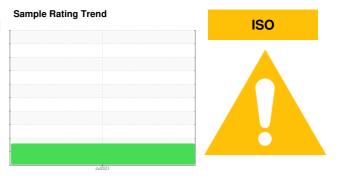


PROBLEM SUMMARY



KAESER 5909703 (S/N 2439)

Compressor

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

COMPONENT CONDITION SUMMARY



RECOMMENDATION

The 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 >1	300 A 12299	
Particles >14µm	ASTM D7647 >8	0 🔺 464	
Particles >21µm	ASTM D7647 >2	0 🔺 63	
Oil Cleanliness	ISO 4406 (c) >	/17/13 🔺 22/21/16	

Customer Id: SCHWATIL Sample No.: KCPA004596 Lab Number: 05904937 Test Package: IND 2



To manage this report scan the QR code

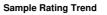
To discuss the diagnosis or test data: Angela Borella +1 800-237-1369 angela.borella@wearcheckusa.com

To change component or sample information: Customer Service +1 1-800-237-1369 <u>customerservice@wearcheck.com</u> There are no recommended actions for this sample.

HISTORICAL DIAGNOSIS



OIL ANALYSIS REPORT



ISO

KAESER 5909703 (S/N 2439)

Compressor

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

DIAGNOSIS

Recommendation

The 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 acceptable for the time in service.

Iron ppm ASTM D5185m >50 <1	SAMPLE INFORM	ATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 11177 Oil Age hrs Client Info 0 Oil Changed Client Info N/A Sample Status Client Info N/A WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >50 <1	Sample Number		Client Info		KCPA004596		
Oil Age hrs Client Info 0 Oil Changed Client Info N/A Sample Status Imit/base current history1 WEAR METALS method limit/base current history1 Chromium ppm ASTM D5186m >10 0 Nickel ppm ASTM D5186m >3 0 Aluminum ppm ASTM D5186m >10 0 Aluminum ppm ASTM D5186m >10 0 Aduminum ppm ASTM D5186m >10 0 Aduminum ppm ASTM D5186m >10 0 Aduminum ppm ASTM D5186m 0 0 Adadium ppm ASTM D5186m 0 0	Sample Date		Client Info		18 Jul 2023		
Oil Changed Client Info N/A Sample Status Image of the status Image of the status Image of the status WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >50 <1 Ohromium ppm ASTM D5185m >3 <1 Nickel ppm ASTM D5185m >3 <1	Machine Age	hrs	Client Info		11177		
Sample Status method Imitial ABNORMAL WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >50 <1	Oil Age	hrs	Client Info		0		
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM 05185m >50 <1	Oil Changed		Client Info		N/A		
Iron ppm ASTM D5185m >50 <1 Nickel ppm ASTM D5185m >3 <1	Sample Status				ABNORMAL		
Iron ppm ASTM D5185m >50 <1	-		method	limit/base	current	history1	history2
Chromium ppm ASTM D5185m >10 0 Nickel ppm ASTM D5185m >3 <1	Iron	nnm	ASTM D5185m	<u>⊳50</u>	<u>_1</u>		
Nickel ppm ASTM D5185m >3 <1 Titanium ppm ASTM D5185m >3 0 Silver ppm ASTM D5185m >10 0 Aluminum ppm ASTM D5185m >10 0 Copper ppm ASTM D5185m >10 0 Cadmium ppm ASTM D5185m >10 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 Maganese ppm ASTM D5185m 0 0 Maganese ppm ASTM D5185m 0 0 Maganese ppm ASTM D5185m 0 0 Suffur ppm ASTM D5185m 0	-						
Titanium ppm ASTM D5185m >3 0 Silver ppm ASTM D5185m >2 0 Aluminum ppm ASTM D5185m >10 0 Lead ppm ASTM D5185m >10 0 Copper ppm ASTM D5185m >10 0 Vanadium ppm ASTM D5185m 0 3 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 Malganese ppm ASTM D5185m 0 0 Magnesium ppm ASTM D5185m 0 0 Magnesium ppm ASTM D5185m 0 0 Calcium ppm ASTM D5185m 0 0 Sulfur					-		
Silver ppm ASTM D5185m >2 0 Aluminum ppm ASTM D5185m >10 0 Aluminum ppm ASTM D5185m >10 <1							
Aluminum ppm ASTM D5185m >10 0 Lead ppm ASTM D5185m >10 <1					-		
Lead ppm ASTM D5185m >10 <1 Copper ppm ASTM D5185m >50 3 Vanadium ppm ASTM D5185m >10 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 Molybdenum ppm ASTM D5185m 0 0 Maganese ppm ASTM D5185m 0 0 Magnesium ppm ASTM D5185m 0 0 Magnesium ppm ASTM D5185m 100 58					-		
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Vanadium ppm ASTM D5185m 0 Cadmium ppm ASTM D5185m 0					-		
Cadmium ppm ASTM D5185m 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 Barium ppm ASTM D5185m 90 <1 Manganese ppm ASTM D5185m 0 0 Magnesium ppm ASTM D5185m 0 0 Calcium ppm ASTM D5185m 0 0 Magnesium ppm ASTM D5185m 0 0 Calcium ppm ASTM D5185m 0 0 Sulfur ppm ASTM D5185m 0 34 Sulfur ppm ASTM D5185m 225 0 Solicon ppm ASTM D5185m >20 1 </td <td></td> <td></td> <td></td> <td>>10</td> <td>-</td> <td></td> <td></td>				>10	-		
ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 Barium ppm ASTM D5185m 90 <1		ppm			-		
Boron ppm ASTM D5185m 0 0 Barium ppm ASTM D5185m 90 <1	Cadmium	ppm	ASTM D5185m		0		
Barium ppm ASTM D5185m 90 <1	ADDITIVES		method	limit/base	current	history1	history2
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Manganese ppm ASTM D5185m 0 Magnesium ppm ASTM D5185m 100 58 Calcium ppm ASTM D5185m 0 0 Phosphorus ppm ASTM D5185m 0 34 Zinc ppm ASTM D5185m 0 34 Sulfur ppm ASTM D5185m 23500 19096 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 0 Sodium ppm ASTM D5185m >20 <1	Barium	ppm	ASTM D5185m	90	<1		
Magnesium ppm ASTM D5185m 100 58 Calcium ppm ASTM D5185m 0 0 Phosphorus ppm ASTM D5185m 0 34 Zinc ppm ASTM D5185m 0 34 Sulfur ppm ASTM D5185m 23500 19096 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 0 Sodium ppm ASTM D5185m >20 <1	Molybdenum	ppm	ASTM D5185m	0	0		
Calcium ppm ASTM D5185m 0 0 Phosphorus ppm ASTM D5185m 0 34 Zinc ppm ASTM D5185m 0 34 Sulfur ppm ASTM D5185m 23500 19096 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 0 Sodium ppm ASTM D5185m >20 <1	Manganese	ppm	ASTM D5185m		0		
Phosphorus ppm ASTM D5185m 0 0 Zinc ppm ASTM D5185m 0 34 Sulfur ppm ASTM D5185m 23500 19096 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 0 Sodium ppm ASTM D5185m >25 0 Sodium ppm ASTM D5185m >20 <1	Magnesium	ppm	ASTM D5185m	100	58		
Zinc ppm ASTM D5185m 0 34 Sulfur ppm ASTM D5185m 23500 19096 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 0 Sodium ppm ASTM D5185m >20 <1 Potassium ppm ASTM D5185m >20 <1 Water % ASTM D6304 >0.05 0.0411 ppm ASTM D6304 >0.05 0.0411 ppm Water ppm ASTM D6304 >500 412.1 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >1300 12299 Particles >1µm ASTM D7647 >20 63 Particles >38µm ASTM D7647 20 </td <td>Calcium</td> <td>ppm</td> <td>ASTM D5185m</td> <td>0</td> <td>0</td> <td></td> <td></td>	Calcium	ppm	ASTM D5185m	0	0		
Zinc ppm ASTM D5185m 0 34 Sulfur ppm ASTM D5185m 23500 19096 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 0 Sodium ppm ASTM D5185m >25 0 Sodium ppm ASTM D5185m >20 <1	Phosphorus	ppm	ASTM D5185m	0	0		
SulfurppmASTM D5185m2350019096CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>250SodiumppmASTM D5185m>20<1		ppm	ASTM D5185m	0	34		
Silicon ppm ASTM D5185m >25 0 Sodium ppm ASTM D5185m 9 Potassium ppm ASTM D5185m >20 <1	Sulfur		ASTM D5185m	23500	19096		
Sodium ppm ASTM D5185m 9 Potassium ppm ASTM D5185m >20 <1	CONTAMINANTS		method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 <1 Water % ASTM D6304 >0.05 0.041 ppm Water ppm ASTM D6304 >500 412.1 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 26207 Particles >6µm ASTM D7647 >1300 12299 Particles >14µm ASTM D7647 >20 63 Particles >21µm ASTM D7647 >20 63 Particles >38µm ASTM D7647 >3 0 Oil Cleanliness ISO 4406 (c) >/17/13 22/21/16 FLUID DEGRADATION method limit/base current history1 history2	Silicon	ppm	ASTM D5185m	>25	0		
Water % ASTM D6304 >0.05 0.041 ppm Water ppm ASTM D6304 >500 412.1 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 26207 Particles >6µm ASTM D7647 >1300 12299 Particles >14µm ASTM D7647 >80 464 Particles >14µm ASTM D7647 >20 63 Particles >21µm ASTM D7647 >4 4 Particles >38µm ASTM D7647 >3 0 Particles >71µm ASTM D7647 >3 0 Oil Cleanliness ISO 4406 (c) >/17/13 22/21/16 FLUID DEGRADATION method limit/base current history1 history2	Sodium	ppm	ASTM D5185m		9		
Water % ASTM D6304 >0.05 0.041 ppm Water ppm ASTM D6304 >500 412.1 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 26207 Particles >6µm ASTM D7647 >1300 12299 Particles >14µm ASTM D7647 >80 464 Particles >21µm ASTM D7647 >20 63 Particles >38µm ASTM D7647 >4 Particles >71µm ASTM D7647 >3 0 Oil Cleanliness ISO 4406 (c) >/17/13 22/21/16 FLUID DEGRADATION method limit/base current history1 history2	Potassium	ppm	ASTM D5185m	>20	<1		
ppm Water ppm ASTM D6304 >500 412.1 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 26207 Particles >6µm ASTM D7647 >1300 12299 Particles >14µm ASTM D7647 >80 464 Particles >14µm ASTM D7647 >20 63 Particles >21µm ASTM D7647 >4 4 Particles >38µm ASTM D7647 >3 0 Particles >71µm ASTM D7647 >3 0 Oil Cleanliness ISO 4406 (c) /17/13 22/21/16 FLUID DEGRADATION method limit/base current history1 history2	Water	%	ASTM D6304	>0.05	0.041		
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Particles >6µm ASTM D7647 >1300 ▲ 12299 Particles >14µm ASTM D7647 >80 ▲ 464 Particles >21µm ASTM D7647 >20 ▲ 63 Particles >38µm ASTM D7647 >4 4 Particles >38µm ASTM D7647 >4 4 Particles >71µm ASTM D7647 >3 0 Oil Cleanliness ISO 4406 (c) >/17/13 ▲ 22/21/16 FLUID DEGRADATION method limit/base current history1 history2	FLUID CLEANLIN	IESS	method	limit/base	current	history1	history2
Particles >14μm ASTM D7647 >80 ▲ 464 Particles >21μm ASTM D7647 >20 ▲ 63 Particles >38μm ASTM D7647 >4 4 Particles >38μm ASTM D7647 >4 4 Particles >371μm ASTM D7647 >3 0 Oil Cleanliness ISO 4406 (c) >/17/13 22/21/16 FLUID DEGRADATION method limit/base current history1 history2	Particles >4µm		ASTM D7647		26207		
Particles >21μm ASTM D7647 >20 63 Particles >38μm ASTM D7647 >4 4 Particles >38μm ASTM D7647 >4 4 Particles >71μm ASTM D7647 >3 0 Oil Cleanliness ISO 4406 (c) >/17/13 22/21/16 FLUID DEGRADATION method limit/base current history1 history2	Particles >6µm		ASTM D7647	>1300	<u> </u>		
Particles >21μm ASTM D7647 >20 63 Particles >38μm ASTM D7647 >4 4 Particles >38μm ASTM D7647 >4 4 Particles >71μm ASTM D7647 >3 0 Oil Cleanliness ISO 4406 (c) >/17/13 22/21/16 FLUID DEGRADATION method limit/base current history1 history2	Particles >14µm		ASTM D7647	>80	464		
Particles >38μm ASTM D7647 >4 4 Particles >71μm ASTM D7647 >3 0 Oil Cleanliness ISO 4406 (c) >/17/13 22/21/16 FLUID DEGRADATION method limit/base current history1 history2			ASTM D7647	>20	<u> </u>		
Particles >71μm ASTM D7647 >3 0 Oil Cleanliness ISO 4406 (c) >/17/13 ▲ 22/21/16 FLUID DEGRADATION method limit/base current history1 history2							
Oil Cleanliness ISO 4406 (c) >/17/13 ▲ 22/21/16 FLUID DEGRADATION method limit/base current history1 history2							
	-				-		
	FLUID DEGRADA	TION	method	limit/base	current	history1	history2
	Acid Number (AN)	ma KOU/~	VCTW DOUVE	10	0.30		

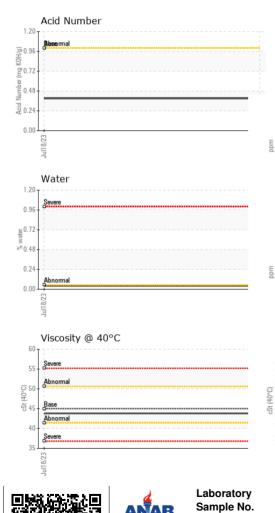
-COMPRESSORS

1

Built for a lifetime."

🔺 Particle Trend 30k - 25 20k 20k 15k 10k 5k 14µm 0 Jul18/23 Jul18/23 Water 1.20 0.96





OIL ANALYSIS REPORT

		method	limit/base	current	history1	history
White Metal	scalar	*Visual	NONE	NONE		
Yellow Metal	scalar	*Visual	NONE	NONE		
Precipitate	scalar	*Visual	NONE	NONE		
Silt	scalar	*Visual	NONE	LIGHT		
Debris	scalar	*Visual	NONE	NONE		
Sand/Dirt	scalar	*Visual	NONE	NONE		
Appearance	scalar	*Visual	NORML	NORML		
Odor	scalar	*Visual	NORML	NORML		
Emulsified Water	scalar	*Visual	>0.05	NEG		
Free Water	scalar	*Visual		NEG		
FLUID PROPERT	IES	method	limit/base	current	history1	history
Visc @ 40°C	cSt	ASTM D445	45	43.8		
SAMPLE IMAGES	6	method	limit/base	current	history1	history
Color					no image	no imag
Bottom					no image	no imag
Jul 18/23			7,680. (Jul 18,733) (ber 1 m] 1,920.			
Non-ferrous Metals	5		Darticles (pe		e.	
	5		30 - 30 - 30 - 30 - 30 - 30 - 30 - 30 -			
Non-ferrous Metals	5		30 · 8 · 2 ·	Bibresemal		
Non-ferrous Metals	5		30- 8- 2- 8- 2- 8- 8- 1- 2- 0- 4- 4- 4- 4- 4- 4- 4- 4- 4- 4- 4- 4- 4-		14μ 21μ	38μ 7
Non-ferrous Metals	5		30- 8- 2- 8- 2- 8- 8- 1- 2- 0- 4- 4- 4- 4- 4- 4- 4- 4- 4- 4- 4- 4- 4-	Acid Number	14μ 21μ	36μ 7
Non-ferrous Metals	5		30- 8- 2- 8- 2- 8- 8- 1- 2- 0- 4- 4- 4- 4- 4- 4- 4- 4- 4- 4- 4- 4- 4-	Acid Number	14μ 21μ	38µ 7
Non-ferrous Metals	5		30- 8- 2- 8- 2- 8- 8- 1- 2- 0- 4- 4- 4- 4- 4- 4- 4- 4- 4- 4- 4- 4- 4-	Acid Number	14μ 21μ	38μ 7
Non-ferrous Metals	5		30- 8- 2- 8- 2- 8- 8- 1- 2- 0- 4- 4- 4- 4- 4- 4- 4- 4- 4- 4- 4- 4- 4-	Acid Number	14μ 21μ	38µ 7
Non-ferrous Metals	5		30- 8- 2- 2- 2- 2- 2- 2- 2- 2- 2- 2- 2- 2- 2-	Acid Number	14μ 21μ	38μ 7
Non-ferrous Metals	5		30- 8- 2- 8- 2- 8- 8- 1- 2- 0- 4- 4- 4- 4- 4- 4- 4- 4- 4- 4- 4- 4- 4-	Acid Number	14μ 21μ	38µ

To discuss this sample report, contact Customer Service at 1-800-237-1369. * - Denotes test methods that are outside of the ISO 17025 scope of accreditation. Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Certificate L2367

gebhard.stahl.machinenbau@t.online.de

Т:

F: