



## CLEARING THE AIR ON YOUR COMPRESSOR QUESTIONS

*By Evan Lobdell and Peter Modrow*



*Service technician with Sullair S-energy Series compressor*

Growing up, my parents instilled one major lesson into my mind:

“The only bad question is one you didn’t ask.”

While they were referring to my struggles with multiplication and division, I think they would say a similar mindset applies to installing and maintaining an air compressor.

Compressed air is considered by many to be the fourth utility, and with its importance comes many questions. From deciding on which air compressor to install, to proper care, to handling the seasons, there are a lot of factors to consider.

With that in mind – and my parents’ wise words – here are the most common questions Sullair distributors and service techs hear about all things air compressors.

## **What are factors to consider when selecting which air compressor to install?**

A compressed air system consists of a supply side and demand side, and both need to be considered to maximize system performance and efficiency.

It's important to understand the flow and pressure requirements of your factory during normal and peak times and select a compressor that meets those demands. You should consider factors like altitude, room temperature and humidity in your facility when making your equipment selection. 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.

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. Your local authorized Sullair distributor can implement a turnkey design and installation, as well as help with equipment selection and system simulations to ensure an efficient system for your needs.

## **Where should I install my air compressor?**

As with a few of these answers, details will vary based on your facility. We recommend that your installation site has a few key qualities:

- Proper ventilation or cooling to avoid overheating.
- If possible, choose a location which minimizes intake of dirt and dust – dirt and dust only make a compressor's job more difficult.

- Room temperature remains within the acceptable range for your compressor operation.

These guidelines are put in place to help your compressor avoid overheating or clogging, which can lead to downtime. Every second of uptime counts, and your installation site can help play a role in making sure your facilities are running smoothly.

## **Can I install my air compressor outdoors? What precautions should I take?**

Yes – it is possible to install your air compressor outdoors and can help save room in your facility, but there are some considerations to take before doing so.

Be on the lookout for the proper equipment – TEFC (Totally Enclosed Fan-Cooled) motors, enclosures meeting appropriate National Electrical Manufacturer Association (NEMA) requirements, weather hoods – all will help your compressor avoid risks associated with exposure to liquid, dirt, heat, and other outdoor elements.

For electrical components of your compressor (controls, variable speed drives, etc.) it is important to have enclosures that protect them from the elements. NEMA 4 enclosures not only protect against dust and dirt, but also provide protection against liquids. Part of the NEMA 4 certification includes ensuring protection from hose-directed waters.

An outdoor compressor is often installed on a concrete pad, which is designed to drain water away from it. If the concrete pad is sloped, then the compressor should be mounted so that it is level.

The base or skid should be fully supported where it contacts the concrete pad.

You should also select a weather hood option to prevent direct rain and snow from falling on the unit. If direct rain or snow may fall on the unit, it should be in a fully enclosed room or building. If installed under a shelter, air-cooled machines can be positioned in a way that prevents air recirculation (i.e., hot exhaust being allowed back to the system air inlet).

In installations that include more than one compressor, hot air exhaust should not be directed toward the fresh air intake of the second unit or an air dryer.

A standard machine installed outside may face issues if the temperature in and around the compressor drops or may drop below 40°F (4.4°C). For installation in a below freezing climate, one way to ensure your compressor maintains the temperature necessary to operate is to install a sump tank heater. Many manufacturers offer cold-weather packages to help your compressor operate optimally when the temperatures drop.

## **What safety/maintenance checks should be done regularly on an industrial compressor?**

Air compressors call for regular upkeep and maintenance to help continue operating at peak performance, and the best place to find recommended service intervals is inside of your user's manual. Preventive maintenance is always better than having to schedule emergency service after unexpected downtime!

Typical quarterly preventive maintenance service includes air filter changes, fluid filter changes, fluid samples, and topping off lubricant. In a hot or dirty environment, we recommend checking your compressor more frequently to make sure it is operating efficiently.

Typical annual services include lubricant changes and replacing inline filters, couplings, and separators.

One habit to pick up is conducting a daily walk-around and keeping logs of equipment status. Be on the lookout for clogged filters or coolers, damaged piping, discoloration of parts from heat damage - these may indicate issues that could lead to downtime or lowered efficiency.

## **How long should a rotary screw air compressor last with proper care?**

If properly maintained, a rotary screw air compressor can typically last 10 to 15 years or more. Key factors like maintenance, operating conditions, load profile, quality of installation and usage hours will influence lifespan. It's important to work with your authorized distributor to help your compressors enjoy a healthy, long life.

There are many factors that go into owning an air compressor and each facility will have a slightly different recipe for success. Don't be afraid to reach out to your authorized Sullair distributor with any questions about your air compressors or your operations – your distributor (and my parents) would want you to receive the answers you need and deserve!