

AIRTECH

VACUUM

Maintenance Instructions ATV Series Pumps

ATV-8 to ATV-50



Maintenance Instructions

ATV Series Pumps

ATV-8 to ATV-50

Table of Contents:

SECTION	PAGE
1. Pump Check	4
1.1 Preparing the Unit for Servicing or Inspection	4
1.2 Checking the Fluid Level	4
1.3 Checking For Leaks	4
1.4 Clean or Replace the Filter Element	5
1.5 Radiator Maintenance	5
1.6 Preparing the Unit For Operation	6
1.7 Coalescing Filter Element Check (Unit Running)	6
2. Operation Check	7
2.1 Preparing the Unit for Servicing or Inspection	7
2.2 Lubricant change and replacement of coalescing filter element	7
2.3 Inlet filter replacement	10
3. Controls	11

1. Pump Check - Every 1,000 hours

1.1 Preparing the Unit for Servicing or Inspection

- Close isolation valve to remove the ATV from process.
- Turn the HOA switch on the control panel to position "O".
- Ensure the vacuum pump comes to a full stop.
- Turn the "Through the door disconnect" to the off position.
- Remove all side panels. (See Figure 1)
- The pump is now ready for inspection and service.



Figure 1

1.2 Checking the Fluid Level

Check the fluid level a few minutes after the pump comes to a full stop.

Warning: The coolant level must be between the two marks. (see Figure 2) Oil levels higher than the maximum recommended will cause serious damage to the machine.

Note: During pump operation, the lubricant level will not stay between min and max. The lubricant level changes depending on the operating pressure.

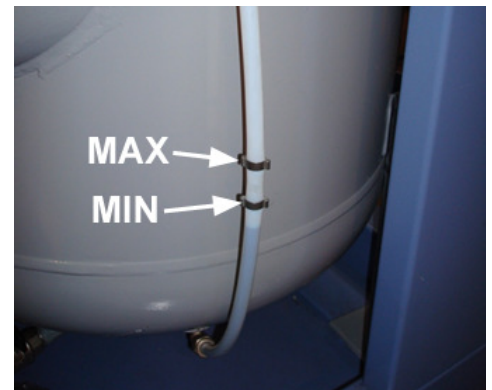


Figure 2

1.3 Checking For Leaks

Check and tighten the hose fittings if necessary. (See Figure 3). Check for leaks (See Figure 4). If a leak is found, please remedy and clean. If any leaks are found that can't easily be remedied, please contact Airtech.



Figure 3

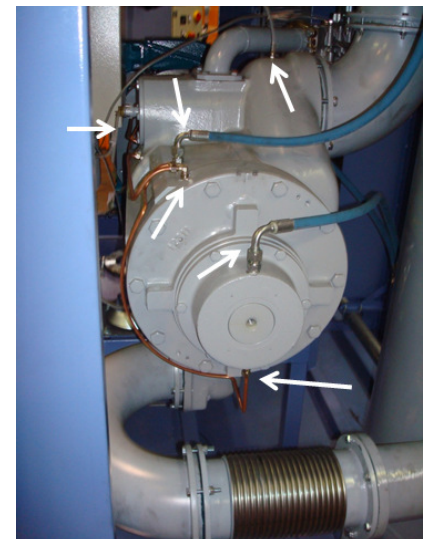


Figure 4

1.4 Clean or Replace the Filter Element

Before cleaning/replacing the air filter element make sure the filter is at atmospheric pressure. The vacuum gauge laced near the electric panel should be at "0". (See Figure 5) Otherwise, open the valve (A) near the inlet filter. (See Figure 6)



Figure 5

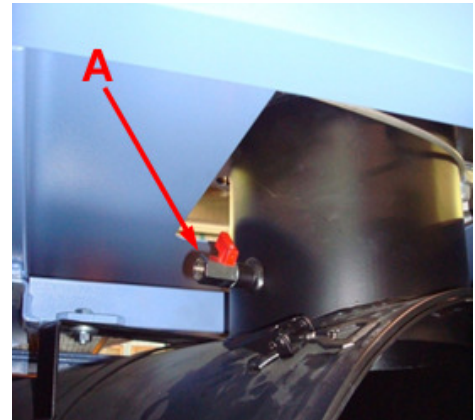


Figure 6

- Remove the filter cover (Figure 7)
- Unscrew the nut and Remove filter element. (Figures 8 & 9)
- Clean the air filter housing inside with a rag.
- Clean the filter element with a soft brush.
- Clean the filter element with compressed air from inside out.
- Mount the air filter element into the filter housing (Figure 10).
- Close the air filter cover (Figure 11).



Figure 7



Figure 8

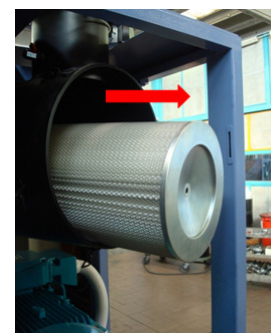


Figure 9

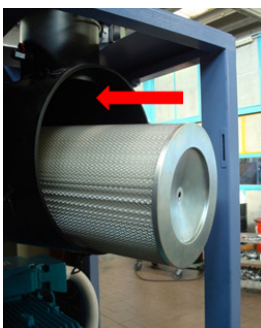


Figure 10

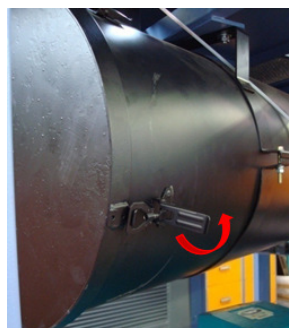


Figure 11

1.5 Radiator Maintenance

Check the radiator (Figure 12) for debris. In case of build up, clean the radiator with a soft brush and compressed air and/or vacuum.



Figure 12

1.6 Preparing the Unit for Operation

- Make sure the valve on the air filter is closed.
- Mount all doors (see Figure 13).
- Turn “through the door disconnect” into “ON” position.
- Turn the HOA switch of the vacuum pump into position “A”.
- Confirm the pump is generating vacuum.
- Open the isolation valve to process.



Figure 13

1.7 Coalescing Filter Element Check (Unit Running)

The discharge pressure through the discharge coalescing filter element needs to be less than 0.4 bar or 6 PSIG (see Figure 14 & Figure 15). On units with HMI control panels the discharge pressure will also be shown on the main screen and a notification will be shown in cause of excessive back pressure.

Filter element should be changed every 12 months or as needed.



Figure 14



Figure 15

2. Operation Check 2000-8000 hours of operation depending on application and environment

2.1 Preparing the Unit for Servicing or Inspection

- Close isolation valve to remove the ATV from process.
- Turn the HOA switch on the control panel to position “0”.
- Ensure the vacuum pump comes to a full stop.
- Turn the “Through the door disconnect” to the off position.
- Remove all side panels (See Figure 16).
- The pump is now ready for inspection and/or service.



Figure 16

2.2 Lubricant Change and Replacement of Coalescing Filter Element

- 2.2.1. Drain the lubricant from the discharge separator using the installed drain valve. (Figure 17)
- 2.2.2. Disconnect and remove the exhaust pipe. (Figure 18)
- 2.2.3. Remove the “roof” panel, mounted over the separator vessel (Figure 19).



Figure 17

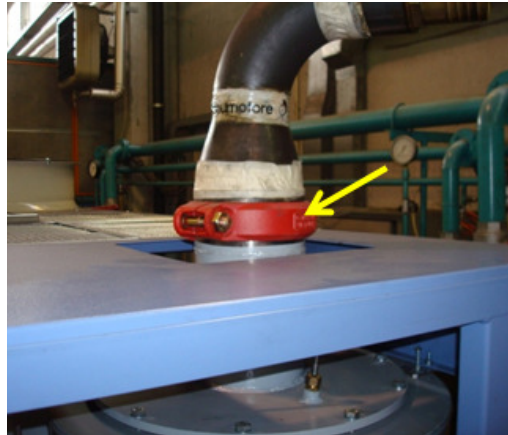


Figure 18



Figure 19

- 2.2.4. Disconnect and remove the lubricant scavenging line (Figure 20)
- 2.2.5. Remove the cover of the separator tank. (Figures 21 & 22)

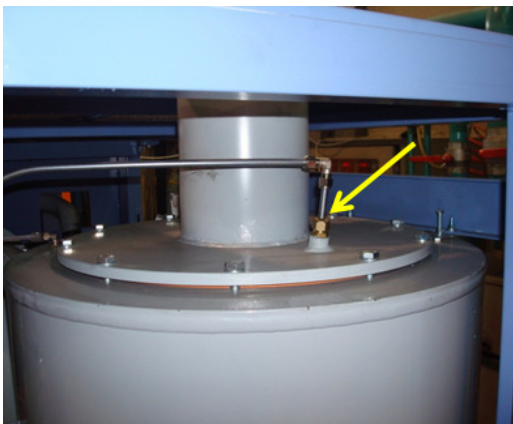


Figure 20



Figure 21

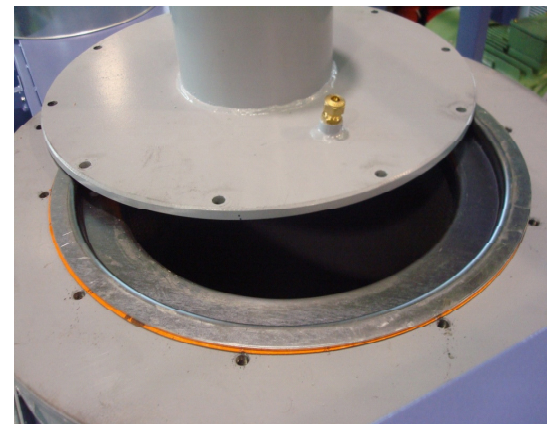


Figure 22

2.2.6. Remove the coalescing filter element (See Figures 23 and 24)



Figure 23

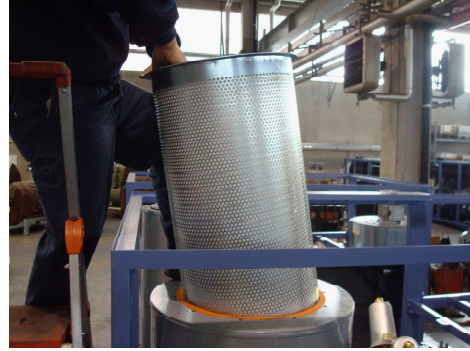


Figure 24

2.2.7. Place the first gasket on the edge of the separator vessel. Install the new coalescing filter element (figure 25) Place the second gasket on the edge of the new filter element. (Figure 26)



Figure 25



Figure 26

2.2.8. Lubricant change and replacement of coalescing filter element

Reinstall the items in the following order:

- Cover for separator vessel (Figure 27).
- Lubricant scavenging line.
- "Roof" panel over the liquid separator.
- Reinstall the discharge pipe.
- Close lubricant drain valve (Figure 28).

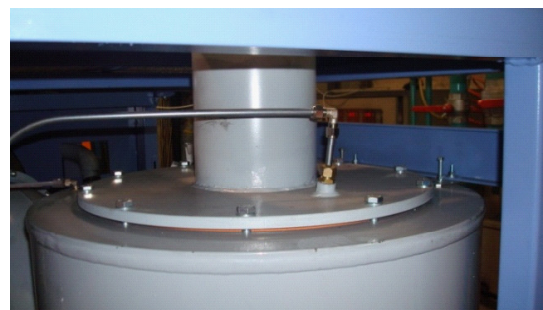


Figure 27



Figure 28

2.2.9. Unscrew the lubricant fill cap (Figure 29). Use only ATO-5000 lubricant (Figure 30) or other factory approved lubricant. **DO NOT USE COMPRESSOR OIL.**



Figure 29



Figure 30



Figure 31

2.2.10. Fill lubricant to the max level (Figure 31).

Warning: Do not fill lubricant beyond the Max level shown below (Figure 32). This may cause serious damage to the vacuum pump.

2.2.11. Reinstall the fill cap and tighten it (Figure 33).

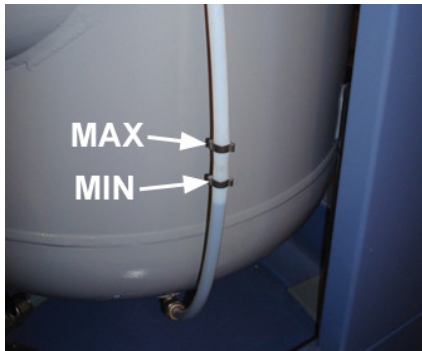


Figure 32



Figure 33

2.2.12. Place hand on the bottom of the filter. While pressing on the filter in the upward direction, unscrew the four nuts (See figure 34). Use caution as the filter assembly contains a spring.

2.2.13. Replace the two o-rings (see figure 35).

2.2.14. Drain the lubricant filter housing and Insert a new filter element (see figure 36).



Figure 34

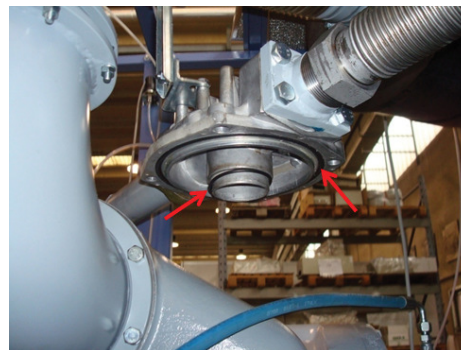


Figure 35

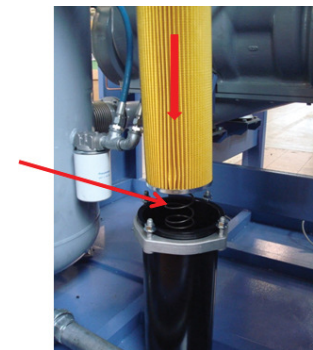


Figure 36

2.2.15. Fill the filter housing with lubricant (Airtech ATO-5000) up to $\frac{3}{4}$ of its volume (Figure 37). Reassemble the filter (Figure 38).

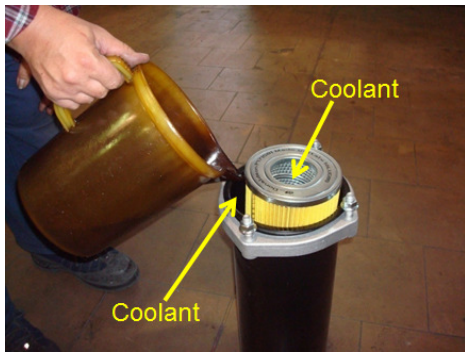


Figure 37

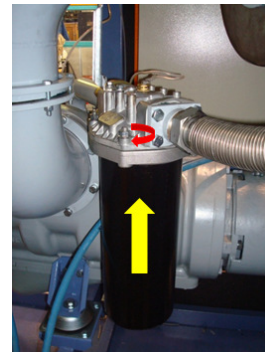


Figure 38

2.2.16. Unscrew filter (Figure 39). Fill the new filter with lubricant (use Airtech ATO-5000) and Lubricate the O-ring



Figure 39



Figure 40

2.3 Inlet filter Replacement

2.3.1. Open the air filter cover (Figure 41). Unscrew the nut and remove the air filter element (Figure 42). 2. Clean the air filter housing with a rag. Insert a new filter element, (Figure 43) tighten the nut and close the air filter cover (Figure 44).



Figure 41



Figure 42

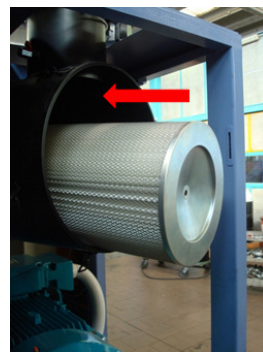
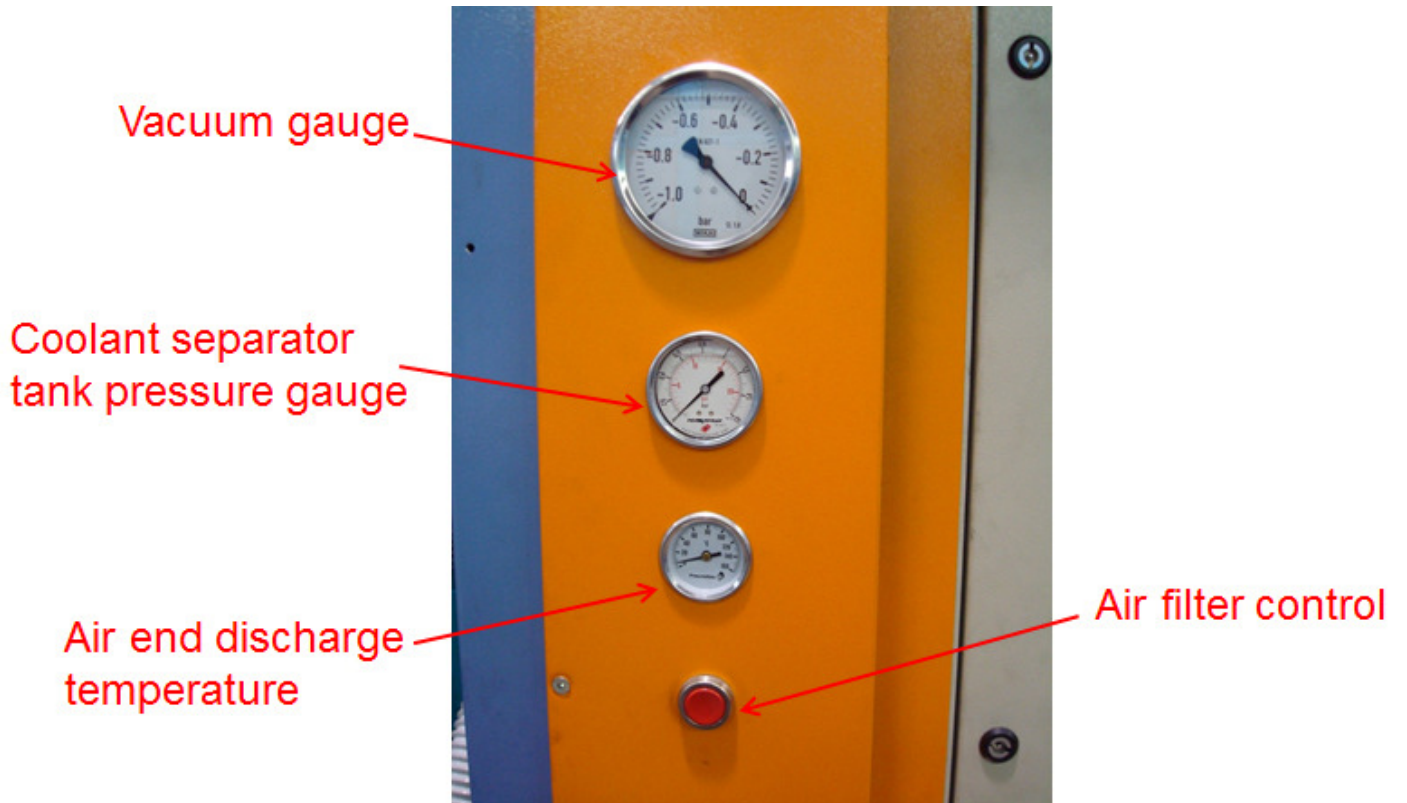


Figure 43



Figure 44

3. Controls



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