



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



Analysis Report

Lube Type: 24KT
Compressor MFG: SULLAIR
Compressor Model: L550-30 W/C

Serial No.: 003144908
Asset No.: 9/15/2020
Report: Customer Notes

Machine Condition: NORMAL
Lubricant Condition: MARGINAL

The particulate contamination exceeds our limits for a compressor (21/26/75). High particulate contamination could be due to sampling issues, 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	9/15/20	9/26/20	12/16/20	9/27/20
Lube No.	2591703	2591703	2591703	2591703	2591703
Lube Hours	1526000	1526000	1526000	1526000	1526000
Compressor Hours	151305	11853	10106	9194	

Viscosity (Reported in centistokes) ASTM D 445 Mod

Viscosity at 40°C	Viscosity at 100°C	Viscosity at 150°C	Viscosity at 210°C
80	80	80	80

Water Content (as active element in oil) ASTM D 445 Mod

Water Content	Water Content	Water Content	Water Content
0.0	0.0	0.0	0.0

Spectroscopic Analysis (Reported in ppm) ASTM D 6198 Mod


Iron	Copper	Lead	Aluminum	Nickel	Chromium	Vanadium	Calcium	Magnesium	Phosphorus	Zinc	Barium	Silicon	Sodium	Potassium
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Particle Count (Reported in particles per cc) ISO 4406-99

ISO CODE	21/26/75	21/26/75	18/13/13	13/16/12	18/13/13
<4 Microns	20000	12124	1881	1279	2280
<6 Microns	2500	4753	735	497	857
<8 Microns	320	359	56	37	45
<10 Microns	0	0	0	0	0
<15 Microns	0	0	0	0	0

Testing performed by Ingle Services*. This test is accredited under the laboratory's ISO/IEC 17025 accreditation issued by the American National Accreditation Board. Refer to certificate and scope of accreditation 12221. (a) Estimated sample date. (*) Not in scope of accreditation. Sullair assumes no responsibility for the application of and reliance upon results and recommendations reported by Ingle Services, whose obligation is limited to good faith performance. Sample tested as received.

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Analysis Report

Lube Type: SULLURE
Compressor MFG: SULLAIR
Compressor Model: L555 250AC

Serial No.: 20181030093
Asset No.: 8/31/2020
Report: Customer Notes

Machine Condition: NORMAL
Lubricant Condition: CRITICAL

The viscosity (53.2 cSt) is higher than expected. The viscosity specification for this lubricant is 39 cSt. Low pH is caused by regenerative acid and increased number indicates antioxidant depletion and is an indicator of lubricant degradation. This machine should be drained, flushed and refilled with fresh lubricant. The particle count for this compressor exceeds the limit (52/18/70). Check for sources of particulate ingress. Level of water contamination (0.65%) is excessive and considered abnormal. Sources of water contamination in compressors are: running extended period, ingress from external sources, cooling system leaks.

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

Date Sampled	Reference	8/31/20	12/16/20
Lube No.	2591703	2591703	2591703
Lube Hours	7782	1804	
Compressor Hours	7782	1804	

pH (COW Method)

pH	pH	pH
7.50	9.52	9.27

Viscosity (Reported in centistokes) ASTM D 445 Mod

Viscosity at 40°C	Viscosity at 100°C	Viscosity at 150°C
58.1	53.2	36.4

Water Content (as active element in oil) ASTM D 445 Mod

Water Content	Water Content	Water Content
0.65	0.51	0.38

FTIR JCOP Method (Reporting Numbers) MS-110

Iron	Copper	Lead	Aluminum	Nickel	Chromium	Vanadium	Calcium	Magnesium	Phosphorus	Zinc	Barium	Silicon	Sodium	Potassium
47	139	46	66	65	55	59	60	47	62	270	270	270	270	270

Spectroscopic Analysis (Reported in ppm) ASTM D 6198 Mod


Iron	Copper	Lead	Aluminum	Nickel	Chromium	Vanadium	Calcium	Magnesium	Phosphorus	Zinc	Barium	Silicon	Sodium	Potassium
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Particle Count (Reported in particles per cc) ISO 4406-99

ISO CODE	21/26/75	21/26/75	18/13/13	13/16/12	18/13/13
<4 Microns	20000	10807	8880		
<6 Microns	2500	5575	3473		
<8 Microns	320	566	256		
<10 Microns	0	21	11		
<15 Microns	0	1	0		

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Analysis Report

Lube Type: SULLURE
Compressor MFG: SULLAIR
Compressor Model: 5505 V/B

Serial No.: 20180629028
Asset No.: 9/29/2020
Report: Customer Notes

Machine Condition: NORMAL
Lubricant Condition: NORMAL

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 1-888-765-5347.

Date Sampled	Reference	9/29/20	9/29/20	9/29/20
Lube No.	2591703	2591703	2591703	2591703
Lube Hours	7109	4679	2464	7882
Compressor Hours	14963	12561	10376	7882

pH (COW Method)

pH	pH	pH
7.38	8.33	8.20

Viscosity (Reported in centistokes) ASTM D 445 Mod

Viscosity at 40°C	Viscosity at 100°C	Viscosity at 150°C
58.1	53.2	36.4

Water Content (as active element in oil) ASTM D 445 Mod

Water Content	Water Content	Water Content
0.05	0.05	0.07

FTIR JCOP Method (Reporting Numbers) MS-110

Iron	Copper	Lead	Aluminum	Nickel	Chromium	Vanadium	Calcium	Magnesium	Phosphorus	Zinc	Barium	Silicon	Sodium	Potassium
47	139	46	66	65	55	59	60	47	62	270	270	270	270	270

Spectroscopic Analysis (Reported in ppm) ASTM D 6198 Mod

Iron	Copper	Lead	Aluminum	Nickel	Chromium	Vanadium	Calcium	Magnesium	Phosphorus	Zinc	Barium	Silicon	Sodium	Potassium
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Particle Count (Reported in particles per cc) ISO 4406-99

ISO CODE	21/26/75	21/26/75	18/13/13	13/16/12	18/13/13
<4 Microns	20000	1259	2398	457	532
<6 Microns	2500	489	859	182	227
<8 Microns	320	17	29	12	15
<10 Microns	0	1	0	0	0
<15 Microns	0	0	0	0	0

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