting the proper equipment to ensure an efficient system for your needs. Sometimes the best option for you may be two or more compressors depending on the size of your facility and typical usage.

2. Assess your compressor room

Now you have the air compressor, but where do you put it?

You need consistency and efficiency from your system, and its physical location plays a large role in that. A compressor operates best in a well-ventilated location.

Additionally, we recommend selecting a room which minimizes the intake of dust and dirt and maintains an acceptable room temperature for your compressor operation. Every second of uptime counts, and your installation site can help play a role in making sure your facilities are running smoothly, instead of piling up repair bills.

3. Determine which compressors should be used for specific tasks

Compressed air is an incredible utility. It's also frequently one of the biggest users of electricity in an industrial setting. To help manage your energy costs, it's helpful to break down your tasks based on how much compressed air you will need.

If your compressor is too large for the job, you could lose money from purchasing and operating a compressor that's too powerful. If your compressor isn't strong enough, you won't be able to meet production demands. Setting up your system so the appropriate compressors cover their respective tasks can help you avoid energy imbalances.

4. Monitor load cycles

Continuously turning your air compressor on and off can play a role in increasing energy costs. If you find that your compressor has multiple load cycles, adjusting your pressure set points can help reduce energy consumption. Changing the pressure does not increase or decrease the air flow (cfm), which is a common misconception.

5. When appropriate – turn it off!

While we mentioned the risks of turning a compressor on and off repeatedly, there is no issue with turning your compressor off and leaving it off if it's not in use.

Picture your electronics at home – even if they're turned off, your TVs, chargers, and computers will still consume energy if they're plugged in, often referred to as "ghost energy." The same can go for your compressor. Whether it's during the evening, the weekends, or any other lull in production demand, turning your air compressor off can help lead to energy savings.

6. Replace filters

Air filters play important roles in any compressed air system. Specifically, inlet air filters help stop dirt and dust from reaching the inside of our machine, which helps the compressor operate more efficiently.

If your inlet air filter is old and clogged, your machine needs to work harder to produce compressed air.

As a result, it uses more energy and raises energy costs. We recommend replacing inlet air filters quarterly.

7. Perform oil samples and replace fluids

Oil samples help ensure your lubrication is still at an acceptable quality, which can identify potential issues before they lead to downtime. This can play a role in reducing repair costs and helping your compressor continue to run.

We recommend replacing fluids annually, but in dirty environments you may need to change the oil sooner. With both air filters and fluids, the best place to find recommended service intervals is inside of your user's manual.

8. Be on the lookout for leaks

Bob Vavra of *Plant Engineering* shared that 50% of compressed air generated is wasted, with 33% of that attributed directly to air leaks. When leaks appear, your system must over-compensate to make up for the lost air, leading to increased energy costs. The following are estimated additional costs for operating a compressor with air leaks, if you paid $.0771 kW-hr operating 8,000 hours/year.

200 cfm, 325,000 kWh/year - $27,139/year

300 cfm, 528,000 kWh/year - $40,709/year

400 cfm, 704,000 kWh/year - $54,278/year

Be sure to observe your systems for any potential air leaks and address them quickly if you discover any.

9. Take daily walks around your operation

Making a daily routine of examining your air compressors and equipment can help you spot issues before they arise. Much like an airline pilot who physically checks their equipment before every flight, this habit helps you have a better understanding of the current state of your system and feel confident that it will operate effectively.

You have a better chance of spotting clogged filters or coolers, damaged piping, discoloration of parts from heat damage, or any other problems that could lead to downtime or lowered efficiency.

Preventive maintenance is always better than having to schedule emergency service after unexpected downtime – and often helps you save on repair costs!

10. Assess energy savings

Once you've followed these steps in your facility, take the time to review your work and see how you can continue to improve for facility. There are various tools and approaches to tracking your energy savings.

For example, an authorized Sullair distributor can use Sullair AirSuite™ to determine how much you're saving in energy costs. AirSuite allows an authorized distributor to provide an analysis of your entire compressed air system.

Utilizing tools to track your energy savings allows you to make the right decisions for your facility and continue to implement future solutions for energy saving.

Air compressors play a big role in your facilities, and it's important to know the ins-and-outs of operating one. Your compressor system will come with an energy demand, but that doesn't mean you can't utilize these steps to help handle the costs that come with operating your compressor.

We hope that these suggestions can help you feel better prepared and enjoy the benefits of utilizing compressed air in your industry!