

# Extend Life of Compressor & Oil with Best Practices

The lubricant you choose for your compressor plays a critical role in protecting internal metal parts, preventing corrosion and wear, and sealing; however, requirements vary considerably based on compressor type, the environment in which it is used, and the type of gas that is being compressed.

Lubrication Engineers can help by recommending lubrication reliability best practices – including the right oil – for most compressor types, whether they are centrifugal compressors, reciprocating compressors, rotary screw compressors, rotary vane compressors or dry screw compressors. We have years of documented success helping our customers maximize uptime while reducing costs.

When looking for the right oil, it is imperative that a high-quality oil suitable for the application and environment is used.



## Qualities of High-Performance Oil for Use in Compressors

- Turbine quality premium oil
- High viscosity index
- High-quality oxidation package exceeding 5,000 hours, per ASTM D943
- Rust and corrosion resistant
- Nonfoaming in use
- Demulsibility properties (ability to shed water)
- Filterable without additive depletion

## Reliability Solutions

Once the right oil has been selected – including matching the ISO grade to the OEM spec – the next step is to put the other lubrication reliability pieces in place. Add oil analysis to begin predictive trending of the oil and asset condition, and filtration to keep the oil clean and dry. With these solutions, you can safely extend the life of the asset and the oil – saving time and money.



## Components of an Effective Compressor Lubrication Program



Oil Selection



Oil Analysis



Filtration

# Identify the suffering points

Move forward with proven solutions for extending compressor life



## Oxidation

A strong antioxidant package is essential in a compressor oil. Oil life is reduced by half for every 10°C (18°F) in temperature increase. As oil oxidizes, its viscosity increases, varnish forms, sludge and sediments begin to plug filters, acid increases, and rust and corrosion form. (See photo for progression from new to fully oxidized oil.) All of this is detrimental to the effectiveness and lifespan of the oil and the equipment.



**LE Solution:** LE's high-performance oils are designed to combat the effects of high temperatures, water, contaminants and heavy loads. These long-lasting oils – listed below – are nonfoaming and offer superior resistance to heat, oxidation and moisture; they outperform conventional compressor oils, with many exceeding the standards required by OEMs.

- Monolec® Centrifugal Compressor Oil (6260)
- Monolec® R & O Compressor / Turbine Oil (6401-6407)
- Multilec® Industrial Oil (6801-6807)
- Monolec® Syn Industrial Oil (9032-9150 & 9220-9460)
- H1 Quinplex® White Oil (4010-4040)
- H1 Quinplex® Synthetic Food Grade Oil (4032-4068)



## Unnecessary Oil Changes

If you are changing oil based on a time interval, you may be getting rid of perfectly good oil and spending money unnecessarily on excess downtime, maintenance and lubricant.

**LE Solution:** Transitioning from time-based to condition-based oil changes will maximize uptime, save money, and make your operation more efficient. A good oil analysis program is integral to any successful lubricant reliability program. With consistent accurate monitoring of the condition of your oil, you can improve your bottom line with less lubricant to purchase, fewer parts to keep in inventory, less used lubricant requiring disposal, less labor and less downtime. LE's oil analysis program monitors oil samples for mechanical, operational and environmental factors that can affect equipment and oil life.

- Xamine Basic Industrial with PQ Oil Analysis
- Xamine Advanced Industrial Oil Analysis

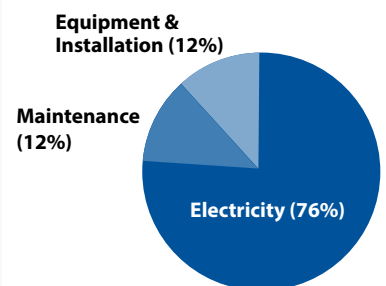


## Energy Consumption

The U.S. Department of Energy states that for an average industrial facility, approximately 10 percent of the electricity consumed is for generating compressed air and can be as high as 30 percent or more of the consumed electricity. Compressed air is one of the most expensive sources of energy in a plant, with the efficiency of a typical compressed air system rated as low as 10 to 15 percent.

**LE Solution:** By reducing friction, you reduce the amount of energy consumed as well as the heat of the equipment. Even between highly machined metal surfaces, contact occurs. The greater the amount of contact, the greater the friction. As a result, more energy is required to move the surfaces. The use of high-performance lubricants can reduce this friction, thus requiring less electricity. It is not uncommon for factories adopting a lubrication reliability program to save 5 to 20 percent on electricity.

- Xpert Equipment Reliability & Assessment
- Xpert Energy Savings Assessment







**LE Enhanced Lubricants**  
*High-Performance Compressor Oils*

# Full Circle of Reliability

Armed with knowledge of best practices and all of the necessary tools to get the job done, your local LE lubrication consultant will help you plan and implement a world class lubrication reliability program to protect your assets.



**Xtract Contamination Removal**  
*Xtract Filtration*



**Xamine Oil Analysis**  
*Xamine Basic Industrial with PQ Oil Analysis & Xamine Advanced Industrial Oil Analysis*

**Xpert Services**



*Xpert Training*



*Xpert Equipment Reliability & Assessment*



*Xpert Energy Savings Assessment*



LE's state-of-the-art manufacturing facility, technology center, warehouse and primary office is located in Wichita, KS, with regional distribution out of Knoxville, TN, and Las Vegas, NV. Additional support functions are located in Fort Worth, TX. The company's international presence includes distributors in more than 60 countries.



# LE Helps Protect Your Equipment & Grow Your Bottom Line

## Leaders in Lubricants Since 1951

### Does your lubricant supplier do all of this?

- ✓ Professional, onsite equipment reliability assessment
- ✓ Comprehensive lubricant line (industrial oils, engine oils and greases)
- ✓ Web-based oil analysis, with results reviewed by experts
- ✓ Storage systems, including stackable bulk units
- ✓ Visual identification, including tags, labels, color-coding and wall charts
- ✓ Handling and transfer equipment, including portable transfer containers, clear grease guns, grease pumps and lube reels
- ✓ Single- and multi-point automatic grease lubricators and lubricating systems
- ✓ Contamination exclusion and removal tools, including oil reservoir sight glasses, desiccant breathers and filtration equipment
- ✓ Local, factory-trained specialist available 24/7



Lubrication Engineers, Inc. is the total solutions provider for lubrication reliability. We work closely with our customers to learn about their specific equipment and lubrication needs, and then help them create a world class lubrication reliability program that provides equipment protection and enhanced profits.

We start with an onsite equipment assessment. A trained, local lubrication consultant provides a detailed report recommending lubricants, application methods, usage amounts, and drain or lube intervals.

LE's line of high-performance lubricants – manufactured in the U.S. and made of highly refined base oils and proprietary additives – far exceed the performance of conventional lubricants in a wide variety of industrial and automotive applications. In addition, your LE consultant can offer you several other best practice products and services to ensure the effectiveness of your program, including solutions for oil analysis, storage, handling and transfer, contamination exclusion, contamination removal, education and training.



LI10029, 12-17, rev. 4-21