



WHY IT'S IMPORTANT TO FOLLOW SERVICE INTERVALS AND INSPECT WEARABLE PARTS ON ROTARY SCREW AIR COMPRESSORS

By Spencer Hall



When it comes to rotary screw air compressors, it is important to follow the prescribed service and maintenance program. A maintenance program is one of the most critical components of system management, since so many machines and functions within industrial facilities rely on compressed air. This helps ensure a smooth-running operation and helps prevent interruptions and unexpected downtime.

First and foremost, it is important to follow the maintenance plan and service intervals to maintain your Sullair warranty. This includes things like routine oil sampling, motor greasing and fluid changes. If you do not

comply with the items needed to maintain the warranty, any future warranty claims may be denied.

Additional, regular service items depend on the application in which your compressor is used. For instance, if your compressor is used in a clean application, like pharmaceutical, it will require less maintenance than when used in a dirty or dusty environment, such as saw mill in the middle of the woods.

There are also a few components of rotary screw air compressors that may not necessarily be a part of service intervals but you should keep a close eye on and maintain.

Cleaning the Coolers

While there is not a defined service interval for cleaning the coolers, if they are overlooked can cause the compressor to overheat and become unreliable. Thus, clean the coolers as often as needed. As mentioned, a compressor in a pharmaceutical application will not require this as often as a compressor in a saw mill.

The photograph shows an extremely dirty cooler with plenty of bugs to boot. Some bugs are acidic, which can damage the exterior surface of the cooler.



Couplings

Coupling elements should be inspected each quarter and replaced annually. If you don't replace the coupling, you'll likely run into big problems. Not only can the coupling fail and cause vibration in the compressor, but it can also damage the pump or motor, creating even more extensive damage.

Couplings are part of maintenance intervals. A pharmaceutical application and a saw mill will both likely replace this at the same interval since it is a wearable item. In this case, it doesn't matter where machine is located or the application in which it is used.

The image shows a coupling that has seen better days. This coupling has failed.



Water Quality

The cooling water that goes through your air compressor needs to be part of your building preventive maintenance program and checked at regular intervals. The cooling water needs to maintain to a certain standard—such as a certain pH or sediment value. The water used can't have certain minerals in it and could affect your compressor's cooling capability.

The water must be a closed loop system. If the cooling tower system is not maintained, then the compressor can be the victim. We've often seen the compressor overheat and become unreliable due to the customer not maintaining its water system or operation/building.

This is an issue that can transpire quickly. We've seen end users who send very cold water through the cooling system with chemical and contaminate concentrations high. Under these conditions the water contacts the hot fluid tubes, chemicals can drop out and accumulate inside the tubes and contaminants such as scale and calcium can build up preventing good heat transfer. This condition can cause the compressor to overheat and be unreliable.

Minimum Pressure Check Valve

Typically, once per quarter you should disassemble the minimum pressure check valve (MPCV) and clean it. Once a year you should rebuild this component. If you don't maintain this item, you will run into all sorts of reliability issues, such as the compressor not starting or unloading properly.

When it comes to air compressors, it is important to maintain the service intervals not only to protect your warranty but also to help prevent interruptions and unexpected downtime. In addition to the maintenance intervals, pay close attention to these components to help prevent – rather than react to – any problems with your rotary screw air compressor.

