

# Should you Winterize your Air Compressor System?



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Rotary Screw Compressor Winterizing Tips.

As temperatures drop in winter, now is the time to inspect and look at winterizing your air compressor to ensure it will be in good condition for the colder months ahead.

## Air Compressor Maintenance to Keep Your System Weatherized

We recommend biannual maintenance in preparation for extreme temperatures, one in late spring and the other in late fall. During those times you'll want to perform the following steps on your air compressor:

- ❖ **Inspect the weather stripping:** If signs of wear and tear are visible on the stripping, replace it immediately.
- ❖ **Inspect the insulation:** Another sign of trouble is when heat leaks from your system.
- ❖ **Inspect the drains and openings of the air intake:** To ensure maximum protection from cold winds and rain, the drains and openings must be in good shape.
- Check the tanks for condensation:** During winter months your tank could accumulate moisture inside, and if left

unchecked, could freeze if temperatures get cold enough. You'll want to be sure to inspect your tanks several times each week throughout the winter to ensure that condensation isn't building up. If the slightest amount of moisture does accumulate, drain it immediately. Whenever you see amounts of moisture appear within a couple of days, it could be a sign that something much worse is happening within your compressed air system.

In order to remove the condensation as much as possible, you'll want to put the

drain on the receiver tank at the lowest possible angle. Some systems that drain automatically are equipped with test buttons so you can see whether it's working.

**Winterize The Condensate Drains and Bowls Outside:** A common mistake is neglecting the outdoor drains during the colder months. When temps drop to freezing, apply heat trace tape over exposed parts of your drain lines to stop them from freezing.

If you don't plan to use your equipment in the winter, or if you'll be shutting down industrial compressors during the holiday season, there isn't a need for heat tape because it won't receive energy without the system running. In those cases, drain the water from the lines so they don't freeze.

**Make Louver Adjustments:** In some applications you can salvage the heat that escapes from an air compressor. The easiest way is to duct the heat so it can recirculate by directing it toward the compressor to prevent it from cooling down too much; or you can duct the heat to other areas to save on heating bills. If the louvers on your air compressor aren't controlled by a thermostat they will need to be adjusted by hand to get the right temperatures.

**Try a Cabinet or Ambient Heater:** On some air compressors, the lubricant can be preheated with a cabinet heater. If your unit doesn't work this way, you can use an ambient heater. This method keeps the lubricant temperatures just above the minimum to safeguard the compressor from wear on the motor and lower the possibility of system failure. If you have either of these heater types installed, you'll want to inspect it to see if it's set for the lowest temperature allowed by the manufacturer.

### Why Drying is Needed on an Industrial Air Compressor

Certain times of the year require compressed air systems to be dried because of the water vapor in the air. When the temperature of compressed air or gas gets below a certain level – generally referred to as the dew point – where it can't hold vapor any longer, the vapor turns to liquid, which causes condensation. If you have questions on how this works, contact us and our service team will be glad to answer any questions.

### Moisture Damage

When an air compressor hasn't been serviced properly and moisture builds up, it can cause damage. In manufacturing facilities, compressed air with moisture can cause issues in machine operation and production.

Moisture has been found to:

- ❖ Cause rust on machinery, eroding the joints by rinsing off lubrication
- ❖ Diminish the shine, adhesion and texture of the paint
- ❖ Cause pneumatic controls to malfunction due to scale and rust, leading to product damage and machinery shutdowns
- ❖ Corrode instruments that are operated with air or gas, causing processes to shut down because of misreading
- ❖ Dirty moisture can eat away at the oils in the air cylinder, which then requires more upkeep. In the valves, dirty moisture can lead to stiffening and cracking on the rubber diaphragms.
- ❖ Moisture can leave corrosive particles that clog supply lines and eat away at instruments.

When moisture forms on industrial machinery, the dispersion of corrosive particles can shorten the lifespan of equipment, causing issues ranging from clogged valves and fittings to ice formation. Compressed air moisture can contain things like dirt, oil, and water that cause damage to pipes, fittings, paint layers, and joints. Machines that can utilize clean, dry air perform with greater efficiency and for longer periods of time.

### Why you need to winterize your Compressed Air System

The overall performance of an air compressor can certainly be impacted by its surrounding environment because the rise and fall of heat levels will affect how the equipment operates.

**Frozen water:** While a variety of issues can arise when the temperatures drop below freezing, the one you have to be most careful of is water. It's essential to do timely assessments of each and every spot where liquid can be isolated so you can identify areas where leaks may occur.

**Icy oil:** Oil temperature always needs to be monitored and regulated. If not, the oil could drop to a level so cold that

it cannot lubricate or seal the machinery. Icy oil can also cause a compressor to malfunction or stop working altogether. For maximum reliability, oil must be kept within a temperature range that never gets too hot or too cold.

If you have a working knowledge of the key steps involved in managing temperatures, you could potentially handle many of the basic tasks involved in servicing your air compressor system. But remember, air compressors differ in their maintenance and repair needs, and not likely to find all the answers for your system in a general instruction manual. By following the instructions that were given for a different model, you could end up causing more damage to your air compressor.

As you begin to winterize your air compressor, consider the following questions:

- ❖ What are the issues that concern you most?
- ❖ Are there things pertaining to your system's exterior that need to be taken into consideration?
- ❖ How many hours per day is your air compressor being used?

The answers will help you better understand your needs when it comes to air compressor servicing, repairs and maintenance. For instance, you might not have as many issues if you run your system around the clock, versus operating it only on weekdays, which could lead to problems on Monday morning if the temperature changes too much.

### Should You Upgrade Your Compressed Air System?

In some cases, winterizing your air compressor can be as simple as putting a heater next to the oil tank each day. Most likely, the issue is more complicated and difficult to narrow down. If that's the case, you may want to consult with an air compressor servicing expert.

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