

OEM Compressor Oils



Information in this Tip comes courtesy of the Mobil SHC Club, an information sharing portal by ExxonMobil Lubricants

A common practice for industrial operators is to employ service contracts with maintenance companies or equipment manufacturers to maintain certain items of equipment on site. Some of the most widely used types of service contracts are those that cover compressor systems. A survey of industrial plants with compressors concluded the following:

- Service Contracts vs. Self-Maintenance:** On average, more than 80% of companies said they trusted their compressor maintenance to service contracts, either with the Original Equipment Manufacturer (OEM) or a 3rd party service provider. By comparison, less than 20% of sites maintained and operated compressor systems themselves.
- Age of Compressors:** A large majority of compressors in operation were more than five years old and out of the manufacturer's warranty period, although companies still chose to use a service contract for maintenance.
- Oil Drain Intervals & Maintenance Practices:** Most companies reported using the compressor manufacturers' recommended lubricating oil, with the majority of sites (more than 66%) reporting that oil drain intervals spanned from 4000 to 8000 hours operation. Additionally, just one in four companies said they use periodic oil analysis to track equipment and lubricating oil condition.

Extreme Operating Environments Highlight Need for High Quality Lubricants

In modern compressors, lubricating oil is often subject to extreme operating conditions, including continuous high temperature operation in applications with discharge temperatures up to 390°F. Such occurrences of high temperatures, in addition to the presence of moisture in the compressed air can lead to rapid oil oxidation, which can reduce oil life and cause problematic system deposits. For mineral compressor oils or lower quality synthetics, this means that operators must perform oil changes on an annual basis - or often more frequently - in order to maintain system integrity.

To combat these conditions and provide maximum oil life in rotary screw compressor applications, ExxonMobil recently introduced its most advanced synthetic compressor oil - Mobil SHC™ Rarus. During extensive laboratory and real-world testing, Mobil SHC Rarus Series oils have shown the ability to deliver outstanding protection against wear, rust and corrosion, even under extended drain interval periods that range from two to three times longer than competitive synthetic oils. **Mobil SHC Rarus oils are also an economical alternative to many OEM compressor fluids.**

Mobil SHC Rarus has even demonstrated capability to last up to 24,000 hours in a compressor field trial (equivalent to 3 years of continuous operation). The images below show the effects of lubricating oil varnishing due to oxidation on the compressor screw component in comparative laboratory tests. See that even after 2500 hours of operation, Mobil SHC Rarus shows considerably fewer varnish deposits than a competitive synthetic product, after just 1000 hours.



Mobil SHC Rarus – 2500 hours operation Competitive product -1000 hours operation