

# PROTECTING YOUR ROTARY SCREW AIR COMPRESSOR IN WINTER: ESSENTIAL PREVENTIVE STEPS



As winter approaches, businesses relying on rotary screw air compressors must take extra precautions to ensure their equipment continues running efficiently. Cold temperatures can negatively impact the performance and longevity of your compressor if proper preventive measures aren't taken. Winterizing your air compressor is crucial to avoiding operational disruptions and expensive repairs.

**Here's a detailed guide on protecting and preparing your rotary screw air compressor for the winter season.**



## PERFORM A COMPLETE SYSTEM INSPECTION

Before winter begins, conduct a comprehensive inspection of your entire air compressor system. This includes checking all vital components like filters, hoses, valves, and electrical connections. Cold weather can exacerbate small issues that go unnoticed during warmer months, potentially leading to breakdowns in freezing temperatures.

**Inspect for leaks:** Even minor leaks can turn into significant problems during the winter due to pressure changes.

**Check filters:** Clogged filters force the compressor to work harder, increasing wear, energy consumption, and the risk of freezing.

## USE COLD-WEATHER LUBRICANTS

Rotary screw air compressors rely on proper lubrication to function smoothly. Standard lubricants can thicken or become ineffective in low temperatures, leading to increased friction, wear, and potential damage to internal components.

Switch to cold-weather lubricants or synthetic oils that maintain proper viscosity even in freezing temperatures. These lubricants ensure your air compressor runs efficiently regardless of the temperature.

## DRAIN CONDENSATE REGULARLY

Moisture is a common byproduct in compressed air systems. In colder climates, if condensate isn't drained regularly, it can freeze inside your system, causing blockages or even cracks in piping and tanks.

**Check drains frequently:** Ensure automatic or manual drains are working properly.

**Use low-temperature dryers:** If your system includes air dryers, make sure they are suited for cold weather to prevent moisture buildup.

## ENSURE ADEQUATE HEATING

Rotary screw air compressors are sensitive to temperature changes, especially in environments where temperatures dip below freezing. To protect your system, ensure it is housed in a climate-controlled environment or equipped with heating devices.

**Keep compressor rooms heated:** Ideally, the room housing the compressor should stay above 40°F to avoid issues with freezing.

**Install heater blankets:** Use heater blankets on key components like the oil reservoir and anti-condensation heaters for control panels in non-climate-controlled areas.

## PROTECT THE INTAKE

Cold air drawn into your compressor can cause performance issues. Protect the air intake system to avoid cold air directly entering the unit.

**Use intake filters:** Ensure filters are clean and free of debris to prevent frost buildup.

**Consider intake hoods:** Installing an intake hood can help prevent snow, ice, and cold wind from directly entering the compressor.

## MONITOR COMPRESSOR PERFORMANCE

Winter weather can affect pressure levels, oil temperature, and general performance. Keep an eye on system performance indicators to catch potential problems before they become serious issues.

**Check pressure gauges:** Ensure your compressor is maintaining the proper pressure for its rated capacity.

**Monitor oil temperatures:** Regularly check oil temperature levels to ensure they're not dropping too low, which could lead to inefficient lubrication.

## REGULAR PREVENTIVE MAINTENANCE

Preventive maintenance is essential year-round but is especially important in the winter. Schedule regular maintenance checks with a certified technician to inspect your system's health, perform necessary repairs, and ensure all components are ready to handle the cold.

**Replace worn parts:** Proactively replace worn-out belts, filters, seals, and valves to prevent unexpected breakdowns.

**Check fluid levels:** Ensure all fluid levels, including lubricants and coolants, are topped off.

## ENSURE PROPER VENTILATION

Even in winter, proper ventilation is key for compressor efficiency. While it may be tempting to close vents to retain heat, this can lead to overheating.

**Maintain airflow:** Ensure there's enough airflow to prevent the compressor from overheating, even in a heated space.

## **INSTALL WEATHERPROOFING**

Consider weatherproofing components like external piping and electrical connections. Insulated piping helps to prevent freezing, while weatherproofing electrical parts reduces the risk of malfunctions caused by ice or snow.

## **TRAIN PERSONNEL**

Ensure your staff is trained to operate and monitor the air compressor in winter conditions. Equip them with knowledge on how to spot early signs of winter-related issues, such as unusual noises, pressure fluctuations, or slow start-ups.

## **IN SUMMARY**

Winterizing your rotary screw air compressor is a critical step in maintaining its performance and longevity. By taking preventive measures such as using cold-weather lubricants, draining condensate regularly, ensuring adequate heating, and scheduling routine maintenance, you can avoid costly downtime and equipment damage. Proper preparation not only protects your system from the cold but also ensures reliable and efficient performance all winter long.

Taking the time now to winterize and protect your air compressor system will keep your operations running smoothly throughout the harsh winter months.