

Recommended Preventive Maintenance Checks for Your Compressor

On an industrial air compressor, preventive maintenance is crucial to ensure the functionality of the system and its various attachments. The key parts to check include the filters, vents, belts and bearings, all of which could become troublesome to the system if dirt and grime build up. Moreover, you must apply and reapply lubricant at timely intervals on all applicable parts of an air compressor.

The following components are the most important to inspect and clean and/or lubricate according to schedule:

Air Filter

The purpose of an air compressor is to produce clean, pure, compressed air that will ultimately power numerous functions. To ensure the quality of air that comes out at the end, the ambient air that goes into the compressor must be filtered of impurities before it leaves the machines. None of that could be possible without a clean air filter.

If the air filter is dirty, impurities and particulates could corrupt the compressed air and degrade the quality of end-point applications. Therefore, clean the air filter regularly. Change it out at regular intervals, which vary based on the environment.

Oil Filter

Oil can degrade the quality of compressed air if it passes through the system and gets carried to the end of an application. Some of the worst-affected processes would include pneumatic spray painters, air cleaners and anything else where oil could corrupt the surface in question. Therefore, it is crucial to ensure oil, when present in the system, is removed from the compressed air before the air leaves the machine.

Check oil filters weekly, regardless of whether the compressor is lubricated or non-lubricated. Moreover, replace the oil filter entirely at recommended intervals, which can range from 4,000 to 8,000 hours of use depending on your unit. If the oil filter gets heavily covered in oily residue before that time, replace it sooner.

Lubricant

Lubricant is one of the most vital elements in the function of an air compressor. On all the internal metal parts and joints, lubricant allows for smooth, non-corrosive movement. Without lubrication, tension

occurs between the touching metal surfaces, which leads to the corrosion of parts and joints. Once corrosion takes hold, rust is liable to spread and eat through certain mechanical parts.

However, even when lubricant is present, it can lose its viscosity and become corrosive if it gets too old. Check the lubricant level daily to ensure the health of your air compressor. Every three to six months, wipe off old lubricant and reapply a fresh coat. Each time you replace the lubricant, be sure you also change out the separator element.

Motor Bearings

For a motor to run, the bearings must have proper lubrication. The tiny metal balls are constantly rolling against each other, as well as against the interior walls of the round encasement. Consequently, rust could form on the bearings without proper lubrication. If rust forms, the bearings will gradually slow and ultimately become stuck in place. When this happens, the motor fails.

To protect the health and performance of the air compressor motor, grease the bearings every 4,000 hours. Be sure to inspect the bearings at quarterly intervals between each greasing to ensure they remain sufficiently lubricated.

Belts

For an air compressor to go about its internal motions, it is crucial for the belts to have proper tension. The rubber of each belt must also remain firm, yet flexible, to ensure balanced movement between the pulleys of connected parts. Over time, however, the rubber on a belt will inevitably wear down and crack in certain places. Therefore, it is crucial to replace the belts before they lose their tension or, even worse, snap in the middle of an operation.

Inspect each belt once per week to verify they are free of wear. Adjust the tension if necessary and replace each belt once wear takes hold.

Intake Vents

An air compressor performs the magic feat of transforming ambient air into something that can power heavy-duty machinery and effectively serve as a replacement for electrical power. That said, the compressor itself can only do so much to turn mundane air into something powerful. While internal components do their job to purify the air for end-point use, that job is harder for the machine to perform if the intake vents become lined with dirt and grime.

To ensure the incoming air remains as clean as possible and to prevent dirt from getting sucked into the system, inspect the intake vents weekly and clean them when necessary.

Other Parts and Things to Check

In addition to the periodic cleaning, lubrication and replacement of parts, check various points along the air compressor and its attachments at regular intervals. Inspect the following on a weekly basis:

Air dryer performance

Amps

Oil level

Temperatures

Vibration

Voltage

Inspect the air compressor for signs of oil or air leaks. Also check the pneumatic hoses for air leaks, as leakage severely reduces the efficiency of an air compressor. Furthermore, make sure the coolers are free of dirt.