

PROBLEM SUMMARY

Samp

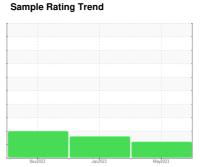
ISO

BLOWER

B68188 - BLOWER BUSCH PANDA ROTARY LOBE

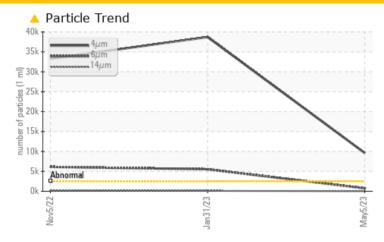
Component **Blower**

R&O OIL ISO 100 (--- GAL)





COMPONENT CONDITION SUMMARY



RECOMMENDATION

We recommend you service the filters on this component if applicable. Resample at the next service interval to monitor.

PROBLEMATIC TE	ST RESULTS				
Sample Status			ABNORMAL	ABNORMAL	ABNORMAL
Particles >4µm	ASTM D7647	>2500	4 9606	<u></u> 38714	▲ 33281
Particles >6µm	ASTM D7647	>640	^ 754	<u></u> 5519	△ 6118
Oil Cleanliness	ISO 4406 (c)	>18/16/13	<u>^</u> 20/17/11	22/20/14	22/20/14

Customer Id: PAPOMA Sample No.: WC0755362 Lab Number: 05844977 Test Package: IND 2



To manage this report scan the QR code

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 Filter			?	We recommend you service the filters on this component if applicable.

HISTORICAL DIAGNOSIS

31 Jan 2023 Diag: Jonathan Hester





We recommend you service the filters on this component if applicable. Resample at the next service interval to monitor. All component wear rates are normal. There is a high amount of particulates present in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.



05 Nov 2022 Diag: Don Baldridge

ISO



We recommend you service the filters on this component if applicable. Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample. All component wear rates are normal. There is a high amount of particulates present in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.





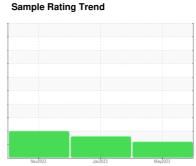
OIL ANALYSIS REPORT

BLOWER

B68188 - BLOWER BUSCH PANDA ROTARY LOBE

Blower

R&O OIL ISO 100 (--- GAL)





DIAGNOSIS

Recommendation

We recommend you service the filters on this component if applicable. Resample at the next service interval to monitor.

All component wear rates are normal.

Contamination

There is a high amount of silt (particulates < 14 microns in size) present in the oil.

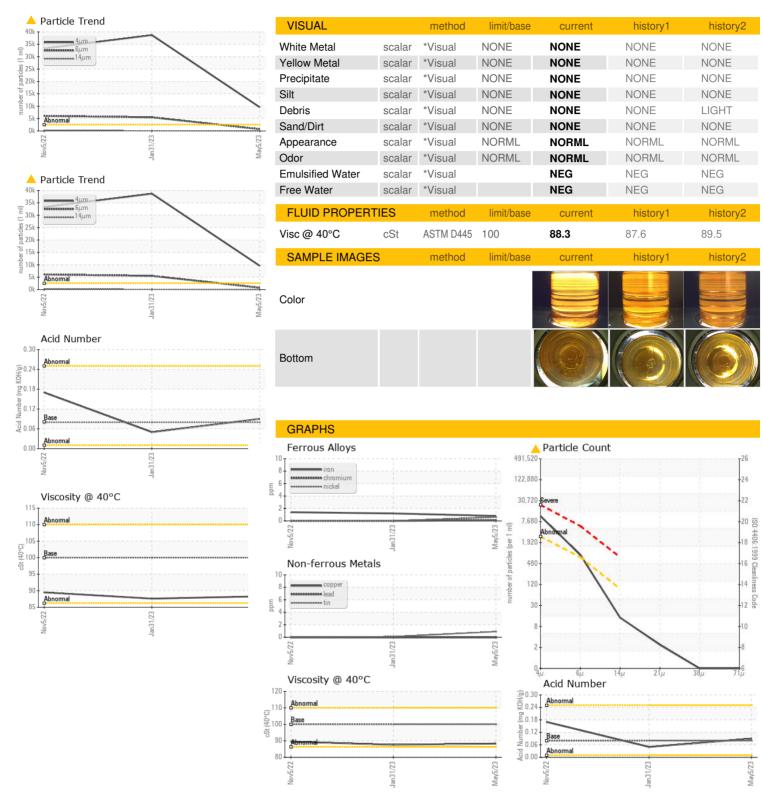
Fluid Condition

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

Sample Date Client Info 05 May 2023 31 Jan 2023 05 Nov 2022 Machine Age hrs Client Info 0 0 0 0 Oil Age hrs Client Info 0 0 0 0 Oil Changed Client Info Not Changd Not Changd <th< th=""><th></th><th></th><th>No</th><th>v2022</th><th>Jan 2023 May 20</th><th>123</th><th></th></th<>			No	v2022	Jan 2023 May 20	123	
Sample Date Client Info 05 May 2023 31 Jan 2023 05 Nov 2022	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age Oil Age hrs hrs Client Info 0	Sample Number		Client Info		WC0755362	WC0691457	WC0732514
Oil Age	Sample Date		Client Info		05 May 2023	31 Jan 2023	05 Nov 2022
Dil Changed Sample Status	Machine Age	hrs	Client Info		0	0	0
Manual Manual	Oil Age	hrs	Client Info		0	0	0
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >20 <1 1 1 Chromium ppm ASTM D5185m >20 <1 0 0 Nickel ppm ASTM D5185m 0 0 0 0 Silver ppm ASTM D5185m 0 0 0 0 Aluminum ppm ASTM D5185m >20 2 0 0 Aluminum ppm ASTM D5185m >20 0 0 0 Lead ppm ASTM D5185m >20 0 0 0 Copper ppm ASTM D5185m >20 0 0 0 Tin ppm ASTM D5185m >20 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 Barium ppm ASTM D5185m 5 0 <1 0	Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
	Sample Status				ABNORMAL	ABNORMAL	ABNORMAL
Chromium	WEAR METALS		method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>20	<1	1	1
Titanium ppm ASTM D5185m 0 0 0 Silver ppm ASTM D5185m 0 0 0 Aluminum ppm ASTM D5185m ≥20 2 0 0 Lead ppm ASTM D5185m ≥20 0 0 0 Copper ppm ASTM D5185m ≥20 0 0 0 Vanadium ppm ASTM D5185m ≥20 <1 <1 0 Vanadium ppm ASTM D5185m ≥20 <1 <1 0 Vanadium ppm ASTM D5185m <0 0 0 0 Cadmium ppm ASTM D5185m <0 0 0 0 Barium ppm ASTM D5185m <0 <1 0 0 Barium ppm ASTM D5185m <0 <1 0 0 Magnesium ppm ASTM D5185m <0 <1 0 0 <	Chromium	ppm	ASTM D5185m	>20	<1	0	0
Silver	Nickel	ppm	ASTM D5185m	>20	<1	0	0
Aluminum ppm ASTM D5185m >20 2 0 0 0 Lead ppm ASTM D5185m >20 0 0 0 Copper ppm ASTM D5185m >20 0 0 0 Tin ppm ASTM D5185m >20 1 <1 0 Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 5 0 0 0 Barium ppm ASTM D5185m 5 0 <1 0 0 Molybdenum ppm ASTM D5185m 5 0 <1 0 0 Manganese ppm ASTM D5185m 5 0 0 <1 0 Manganesium ppm ASTM D5185m 5 0 0 <1 0 Magnesium ppm ASTM D5185m 5 0 0 <1 0 Calcium ppm ASTM D5185m 5 0 0 <1 Calcium ppm ASTM D5185m 5 0 0 <1 Calcium ppm ASTM D5185m 100 5 6 4 Zinc ppm ASTM D5185m 1500 164 152 213 CONTAMINANTS method limit/base current history1 history2 Soliticon ppm ASTM D5185m <1 2 <1 CONTAMINANTS method limit/base current history1 history2 Particles >4µm ASTM D5185m >20 1 0 1 FLUID CLEANLINESS method limit/base current history1 history2 Particles >6µm ASTM D7647 >640 754 5519 6118 Particles >71µm ASTM D7647 >3 0 0 1 Oil Cleanliness ISO 4406 (c) >18/16/13 20/17/11 4 22/20/14 4 FLUID DEGRADATION method limit/base current history1 history2 FLUID DEGRADATION method limit/base current history1 history2 Furticles >71µm ASTM D7647 >3 0 0 1 Oil Cleanliness ISO 4406 (c) >18/16/13 20/17/111 4 22/20/14 A 22/20/14	Titanium	ppm	ASTM D5185m		0	0	0
Lead ppm ASTM D5185m >20 0 0 0 Copper ppm ASTM D5185m >20 0 0 0 Tin ppm ASTM D5185m >20 <1 <1 0 Vanadium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 5 0 0 0 Barium ppm ASTM D5185m 5 0 <1 0 Molybdenum ppm ASTM D5185m 5 0 <1 0 Magnesium ppm ASTM D5185m 5 0 <1 0 0 Calcium ppm ASTM D5185m 5 0 0 <1 0 Phosphorus ppm ASTM D5185m 100 5 6 4 Zinc ppm ASTM D5185m 25 0 <th>Silver</th> <td>ppm</td> <td>ASTM D5185m</td> <td></td> <th>0</th> <td>0</td> <td>0</td>	Silver	ppm	ASTM D5185m		0	0	0
Copper ppm ASTM D5185m >20 0 0 0 Tin ppm ASTM D5185m >20 <1	Aluminum	ppm	ASTM D5185m	>20	2	0	0
Tin ppm ASTM D5185m >20 <1 <1 <1 0 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 5 0 0 0 Molybdenum ppm ASTM D5185m 5 0 0 0 Magnesium ppm ASTM D5185m 5 0 0 0 Magnesium ppm ASTM D5185m 5 0 0 0 Magnesium ppm ASTM D5185m 5 0 0 0 0 Magnesium ppm ASTM D5185m 5 0 0 0 0 Calcium ppm ASTM D5185m 5 0 0 0 0 0 Magnesium ppm ASTM D5185m 5 0 0 0 0 0 0 Magnesium ppm ASTM D5185m 5 0 0 0 0 0 0 0 Sulfur ppm ASTM D5185m 100 5 6 4 4 Zinc ppm ASTM D5185m 1500 164 152 213 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 <1 2 <1 Sodium ppm ASTM D5185m >20 1 0 1 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >2500 9606 38714 33281 Particles >6μm ASTM D7647 >80 12 15 28 Particles >14μm ASTM D7647 >20 2 15 28 Particles >21μm ASTM D7647 >20 2 15 28 Particles >21μm ASTM D7647 >20 2 15 28 Particles >21μm ASTM D7647 >3 0 0 0 1 COIl Cleanliness ISO 4406 (c) >18/16/13 20/17/11 22/20/14 22/20/14 FLUID DEGRADATION method limit/base current history1 history2	Lead	ppm	ASTM D5185m	>20	0	0	0
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 5 0 0 0 Barium ppm ASTM D5185m 5 0 <1	Copper	ppm	ASTM D5185m	>20	0	0	0
Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 5 0 0 0 Barium ppm ASTM D5185m 5 0 <1 0 Molybdenum ppm ASTM D5185m 5 <1 0 0 Manganese ppm ASTM D5185m 5 0 0 <1 Magnesium ppm ASTM D5185m 5 0 0 <1 Calcium ppm ASTM D5185m 100 5 6 4 Phosphorus ppm ASTM D5185m 1500 164 152 213 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 <1 2 <1 Sodium ppm ASTM D5185m >20 1 0 <t< td=""><th>Tin</th><td>ppm</td><td>ASTM D5185m</td><td>>20</td><th><1</th><td><1</td><td>0</td></t<>	Tin	ppm	ASTM D5185m	>20	<1	<1	0
ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 5 0 0 0 Barium ppm ASTM D5185m 5 0 <1 0 Molybdenum ppm ASTM D5185m 5 <1 0 0 Magnesium ppm ASTM D5185m 5 0 0 <1 Calcium ppm ASTM D5185m 5 0 0 <1 Phosphorus ppm ASTM D5185m 100 5 6 4 Zinc ppm ASTM D5185m 1500 164 152 213 ppm ASTM D5185m 25 0 0 0 Sulfur ppm ASTM D5185m >15 <1 2 <1 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 <1	Vanadium	ppm	ASTM D5185m		0	0	0
Boron ppm ASTM D5185m 5 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Cadmium	ppm	ASTM D5185m		0	0	0
Barium ppm ASTM D5185m 5 0 <1	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 5 <1	Boron	ppm	ASTM D5185m	5	0	0	0
Manganese ppm ASTM D5185m <1 0 0 Magnesium ppm ASTM D5185m 5 0 0 <1	Barium	ppm	ASTM D5185m	5	0	<1	0
Magnesium ppm ASTM D5185m 5 0 0 <1	Molybdenum	ppm	ASTM D5185m	5	<1	0	0
Calcium ppm ASTM D5185m 5 0 0 <1	Manganese	ppm	ASTM D5185m		<1	0	0
Phosphorus ppm ASTM D5185m 100 5 6 4 Zinc ppm ASTM D5185m 25 0 0 0 Sulfur ppm ASTM D5185m 1500 164 152 213 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 <1 2 <1 Sodium ppm ASTM D5185m >20 1 0 1 Potassium ppm ASTM D5185m >20 1 0 1 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >2500 40606 38714 33281 Particles >6µm ASTM D7647 >80 12 105 154 Particles >21µm ASTM D7647 >20 2 15 28 Particles >71µm ASTM D7647 >3 0 0	Magnesium	ppm	ASTM D5185m	5	0	0	<1
Zinc ppm ASTM D5185m 25 0 0 0 Sulfur ppm ASTM D5185m 1500 164 152 213 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 <1	Calcium	ppm	ASTM D5185m	5	0	0	<1
Sulfur ppm ASTM D5185m 1500 164 152 213 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 <1 2 <1 Sodium ppm ASTM D5185m <1 <1 0 0 Potassium ppm ASTM D5185m >20 1 0 1 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >2500 49606 438714 433281 Particles >6µm ASTM D7647 >640 754 5519 6118 Particles >14µm ASTM D7647 >80 12 105 154 Particles >21µm ASTM D7647 >20 2 15 28 Particles >71µm ASTM D7647 >3 0 0 1 Oil Cleanliness ISO 4406 (c) >18/16/13 20/17/11 22/20/14 22/	Phosphorus	ppm	ASTM D5185m	100	5	6	4
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 <1	Zinc	ppm	ASTM D5185m	25	0	0	0
Silicon ppm ASTM D5185m >15 <1	Sulfur	ppm	ASTM D5185m	1500	164	152	213
Sodium ppm ASTM D5185m <1	CONTAMINANTS	3	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 1 0 1 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >2500 4 9606 38714 33281 Particles >6μm ASTM D7647 >640 754 5519 6118 Particles >14μm ASTM D7647 >80 12 105 154 Particles >21μm ASTM D7647 >20 2 15 28 Particles >38μm ASTM D7647 >4 0 0 2 Particles >71μm ASTM D7647 >3 0 0 1 Oil Cleanliness ISO 4406 (c) >18/16/13 20/17/11 22/20/14 22/20/14 FLUID DEGRADATION method limit/base current history1 history2	Silicon	ppm	ASTM D5185m	>15	<1	2	<1
FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >2500 ▲ 9606 ▲ 38714 ▲ 33281 Particles >6μm ASTM D7647 >640 ▲ 754 ▲ 5519 ▲ 6118 Particles >14μm ASTM D7647 >80 12 ▲ 105 ▲ 154 Particles >21μm ASTM D7647 >20 2 15 ▲ 28 Particles >38μm ASTM D7647 >4 0 0 2 Particles >71μm ASTM D7647 >3 0 0 1 Oil Cleanliness ISO 4406 (c) >18/16/13 ▲ 20/17/11 ▲ 22/20/14 ▲ 22/20/14 FLUID DEGRADATION method limit/base current history1 history2	Sodium	ppm	ASTM D5185m		<1	<1	0
Particles >4μm ASTM D7647 >2500 Φ 9606 Δ 38714 Δ 33281 Particles >6μm ASTM D7647 >640 ♠ 754 Δ 5519 Δ 6118 Particles >14μm ASTM D7647 >80 12 Δ 105 Δ 154 Particles >21μm ASTM D7647 >20 2 15 Δ 28 Particles >38μm ASTM D7647 >4 0 0 2 Particles >71μm ASTM D7647 >3 0 0 1 Oil Cleanliness ISO 4406 (c) >18/16/13 20/17/11 Δ 22/20/14 Δ 22/20/14 FLUID DEGRADATION method limit/base current history1 history2	Potassium	ppm	ASTM D5185m	>20	1	0	1
Particles >6μm ASTM D7647 >640 ▲ 754 ▲ 5519 ▲ 6118 Particles >14μm ASTM D7647 >80 12 ▲ 105 ▲ 154 Particles >21μm ASTM D7647 >20 2 15 ▲ 28 Particles >38μm ASTM D7647 >4 0 0 2 Particles >71μm ASTM D7647 >3 0 0 1 Oil Cleanliness ISO 4406 (c) >18/16/13 ▲ 20/17/11 ▲ 22/20/14 ▲ 22/20/14 FLUID DEGRADATION method limit/base current history1 history2	FLUID CLEANLIN	NESS	method	limit/base	current	history1	history2
Particles >14μm ASTM D7647 >80 12 105 154 Particles >21μm ASTM D7647 >20 2 15 ≥28 Particles >38μm ASTM D7647 >4 0 0 2 Particles >71μm ASTM D7647 >3 0 0 1 Oil Cleanliness ISO 4406 (c) >18/16/13 ≥20/17/11 ≥22/20/14 ≥22/20/14 FLUID DEGRADATION method limit/base current history1 history2	Particles >4μm		ASTM D7647	>2500	9606	▲ 38714	▲ 33281
Particles >21μm ASTM D7647 >20 2 15 Δ 28 Particles >38μm ASTM D7647 >4 0 0 2 Particles >71μm ASTM D7647 >3 0 0 1 Oil Cleanliness ISO 4406 (c) >18/16/13 Δ 20/17/11 Δ 22/20/14 Δ 22/20/14 FLUID DEGRADATION method limit/base current history1 history2	Particles >6µm		ASTM D7647	>640	^ 754	<u></u> 5519	<u></u> ▲ 6118
Particles >38µm ASTM D7647 >4 0 0 2 Particles >71µm ASTM D7647 >3 0 0 1 Oil Cleanliness ISO 4406 (c) >18/16/13 20/17/11 ≥22/20/14 ≥22/20/14 FLUID DEGRADATION method limit/base current history1 history2	Particles >14μm		ASTM D7647	>80	12	<u> </u>	<u> </u>
Particles >71µm ASTM D7647 >3 0 0 1 Oil Cleanliness ISO 4406 (c) >18/16/13 ▲ 20/17/11 ▲ 22/20/14 ▲ 22/20/14 FLUID DEGRADATION method limit/base current history1 history2	Particles >21μm		ASTM D7647	>20	2	15	<u>^</u> 28
Oil Cleanliness ISO 4406 (c) >18/16/13 ▲ 20/17/11 ▲ 22/20/14 ▲ 22/20/14 FLUID DEGRADATION method limit/base current history1 history2	Particles >38μm		ASTM D7647	>4	0	0	2
FLUID DEGRADATION method limit/base current history1 history2	Particles >71μm		ASTM D7647	>3	0	0	1
	Oil Cleanliness		ISO 4406 (c)	>18/16/13	<u> </u>	<u>△</u> 22/20/14	<u>22/20/14</u>
Acid Number (AN) mg KOH/g ASTM D8045 0.08 0.09 0.05 0.17	FLUID DEGRADA	ATION	method	limit/base	current	history1	history2
	Acid Number (AN)	mg KOH/g	ASTM D8045	0.08	0.09	0.05	0.17



OIL ANALYSIS REPORT







Certificate L2367

Laboratory Sample No. Lab Number **Unique Number**

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : WC0755362

: 05844977

: 10469084

Received : 11 May 2023 Diagnosed : 15 May 2023 : Doug Bogart Diagnostician

Test Package : IND 2 (Additional Tests: PrtCount)

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)

PAPILLION FOODS

10808 S 132ND ST OMAHA, NE US 68138

Contact: NEIL ARIANO njariano@hormel.com

T:

F: