

PROBLEM SUMMARY

KAESER 1040

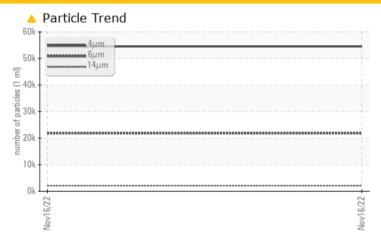
Component

Compressor

KAESER SIGMA (OEM) M-460 (--- GAL)

Sample Rating Trend ISO

COMPONENT CONDITION SUMMARY



RECOMMENDATION

No corrective action is recommended at this time. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

| PROBLEMATIC TEST RESULTS | | | | | | | | |
|--------------------------|--------------|---------|------------------|--|--|--|--|--|
| Sample Status | | | ABNORMAL | | | | | |
| Particles >6µm | ASTM D7647 | >1300 | 21890 | | | | | |
| Particles >14µm | ASTM D7647 | >80 | 2129 | | | | | |
| Particles >21µm | ASTM D7647 | >20 | 466 | | | | | |
| Particles >38μm | ASTM D7647 | >4 | 44 | | | | | |
| Oil Cleanliness | ISO 4406 (c) | >/17/13 | <u> 23/22/18</u> | | | | | |

Customer Id: UPSLAT Sample No.: KCP47974D Lab Number: 05701404 Test Package: IND 2



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To discuss the diagnosis or test data: Doug Bogart +1 (800)237-1369 x4016 dougb@wearcheckusa.com

To change component or sample information: Customer Service +1 1-800-237-1369 customerservice@wearcheck.com

| RECOMMENDED ACTIONS | | | | | | |
|---------------------|--------|------|---------|---|--|--|
| Action | Status | Date | Done By | Description | | |
| Change Fluid | | ; | ? | Oil and filter change at the time of sampling has been noted. | | |
| Change Filter | | | ? | Oil and filter change at the time of sampling has been noted. | | |

HISTORICAL DIAGNOSIS



OIL ANALYSIS REPORT

KAESER 1040

Component

Compressor

KAESER SIGMA (OEM) M-460 (--- GAL)

Sample Rating Trend

ISO

DIAGNOSIS

Recommendation

No corrective action is recommended at this time. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is a high amount of particulates present in the oil.

Fluid Condition

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

| Sample Date Client Info 16 Nov 2022 Machine Age hrs Client Info 8182 Oil Age hrs Client Info 8182 Oil Changed Client Info Changed | | | | | Nov2022 | | |
|--|----------------|--------|-------------|------------|----------------|----------|----------|
| Sample Date Client Info 16 Nov 2022 | SAMPLE INFORM | MATION | method | limit/base | current | history1 | history2 |
| Machine Age hrs Client Info 8182 | Sample Number | | Client Info | | KCP47974D | | |
| Oil Age hrs Client Info 8182 Oil Changed Client Info Changed Sample Status ABNORMAL WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >50 0 Chromium ppm ASTM D5185m >50 0 Nickel ppm ASTM D5185m >3 0 Silver ppm ASTM D5185m >3 0 Aluminum ppm ASTM D5185m >10 <1 Aluminum ppm ASTM D5185m >10 <1 Aluminum ppm ASTM D5185m >10 <1 Copper ppm ASTM D5185m >10 <1 Vanadium ppm ASTM D5185m 0 </td <td>Sample Date</td> <td></td> <td>Client Info</td> <td></td> <td>16 Nov 2022</td> <td></td> <td></td> | Sample Date | | Client Info | | 16 Nov 2022 | | |
| Cilient Info Changed Cilient Info Changed Ch | Machine Age | hrs | Client Info | | 8182 | | |
| MBNORMAL | Oil Age | hrs | Client Info | | 8182 | | |
| WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >50 0 | Oil Changed | | Client Info | | Changed | | |
| Pron | Sample Status | | | | ABNORMAL | | |
| Chromium ppm ASTM D5185m >10 0 Nickel ppm ASTM D5185m >3 0 Tittanium ppm ASTM D5185m >3 0 Silver ppm ASTM D5185m >2 <1 Aluminum ppm ASTM D5185m >10 <1 Lead ppm ASTM D5185m >10 0 Copper ppm ASTM D5185m >10 <1 Tin ppm ASTM D5185m >10 <1 Vanadium ppm ASTM D5185m 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 Barium ppm ASTM D5185m 0 0 </th <th>WEAR METALS</th> <th></th> <th>method</th> <th>limit/base</th> <th>current</th> <th>history1</th> <th>history2</th> | WEAR METALS | | method | limit/base | current | history1 | history2 |
| Nickel ppm ASTM D5185m >3 0 | Iron | ppm | ASTM D5185m | >50 | 0 | | |
| Titanium ppm ASTM D5185m >3 0 | Chromium | ppm | ASTM D5185m | >10 | 0 | | |
| Silver | Nickel | ppm | ASTM D5185m | >3 | 0 | | |
| Aluminum ppm ASTM D5185m >10 <1 | Titanium | ppm | ASTM D5185m | >3 | 0 | | |
| Lead ppm ASTM D5185m >10 0 Copper ppm ASTM D5185m >50 6 Tin ppm ASTM D5185m 0 -1 Vanadium ppm ASTM D5185m 0 0 Cadmium ppm ASTM D5185m 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 Barium ppm ASTM D5185m 90 65 Magnesium ppm ASTM D5185m 0 0 Magnesium ppm ASTM D5185m 0 0 Magnesium ppm ASTM D5185m 0 1 Calcium ppm ASTM D5185m 0 1 | Silver | ppm | ASTM D5185m | >2 | <1 | | |
| Copper ppm ASTM D5185m >50 6 Tin ppm ASTM D5185m >10 <1 | Aluminum | ppm | ASTM D5185m | >10 | <1 | | |
| Tin | Lead | ppm | ASTM D5185m | >10 | 0 | | |
| Vanadium ppm ASTM D5185m 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 Barium ppm ASTM D5185m 90 65 Molybdenum ppm ASTM D5185m 0 0 Magnesium ppm ASTM D5185m 0 0 Zinc ppm ASTM D5185m 0 10 Sulfur ppm ASTM D5185m >23500 21663 | Copper | ppm | ASTM D5185m | >50 | 6 | | |
| Cadmium ppm ASTM D5185m 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 Barium ppm ASTM D5185m 90 65 Molybdenum ppm ASTM D5185m 0 0 Magnesium ppm ASTM D5185m 0 0 Calcium ppm ASTM D5185m 0 0 Phosphorus ppm ASTM D5185m 0 10 Zinc ppm ASTM D5185m 0 10 Sulfur ppm ASTM D5185m 0 10 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 1 | Tin | ppm | ASTM D5185m | >10 | <1 | | |
| ADDITIVES | Vanadium | ppm | ASTM D5185m | | 0 | | |
| Boron ppm ASTM D5185m 0 0 0 | Cadmium | ppm | ASTM D5185m | | 0 | | |
| Barium ppm ASTM D5185m 90 65 | ADDITIVES | | method | limit/base | current | history1 | history2 |
| Molybdenum ppm ASTM D5185m 0 0 Manganese ppm ASTM D5185m <1 | Boron | ppm | ASTM D5185m | 0 | 0 | | |
| Manganese ppm ASTM D5185m <1 Magnesium ppm ASTM D5185m 1 00 73 Calcium ppm ASTM D5185m 0 0 Phosphorus ppm ASTM D5185m 0 10 Zinc ppm ASTM D5185m 0 10 Sulfur ppm ASTM D5185m 0 21663 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 1 Sodium ppm ASTM D5185m >20 0 Potassium ppm ASTM D5185m >20 0 Water % ASTM D6304 >0.05 0.020 Particles >4µm ASTM D7647 >1300 21890 | Barium | ppm | ASTM D5185m | 90 | 65 | | |
| Magnesium ppm ASTM D5185m 100 73 Calcium ppm ASTM D5185m 0 0 Phosphorus ppm ASTM D5185m 0 10 Zinc ppm ASTM D5185m 0 21663 Sulfur ppm ASTM D5185m 23500 21663 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m 25 1 Sodium ppm ASTM D5185m >25 1 Potassium ppm ASTM D5185m >20 0 Water % ASTM D6304 >0.05 0.020 Particles >4μm ASTM D6304 >500 203.8 Particles >54μm ASTM D7647 >80 218 | Molybdenum | ppm | ASTM D5185m | 0 | 0 | | |
| Calcium ppm ASTM D5185m 0 | Manganese | ppm | ASTM D5185m | | <1 | | |
| Phosphorus ppm ASTM D5185m 0 <1 Zinc ppm ASTM D5185m 0 10 Sulfur ppm ASTM D5185m 23500 21663 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 1 Sodium ppm ASTM D5185m >20 0 Potassium ppm ASTM D5185m >20 0 Water % ASTM D5185m >20 0 Water % ASTM D5185m >20 0 Water % ASTM D5185m >20 0 Particles >4µm ASTM D6304 >0.05 0.020 FLUID CLEANLINESS method limit/base | Magnesium | ppm | ASTM D5185m | 100 | 73 | | |
| Zinc ppm ASTM D5185m 0 10 Sulfur ppm ASTM D5185m 23500 21663 Sulfur ppm ASTM D5185m 23500 21663 Sulfur ppm ASTM D5185m ≥25 1 Sodium ppm ASTM D5185m ≥25 1 Potassium ppm ASTM D5185m ≥20 0 Potassium ppm ASTM D6304 ≥0.05 0.020 Ppm ASTM D6304 ≥500 203.8 Pumportal Particles ≥4μm ASTM D6304 ≥500 203.8 Particles ≥6μm ASTM D7647 54547 Particles ≥6μm ASTM D7647 ≥1300 ≥1890 Particles ≥21μm ASTM D7647 ≥20 △ 466 Particles ≥38μm ASTM D7647 ≥20 △ 466 Particles ≥71μm ASTM D7647 ≥3 3 Particles ≥71μm ASTM D7647 >3 3 Particles ≥71μm ASTM D7647 >3 3 Particles ≥71μm ASTM D7647 >3 3 Particles ≥71μm ASTM D7647 >3 3 Particles ≥71μm ASTM D7647 >3 3 Particles ≥71μm ASTM D7647 >3 3 Particles ≥71μm ASTM D7647 >3 3 | Calcium | ppm | ASTM D5185m | 0 | 0 | | |
| Sulfur ppm ASTM D5185m 23500 21663 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 1 Sodium ppm ASTM D5185m >20 0 Potassium ppm ASTM D5185m >20 0 Water % ASTM D6304 >0.05 0.020 ppm Water ppm ASTM D6304 >500 203.8 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >1300 ≥1890 Particles >21μm ASTM D7647 >80 ≥129 Particles >21μm ASTM D7647 >4 44 Particles >71μm ASTM D7647 >3 3 < | Phosphorus | ppm | ASTM D5185m | 0 | <1 | | |
| CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 1 Sodium ppm ASTM D5185m 4 Potassium ppm ASTM D5185m >20 0 Water % ASTM D6304 >0.05 0.020 ppm Water ppm ASTM D6304 >500 203.8 ppm Water ppm ASTM D6304 >500 203.8 ppm Water ppm ASTM D6304 >500 203.8 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >1300 21890 Particles >21µm ASTM D7647 >80 2129 Particles >38µm ASTM D7647 >4 44 | Zinc | ppm | ASTM D5185m | 0 | 10 | | |
| Silicon ppm ASTM D5185m >25 1 Sodium ppm ASTM D5185m 4 Potassium ppm ASTM D5185m 20 0 Water | Sulfur | ppm | ASTM D5185m | 23500 | 21663 | | |
| Sodium | CONTAMINANTS | 3 | method | limit/base | current | history1 | history2 |
| Sodium | Silicon | ppm | ASTM D5185m | >25 | 1 | | |
| Water % ASTM D6304 >0.05 0.020 ppm Water ppm ASTM D6304 >500 203.8 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 54547 Particles >6μm ASTM D7647 >1300 Δ 21890 Particles >14μm ASTM D7647 >80 Δ 2129 Particles >21μm ASTM D7647 >20 Δ 466 Particles >38μm ASTM D7647 >4 Δ 44 Particles >71μm ASTM D7647 >3 3 Oil Cleanliness ISO 4406 (c) >/17/13 Δ 23/22/18 FLUID DEGRADATION method limit/base current history1 history2 | Sodium | | ASTM D5185m | | 4 | | |
| Water % ASTM D6304 >0.05 0.020 ppm Water ppm ASTM D6304 >500 203.8 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >1300 ▲ 21890 Particles >14μm ASTM D7647 >80 ▲ 2129 Particles >21μm ASTM D7647 >20 ▲ 466 Particles >38μm ASTM D7647 >4 ▲ 44 Particles >71μm ASTM D7647 >3 3 Poil Cleanliness ISO 4406 (c) >/17/13 ▲ 23/22/18 FLUID DEGRADATION method limit/base current history1 history2 | Potassium | | ASTM D5185m | >20 | 0 | | |
| ppm Water ppm ASTM D6304 >500 203.8 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 54547 Particles >6μm ASTM D7647 >1300 21890 Particles >14μm ASTM D7647 >80 2129 Particles >21μm ASTM D7647 >20 466 Particles >38μm ASTM D7647 >4 44 Particles >71μm ASTM D7647 >3 3 Oil Cleanliness ISO 4406 (c) >/17/13 23/22/18 FLUID DEGRADATION method limit/base current history1 history2 | Water | | ASTM D6304 | >0.05 | | | |
| Particles >4μm ASTM D7647 54547 Particles >6μm ASTM D7647 >1300 21890 Particles >14μm ASTM D7647 >80 2129 Particles >21μm ASTM D7647 >20 466 Particles >38μm ASTM D7647 >4 44 Particles >71μm ASTM D7647 >3 3 Oil Cleanliness ISO 4406 (c) >/17/13 23/22/18 FLUID DEGRADATION method limit/base current history1 history2 | ppm Water | | | | | | |
| Particles >6μm ASTM D7647 >1300 21890 Particles >14μm ASTM D7647 >80 2129 Particles >21μm ASTM D7647 >20 466 Particles >38μm ASTM D7647 >4 44 Particles >71μm ASTM D7647 >3 3 Oil Cleanliness ISO 4406 (c) >/17/13 23/22/18 FLUID DEGRADATION method limit/base current history1 history2 | FLUID CLEANLIN | NESS | method | limit/base | current | history1 | history2 |
| Particles >14μm ASTM D7647 >80 ▲ 2129 Particles >21μm ASTM D7647 >20 ▲ 466 Particles >38μm ASTM D7647 >4 ▲ 44 Particles >71μm ASTM D7647 >3 3 Oil Cleanliness ISO 4406 (c) >/17/13 ▲ 23/22/18 FLUID DEGRADATION method limit/base current history1 history2 | Particles >4µm | | ASTM D7647 | | 54547 | | |
| Particles >14μm ASTM D7647 >80 ▲ 2129 Particles >21μm ASTM D7647 >20 ▲ 466 Particles >38μm ASTM D7647 >4 ▲ 44 Particles >71μm ASTM D7647 >3 3 Oil Cleanliness ISO 4406 (c) >/17/13 ▲ 23/22/18 FLUID DEGRADATION method limit/base current history1 history2 | • | | ASTM D7647 | >1300 | ^ 21890 | | |
| Particles >21μm ASTM D7647 >20 ▲ 466 Particles >38μm ASTM D7647 >4 ▲ 44 Particles >71μm ASTM D7647 >3 3 Oil Cleanliness ISO 4406 (c) >/17/13 ▲ 23/22/18 FLUID DEGRADATION method limit/base current history1 history2 | | | ASTM D7647 | >80 | <u>^</u> 2129 | | |
| Particles >38μm ASTM D7647 >4 44 Particles >71μm ASTM D7647 >3 3 Oil Cleanliness ISO 4406 (c) >/17/13 23/22/18 FLUID DEGRADATION method limit/base current history1 history2 | | | ASTM D7647 | >20 | 466 | | |
| Particles >71μm ASTM D7647 >3 3 Oil Cleanliness ISO 4406 (c) >/17/13 ▲ 23/22/18 FLUID DEGRADATION method limit/base current history1 history2 | • | | | | | | |
| Oil Cleanliness ISO 4406 (c) >/17/13 ▲ 23/22/18 FLUID DEGRADATION method limit/base current history1 history2 | • | | | | | | |
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| | | | | | | | |



OIL ANALYSIS REPORT

