

OIL ANALYSIS REPORT

KAESER S-460 [7022] KAESER 02612148 - DUPAGE PRECISION PRODUCTS Component

Compressor

Recommendation

Resample at the next service interval to monitor.

Wear

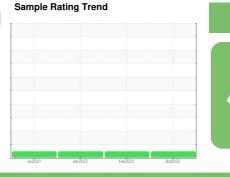
All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

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





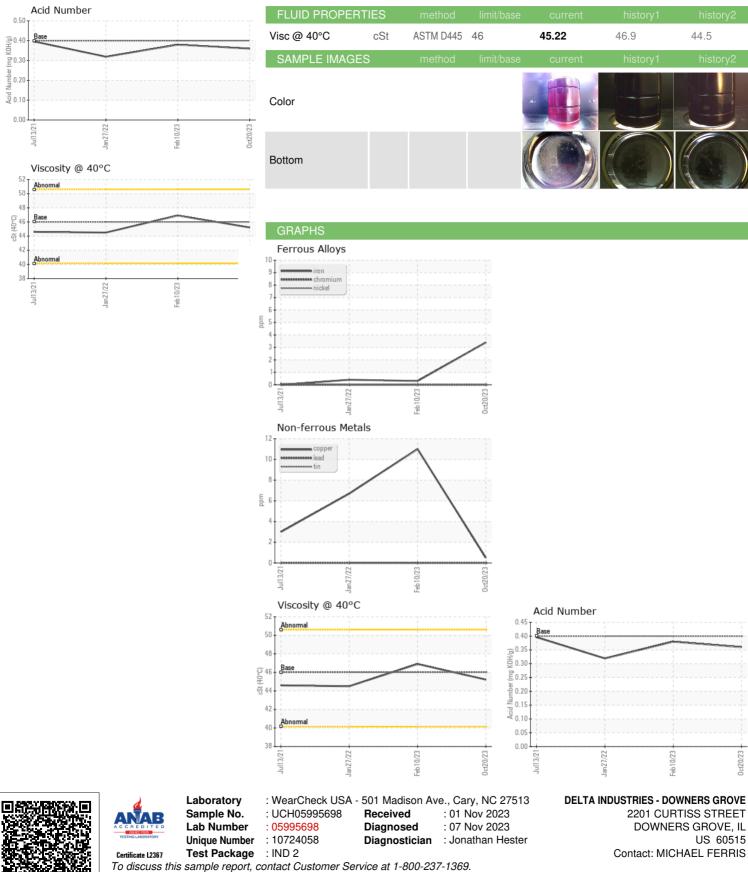
NORMAL

SAMPLE INFORMATION method imit/base current history1 history2 Sample Number Client Info 20 Oct 2023 10 Feb 2023 27 Jan 2022 Machine Age hrs Client Info 37412 36856 35205 Oil Age hrs Client Info 37412 36856 3908 Oil Age hrs Client Info 300 867 3908 Oil Changed Client Info 300 867 3908 Sample Status method Imit/base current Not Changd Not Changd VeCAR METALS method Imit/base current Pistory1 Pistory2 Iron ppm ASTM D5185m >50 3 -1 -1 Ohromium ppm ASTM D5185m >30 0 0 0 Sikel ppm ASTM D5185m >10 0 0 0 Chromium ppm ASTM D5185m >10 0 0 0			JUIZUZ	1 Jan2022	H802023 00	12023	
Sample Date Client Info 20 Oct 2023 10 Feb 2023 27 Jan 2022 Machine Age hrs Client Info 37412 36856 35205 Oil Age hrs Client Info 300 867 3908 Oil Changed Client Info Changed Not Changd Sample Status nethod Imit/base current NoRMAL NORMAL WEAR METALS method Imit/base current history1 history2 Iron ppm ASTM D5185m >3 0 0 0 Nores ppm ASTM D5185m >3 0 0 0 Nores ppm ASTM D5185m >3 0 0 0 Aluminum ppm ASTM D5185m >10 0 0 0 0 Atimony ppm ASTM D5185m >10 0 0 0 0 Atiminum ppm ASTM D5185m 0 0 0 0 0 </th <th>SAMPLE INFORM</th> <th>MATION</th> <th>method</th> <th>limit/base</th> <th>current</th> <th>history1</th> <th>history2</th>	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 37412 36856 35205 Oil Age hrs Client Info 300 867 3908 Oil Changed Client Info Changed Not Changd Not Changd Sample Status Imathia Nor MAL Nor Changed Not Changed WEAR METALS method imit/base current history1 history2 Iron ppm ASTM D5165m >50 3 <1	Sample Number		Client Info		UCH05995698	UCH05774027	UCH05462659
Oil Age hrs Client Info 300 867 3908 Oil Changed Client Info Changed Not Changd Not Changd Sample Status Client Info Changed Not Changd Not Changd WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >50 3 <1	Sample Date		Client Info		20 Oct 2023	10 Feb 2023	27 Jan 2022
Oil Changed Sample StatusClient InfoChanged NORMALNot Changed NORMALNot Changed NORMALWEAR METALSmethodlimit/basecurrenthistory1history2IronppmASTM 05185m>503<1	Machine Age	hrs	Client Info		37412	36856	35205
Sample Status Image Mode NORMAL NORMAL NORMAL NORMAL WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >50 3 <1	Oil Age	hrs	Client Info		300	867	3908
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >50 3 <1	Oil Changed		Client Info		Changed	Not Changd	Not Changd
Iron ppm ASTM D5185m >500 3 <1 <1 Chromium ppm ASTM D5185m >10 0 0 0 Nickel ppm ASTM D5185m >3 0 0 0 Silver ppm ASTM D5185m >2 0 0 0 Aluminum ppm ASTM D5185m >10 0 0 0 Lead ppm ASTM D5185m >10 0 0 0 Copper ppm ASTM D5185m >10 0 0 0 Antimony ppm ASTM D5185m >10 0 0 0 Vanadium ppm ASTM D5185m >10 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 ADDTVEVS method imit/base current history1 history2 Boron ppm ASTM D5185m 0 0 0 0	Sample Status				NORMAL	NORMAL	NORMAL
Chromium ppm ASTM D5185m >10 0 0 0 Nickel ppm ASTM D5185m >3 0 0 0 Silver ppm ASTM D5185m >2 0 0 0 Silver ppm ASTM D5185m >2 0 0 0 Aluminum ppm ASTM D5185m >10 0 0 0 Lead ppm ASTM D5185m >10 0 0 0 Copper ppm ASTM D5185m >10 0 0 0 Antimony ppm ASTM D5185m >10 0 0 0 Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 ADDITVES method imit/base current history1 history2 Boron ppm ASTM D5185m 0 0 0 0	WEAR METALS		method	limit/base	current	history1	history2
Nickel ppm ASTM D5185m >3 0 0 0 Titanium ppm ASTM D5185m >3 0 0 0 Silver ppm ASTM D5185m >2 0 0 0 Aluminum ppm ASTM D5185m >10 0 0 0 Lead ppm ASTM D5185m >10 0 0 0 Copper ppm ASTM D5185m >50 <1	Iron	ppm	ASTM D5185m	>50	3	<1	<1
Titanium ppm ASTM D5185m >3 0 0 0 Silver ppm ASTM D5185m >2 0 0 0 Aluminum ppm ASTM D5185m >10 0 0 0 Lead ppm ASTM D5185m >10 0 0 0 Copper ppm ASTM D5185m >50 <1	Chromium	ppm	ASTM D5185m	>10	0	0	0
Silver ppm ASTM D5185m >2 0 0 0 Aluminum ppm ASTM D5185m >10 0 0 0 Lead ppm ASTM D5185m >10 0 0 0 Copper ppm ASTM D5185m >50 <1	Nickel	ppm	ASTM D5185m	>3	0	0	0
Aluminum ppm ASTM D5185m >10 0 0 0 Lead ppm ASTM D5185m >10 0 0 0 Copper ppm ASTM D5185m >50 <1	Titanium	ppm	ASTM D5185m	>3	0	0	0
Lead ppm ASTM D5185m >10 0 0 0 Copper ppm ASTM D5185m >50 <1	Silver	ppm	ASTM D5185m	>2	0	0	0
Copper ppm ASTM D5185m >50 <1 11 7 Tin ppm ASTM D5185m >10 0 0 0 Antimony ppm ASTM D5185m <1	Aluminum	ppm	ASTM D5185m	>10	0	0	0
Tin ppm ASTM D5185m >10 0 0 0 Antimony ppm ASTM D5185m <1	Lead	ppm	ASTM D5185m	>10	0	0	0
Antimony ppm ASTM D5185m <1 Vanadium ppm ASTM D5185m 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 3 0 Molybdenum ppm ASTM D5185m 0 0 0 0 Magnesium ppm ASTM D5185m 0 0 0 0 Magnesium ppm ASTM D5185m 90 50 <1	Copper	ppm	ASTM D5185m	>50	<1	11	7
Vanadium ppm ASTM D5185m 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 6 Barium ppm ASTM D5185m 0 0 6 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 0 0 0 Manganese ppm ASTM D5185m 90 50 <1 0 Magnesium ppm ASTM D5185m 90 50 <1 0 Calcium ppm ASTM D5185m 2 0 0 0 Phosphorus ppm ASTM D5185m 2 0 0 2 Sulfur ppm ASTM D5185m 2 0 2 11 Sulfur ppm ASTM D5185m <td>Tin</td> <td>ppm</td> <td>ASTM D5185m</td> <td>>10</td> <th>0</th> <td>0</td> <td>0</td>	Tin	ppm	ASTM D5185m	>10	0	0	0
CadmiumppmASTM D5185m000ADDITIVESmethodlimit/basecurrenthistory1history2BoronppmASTM D5185m006BariumppmASTM D5185m0030MolybdenumppmASTM D5185m0000MaganeseppmASTM D5185m0000MagnesiumppmASTM D5185m2000CalciumppmASTM D5185m2000PhosphorusppmASTM D5185m2000PhosphorusppmASTM D5185m4221517288SulfurppmASTM D5185m25<1	Antimony	ppm	ASTM D5185m				<1
ADDITIVESmethodlimit/basecurrenthistory1history2BoronppmASTM D5185m006BariumppmASTM D5185m90030MolybdenumppmASTM D5185m0000ManganeseppmASTM D5185m0000MagnesiumppmASTM D5185m9050<1	Vanadium	ppm	ASTM D5185m		0	0	0
Boron ppm ASTM D5185m 0 0 6 Barium ppm ASTM D5185m 90 0 3 0 Molybdenum ppm ASTM D5185m 90 0 3 0 Manganese ppm ASTM D5185m 0 0 0 0 Magnesium ppm ASTM D5185m 90 50 <1 0 Calcium ppm ASTM D5185m 90 50 <1 0 Phosphorus ppm ASTM D5185m 90 50 <1 0 Zinc ppm ASTM D5185m 2 0 0 0 Sulfur ppm ASTM D5185m 2 0 2 11 Solicon ppm ASTM D5185m 25 <1 <1 17244 Solicon ppm ASTM D5185m >25 <1 <1 1 Sodium ppm ASTM D5185m >20 19 <1 0	Cadmium	ppm	ASTM D5185m		0	0	0
Barium ppm ASTM D5185m 90 0 3 0 Molybdenum ppm ASTM D5185m 0 0 0 0 Manganese ppm ASTM D5185m <1 0 0 Magnesium ppm ASTM D5185m 90 50 <1 0 Calcium ppm ASTM D5185m 90 50 <1 0 Phosphorus ppm ASTM D5185m 2 0 0 0 Phosphorus ppm ASTM D5185m 2 0 0 0 Sulfur ppm ASTM D5185m 2 0 2 11 Sulfur ppm ASTM D5185m 17244 17470 17288 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 <1 <1 1 Sodium ppm ASTM D5185m >20 19 <1	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 0 0 0 Manganese ppm ASTM D5185m 90 <1 0 0 Magnesium ppm ASTM D5185m 90 50 <1 0 Calcium ppm ASTM D5185m 90 50 <1 0 Calcium ppm ASTM D5185m 2 0 0 0 Phosphorus ppm ASTM D5185m 2 0 0 0 Zinc ppm ASTM D5185m 4 22 15 Sulfur ppm ASTM D5185m 4 22 15 Sulfur ppm ASTM D5185m 25 <1 7470 17288 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 19 <1 0 FLUID DEGRADATION method limit/base current history1 history2	Boron	ppm	ASTM D5185m		0	0	6
Manganese ppm ASTM D5185m <1 0 0 Magnesium ppm ASTM D5185m 90 50 <1	Barium	ppm	ASTM D5185m	90	0	3	0
Magnesium ppm ASTM D5185m 90 50 <1 0 Calcium ppm ASTM D5185m 2 0 0 0 0 Phosphorus ppm ASTM D5185m 2 0 0 0 0 Phosphorus ppm ASTM D5185m 0 2 11 1 Zinc ppm ASTM D5185m 4 22 15 Sulfur ppm ASTM D5185m 17244 17470 17288 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 <1	Molybdenum	ppm	ASTM D5185m		0	0	0
Calcium ppm ASTM D5185m 2 0 0 0 Phosphorus ppm ASTM D5185m 0 2 11 Zinc ppm ASTM D5185m 4 22 15 Sulfur ppm ASTM D5185m 4 22 15 Sulfur ppm ASTM D5185m 17244 17470 17288 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 <1 <1 1 Sodium ppm ASTM D5185m >25 <1	Manganese	ppm	ASTM D5185m		<1	0	0
Phosphorus ppm ASTM D5185m 0 2 11 Zinc ppm ASTM D5185m 4 22 15 Sulfur ppm ASTM D5185m 17244 17470 17288 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 <1 <1 1 Sodium ppm ASTM D5185m >25 <1 <1 1 Sodium ppm ASTM D5185m >25 <1 <1 1 Potassium ppm ASTM D5185m >20 19 <1 0 FLUID DEGRADATION method limit/base current history1 history2 Acid Number (AN) mg KOH/g ASTM D8045 0.4 0.36 0.38 0.319	Magnesium	ppm	ASTM D5185m	90	50	<1	0
Zinc ppm ASTM D5185m 4 22 15 Sulfur ppm ASTM D5185m 17244 17470 17288 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 <1	Calcium	ppm	ASTM D5185m	2	0	0	0
Sulfur ppm ASTM D5185m 17244 17470 17288 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 <1 <1 1 Sodium ppm ASTM D5185m >25 <1 <1 1 Sodium ppm ASTM D5185m >20 19 <1 0 FLUID DEGRADATION method limit/base current history1 history2 Acid Number (AN) mg KOH/g ASTM D8045 0.4 0.36 0.38 0.319	Phosphorus	ppm	ASTM D5185m		0	2	11
CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>25<1	Zinc	ppm	ASTM D5185m		4	22	15
Silicon ppm ASTM D5185m >25 <1 <1 1 Sodium ppm ASTM D5185m 2 0 <1 1 Potassium ppm ASTM D5185m 20 19 <1 0 FLUID DEGRADATION method limit/base current history1 history2 Acid Number (AN) mg KOH/g ASTM D8045 0.4 0.36 0.38 0.319	Sulfur	ppm	ASTM D5185m		17244	17470	17288
Sodium ppm ASTM D5185m 2 0 <1 Potassium ppm ASTM D5185m >20 19 <1	CONTAMINANTS	\$	method	limit/base	current	history1	history2
PotassiumppmASTM D5185m>2019<10FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2Acid Number (AN)mg KOH/gASTM D80450.40.360.380.319	Silicon	ppm	ASTM D5185m	>25	<1	<1	1
FLUID DEGRADATION method limit/base current history1 history2 Acid Number (AN) mg KOH/g ASTM D8045 0.4 0.36 0.38 0.319	Sodium	ppm	ASTM D5185m		2	0	<1
Acid Number (AN) mg KOH/g ASTM D8045 0.4 0.36 0.38 0.319	Potassium	ppm	ASTM D5185m	>20	19	<1	0
	FLUID DEGRADA	ATION	method	limit/base	current	history1	history2
VISUAL method limit/base current history1 history2	Acid Number (AN)	mg KOH/g	ASTM D8045	0.4	0.36	0.38	0.319
	VISUAL		method	limit/base	current	history1	history2

VISUAL		method	limit/base	current	history1	history2	
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE	
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE	
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE	
Silt	scalar	*Visual	NONE	NONE	NONE	NONE	
Debris	scalar	*Visual	NONE	NONE	NONE	LIGHT	
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE	
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML	
Odor	scalar	*Visual	NORML	NORML	NORML	NORML	
Emulsified Water	scalar	*Visual	>0.05	NEG	NEG	NEG	
1 Free Water	scalar	*Visual	i	NEG	CHANELOFERRIS - UQEGLDOW		



OIL ANALYSIS REPORT



* - 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)

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US 60515

Feb10/23

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