



## Changeover Procedures for LE Compressor Oils

When converting your air compressor to an LE petroleum-based compressor oil – Monolec® R&O Compressor / Turbine Oil (6401-6407) or LE's Multilec® Industrial Oil (6801-6807) – or to LE's synthetic compressor oil – Monolec® Syn Industrial Oil (9032-9150 & 9220-9460) – several potential problems may be encountered and should be considered prior to taking any action.

Potential problems include excessive deposits that have built up over time with the use of the previous oil. The older the compressor, the greater the possibility of existing deposit formations. These can be cleaned out after converting to LE products. As is the case with any lubricant changeover, incompatibility is another problem that may occur. To ensure good results, we strongly recommend that you follow these changeover procedures exactly and closely monitor your equipment.

These recommendations assume that the following best practices are being followed to ensure that the new oil is clean and uncontaminated prior to use:

- Store drums on their sides, inside if possible but at least sheltered if outside.
- Carefully clean tops of drums before opening and keep them closed when not in use.
- Install breathers on drums after they are opened.
- Clean funnels, spigots, hoses or other filling devices to ensure they are free from contamination.

### Replacing petroleum-based oil with Monolec R&O Compressor / Turbine Oil or Multilec Industrial Oil

Sample and drain used oil completely while unit is still hot.

1. Change oil filter(s) and air/oil separator (if so equipped).
2. Fill with appropriate grade of Monolec R&O Compressor / Turbine Oil (6400 series) or Multilec Industrial Oil (6800 series).
3. Regularly check oil filter(s) and air/oil separator, as there is a good possibility that the new LE oil will loosen deposits left by previously used oils.

4. Sample LE oil while hot at one-half normal drain interval.
5. Use oil analysis results to establish new drain interval.

Compressors with a significant number of hours frequently have a large amount of deposits and may require additional oil, oil filters and air/oil separators to completely clean the compressors and restore them to their maximum operating efficiency.

### Replacing petroleum-based and compatible synthetic oils with Monolec Syn Industrial Oil

Sample and drain used oil completely while unit is still hot.

1. Change oil filter(s) and air/oil separator (if so equipped).
2. Fill with appropriate grade of Monolec Syn Industrial Oil (9000 series).
3. Run for 100 hours and take an oil sample. The analysis will determine whether a change should occur. In some cases, it is necessary to change the air/oil separator after the first 1,000 hours.
4. Regularly check oil filter(s) and air/oil separator, as there is a good possibility that the LE oil will loosen deposits left by previously used oils.
5. The lubricant should be further analyzed at one-half the normal change interval and then at the normal change interval.
6. Use these oil analysis results to establish the new drain interval.

The excellent cleaning action of Monolec Syn Industrial Oil tends to dissolve, loosen and remove existing deposits. Basically, all compressor and downstream parts that will be in contact with this superior oil should be as clean as practical before changing over. The primary concern if you are converting from another synthetic oil is compatibility of the oils. Monolec Syn Industrial Oil is compatible with most types of synthetic compressor oils in the ester, diester and PAO families.



## Replacing partially or totally incompatible synthetic oil with Monolec Syn Industrial Oil, or with Monolec R&O Compressor / Turbine Oil or Multilec Industrial Oil

Sample and drain used oil completely while unit is still hot.

1. Change oil filter(s) and air/oil separator (if so equipped).
2. Fill with appropriate grade of Monolec Syn Industrial Oil (9000 series), or – if OEM allows use of mineral oils – fill with appropriate grade of Monolec R&O Compressor / Turbine Oil (6400 series), or Multilec Industrial Oil (6800 series).
3. Run the compressor for two to eight hours, no longer. Drain the oil while the unit is hot and change the filters again. This flushing procedure should remove most of the incompatible fluid.
4. Fill again with appropriate grade of LE's recommended compressor oil. Run for 100 hours and take an oil sample. The analysis will determine whether a change should occur. In some cases, it is necessary to change the air/oil separator after the first 1,000 hours.
5. Regularly check the oil filter(s) and air/oil separator, as there is a good possibility that the LE oil will loosen deposits left by previously used oils.
6. The oil should be further analyzed at one-half the normal change interval and then at the normal change interval.
7. Use these oil analysis results to establish the new drain interval.

Monolec Syn Industrial Oil is partially or totally incompatible with the following types of compressor oils: polyglycol/pentaerythritol ester blend, polyol ester, silicone, and polyalkylene glycol. Because of this, more stringent conversion procedures are required to obtain the full benefits of the LE oil. Changeover procedures with these types of synthetic compressor oils to Monolec Syn Industrial Oil is essential to ensure trouble-free operation.

## Xamine Oil Analysis

No extended oil drains should be considered without the use of a routine laboratory analysis program such as LE's Xamine™ Oil Analysis Program to monitor oil conditions. Xamine is superior to most programs in both the nature of tests and the amount of review by individuals. We recommend that Xamine be used as part of a best practice maintenance program to continually monitor oil conditions and ensure that compressors are operating properly.

## Recommended Oil Sampling Schedule

To provide data that can be used to monitor oil condition and predict potential problems, we recommend the following sample schedule during the changeover procedures. This sampling schedule is particularly appropriate when replacing a petroleum-based oil in old compressors with Monolec Syn Industrial Oil.

1. Sample the previous oil during the drain process. This provides data to identify additive chemistry and other chemical and physical characteristics.
2. After changing to the recommended grade of Monolec R&O Compressor / Turbine Oil, Multilec Industrial Oil or Monolec Syn Industrial Oil, take a sample after two to eight hours of operation. The data from this sample will provide a basis for estimating the degree of mixing with the previous product.
3. The next samples should be taken as indicated in the specific changeover procedures section (I-III above). An increase in the previous oil's additive or wear metals in this sample is an indication of deposit removal.
4. We also recommend that these additional tests be run:
  - Viscosity @ 40°C
  - Elemental Analysis
  - TAN
  - % Water

Following the correct conversion procedures as provided in this document will ensure that customers receive the benefits expected from LE's superior compressor oils.