



SULLAIR COMPRESSOR FLUID ANALYSIS

Compressor fluid is the lifeblood of your compressor. Testing compressor fluid on a regular basis can help you manage compressor maintenance and optimize performance by identifying abnormal wear or contamination.

A fluid analysis can help predict potential problems before a major or unplanned repair occurs — allowing you to avoid unnecessary downtime.



Fluid Analysis Benefits

- Helps extend fluid and bearing life by identifying contaminants such as dirt, water and other process materials
 - Increased contamination indicates action is needed to save the lubricant and avoid unnecessary machine wear
- Predictive maintenance
 - Helps you avoid unscheduled downtime and establish optimal change intervals
 - Accounts for specific environmental conditions impacting fluid
- Helps optimize compressor performance
- Helps you maintain your Sullair warranty
- Fast test results

And, a Sullair fluid analysis can be done on any type of compressor fluid!

Easy testing process

You or your local Sullair Authorized Distributor can administer the test using a testing kit which includes:

- Sampling container
- Fluid sample information form
- Prepaid USPS label
 - However, it is recommended to send samples in via FedEx or UPS for easy tracking

Using the oil sampling valve, draw the fluid from the compressor into the sampling container at given intervals. If your compressor is not equipped with an oil sampling valve, you can order one along with your kit from your local Sullair Authorized Distributor. Once all samples have been taken, send in for testing.

Fluid Sampling Best Practices

To maintain your Sullair warranty, fluid samples must be taken every 2000 hours or every 6 months—whichever occurs first.

- Use a Genuine Sullair Fluid Sample Kit
 - North America – P/N 02250138-667
 - Latin America – P/N 02250219-017
- Always take oil samples from the same location on the compressor
 - Avoid taking samples from a fluid filter as this will provide an inaccurate sample and high particulate counts
 - Ideally the sample should be taken after the filter and before the compressor injection
 - If equipped, a fluid sampling valve can help ensure accurate and consistent sampling
 - 1/8": P/N 02250196-306
 - 1/4": P/N 02250196-305
 - If not equipped with a sampling valve, the sample can be obtained via an oil line or connection after the oil filter
 - For encapsulated units, the sample can be taken from an oil fill port/oil reservoir using a clean handheld vacuum pump or syringe

Additional oil sampling information can be found in your warranty handbook or by contacting your local Sullair representative for more information.

- Samples should be taken at normal operating temperatures. Avoid taking a sample when lubricant is cold
- Make sure the sample area and testing elements are clean
- Always make sure the sample can be obtained safely

Fluid analysis based on original formulation, consumptions and expected life.

Test measures:

- pH levels to look for warning signs of corrosive wear of bearings
- Acid number indicates the remaining useful life of the fluid
- Viscosity to measure the resistance of a fluid to flow at a specific temperature. Higher viscosity can indicate higher operating temperature
- FTIP spectroscopy provides molecular information including additives, fluid breakdown products and external contamination which can help establish optimal change out intervals
- Water levels which can help identify leaks
- Inductively Coupled Plasma (ICP) Spectroscopy measures and quantifies elements associated with wear, contamination and additives

SULLAIR

Machine Condition: **NORMAL**
Lubricant Condition: **MARGINAL**
Sullair Corporation

Analysis Report
Lube Type: 246T
Compressor MFG: SULLAIR
Compressor Model: LS10-30-W/C
Serial No.: 003-144908
Asset No.:
Report: 9/15/2020
Customer Notes:
Problems: ***Excessive Particle Count

The particulate contamination exceeds our limits for a compressor (218/73). High particulate contamination could be due to sampling technique, consider changing sampling location. High particulate contamination will lead to abrasive wear and damage internal components.

For questions concerning this report, contact your local authorized Sullair distributor or Sullair.

Date Sampled	Reference	9/25/20	12/26/20	12/18/21	9/27/21
Lube No.	Reference	246T11	246T12	246T13	246T14
Lube Hours	Reference	Unknown	7846	8934	
Compressor Hours	Reference	151365	11833	10106	9194

Viscosity (Reported to customer) ASTM D 445 Mod
Viscosity @ 40C: 218.7 21.3 20.7 21.0

FTIR 24 KT (Reported to customer) ASTM D 445 Mod
Additive: 39 80 82 30 87
Internal Oil Cont.: 0.0 0.0 0.0 0.0 0.0
PAU Ester Cont.: 0.0 0.0 0.0 0.0 0.0
Water Cont.: 0.0 0.0 0.0 0.0 0.0

Spectroscopic Analysis (Reported to customer) ASTM D 5185 Mod
Acid Number: 0.06 0.11 0.11 0.11 0.11
FTIR JCM Method (Oxidation Number) 116-110
Copper: 0 0 0 0 0
Iron: 0 0 0 0 0
Lead: 0 0 0 0 0
Nickel: 0 0 0 0 0
Chromium: 0 0 0 0 0
Titanium: 0 0 0 0 0
Calcium: 0 0 0 0 0
Magnesium: 0 0 0 0 0
Phosphorus: 22 0 0 0 0
Sulfur: 0 0 0 0 0
Zinc: 0 0 0 0 0
Barium: 0 0 0 0 0
Molybdenum: 0 0 0 0 0
Sodium: 0 0 0 0 0
Potassium: 0 0 0 0 0
Cobalt: 0 0 0 0 0

Particle Count (Reported to customer) per ml ISO 4406.00
ISO CODE: 21/18/15 21/18/16 18/17/13 17/16/12 16/15/11
14 Micron: 2000 1800 1800 1800 1800
10 Micron: 2000 1800 1800 1800 1800
5 Micron: 200 200 200 200 200
1 Micron: 20 20 20 20 20
0.5 Micron: 0 0 0 0 0
0.2 Micron: 0 0 0 0 0

Testing performed by In Sight Services*. This test is accredited under the laboratory's ISO/IEC 17025 accreditation issued to certify and scope of accreditation 12221.14. Estimated sample date: (*). Not in scope of accreditation. Sullair assumes sole responsibility for the application of and release upon results and recommendations reported by In Sight Services, whose obligation is limited to good faith performance. Samples tested as received.
TestID: 20188 Progress Drive - Strongsville, OH 44149

SULLAIR

Machine Condition: **NORMAL**
Lubricant Condition: **CRITICAL**
Sullair Corporation

Analysis Report
Lube Type: SULLIRE
Compressor MFG: SULLAIR
Compressor Model: LS25-250AC
Serial No.: 201810310093
Asset No.:
Report: 8/31/2020
Customer Notes:
Problems: ***High Viscosity 40C ***High Acid Number ***Excessive Particle Count

The viscosity (31.2 cSt) is higher than expected. The viscosity specification for this lubricant is 30 cSt. Low pH is caused by ingesting acids or increased and number indicates antioxidant depletion and is an indicator of lubricant degradation. This machine should be drained, flushed and very high acid number result. The particle count for this compressor exceeds the limit (21/18/15). Check for sources of particulate ingesting level of water contamination (0.0150%) is excessive and considered abnormal. Sources of water contamination in compressors are: running an extended period, ingestion from external sources, testing system issues.

For questions concerning this report, contact your local authorized Sullair distributor or Sullair.

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Lube No.	Reference	246T11	246T12	246T13	246T14
Lube Hours	Reference	Unknown	7846	8934	
Compressor Hours	Reference	151365	11833	10106	9194

Viscosity (Reported to customer) ASTM D 445 Mod
Viscosity @ 40C: 31.2 21.3 20.7 21.0

FTIR 24 KT (Reported to customer) ASTM D 445 Mod
Additive: 39 80 82 30 87
Internal Oil Cont.: 0.0 0.0 0.0 0.0 0.0
PAU Ester Cont.: 0.0 0.0 0.0 0.0 0.0
Water Cont.: 0.0 0.0 0.0 0.0 0.0

Spectroscopic Analysis (Reported to customer) ASTM D 5185 Mod
Acid Number: 0.06 0.11 0.11 0.11 0.11
FTIR JCM Method (Oxidation Number) 116-110
Copper: 0 0 0 0 0
Iron: 0 0 0 0 0
Lead: 0 0 0 0 0
Nickel: 0 0 0 0 0
Chromium: 0 0 0 0 0
Titanium: 0 0 0 0 0
Calcium: 0 0 0 0 0
Magnesium: 0 0 0 0 0
Phosphorus: 22 0 0 0 0
Sulfur: 0 0 0 0 0
Zinc: 0 0 0 0 0
Barium: 0 0 0 0 0
Molybdenum: 0 0 0 0 0
Sodium: 0 0 0 0 0
Potassium: 0 0 0 0 0
Cobalt: 0 0 0 0 0

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TestID: 20188 Progress Drive - Strongsville, OH 44149

SULLAIR

Machine Condition: **NORMAL**
Lubricant Condition: **NORMAL**
Sullair Corporation

Analysis Report
Lube Type: SULLIRE
Compressor MFG: SULLAIR
Compressor Model: LS20-250AC
Serial No.: 20180629028
Asset No.:
Report: 9/29/2020
Customer Notes:
Problems: No problems found with current sample.

The results for this sample indicate normal conditions. Please continue scheduled sampling.

For questions concerning this report, contact your local authorized Sullair distributor or Sullair service at 1-888-785-5247.

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Phosphorus: 22 0 0 0 0
Sulfur: 0 0 0 0 0
Zinc: 0 0 0 0 0
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