

Operating Manual Filter System Version 1.1

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The logo for ARO Technologies, consisting of the letters 'A', 'R', and 'O' in a bold, blue, sans-serif font. The letters are slightly slanted to the right.

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1 Safety requirements



The instructions contained in the operating manual have to be followed.



WARNING ! Before any cleaning or maintenance work is carried out, the machine must be disconnected from the electricity supply, as the automatic level control may inadvertently trigger the conveyer belt into motion.

2 Principle of function

The contaminated liquid flows through the filter paper. A transport belt with a depression through forms an optimal filter bed. The residues from the treated liquid form a sludge cake on the paper.

As the sludge accumulates, the liquid level will rise. A level sensor triggers a gear motor to move the transport belt. This action brings a piece of clean paper in the filter area as a result the liquid level falls again. At the same time part of the used filter paper with the sludge is transferred into the sludge tank.

3 Placing into operation

1. Install the machine drainage and the backflow hoses.
2. Mount the electric cabling and check the sense of rotation of the motors.
3. Fill the coolant tank up to the upper mark of the oil rod.
4. The automatic paper filter is ready for use.

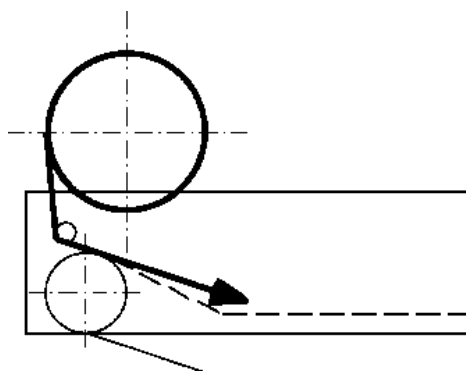
4 Servicing and Maintenance

Maintenance of the paper filter is limited to the emptying of the sludge tank and the replacement of the filter paper roll.

The gear motor which actuates the belt is lubricated for lifetime.

4.1 Exchange of the filter paper roll

The movable flange on one side of the spool can be pulled off to remove the empty core. When placing the new roll on the paper reel support, make sure that the paper unwinds towards the back so that it can be pulled under the paper guide rod.



standard execution
paper roll arranged at the top

This is the only way to ensure correct alignment of the filter paper.



paper guide rod

4.2 Level control

At the moment the sensor contacts the liquid level, or if the float switch is raised by the liquid level, the transport belt drive is switched on.

The controlling level is adjusted easily for both systems by loosening the setscrew. As soon as the sensor contacts the liquid level / or the level of fluid lifts the floating switch, the motion of the conveyor band is started and clean paper is brought into the filter area.

Note: The level sensor / floating switch has to be set sufficiently low that no lateral overflow of the liquid can take place.

Occasionally clean the level sensor or the float switch to prevent extreme sludge accumulation on these elements.

5 Safety instructions

5.1 Warnings in this instruction manual

Warnings draw the user's attention to danger which can become imminent during commissioning or maintenance work of the system. Warnings appear before the description of the procedure which could bear a danger.

Expression **WARNING** indicates that there is a danger of heavy injury or substantial material damage if the mentioned safety precautions have not been taken.



The following safety instructions are in the interest of your personal safety, the safety of the system and that of third persons. These instructions have to be followed conscientiously when commissioning, maintaining and repairing the system.

Note:

As a basic rule, only trained and specialised members of personnel are entitled to carry out manipulations and maintenance work on the filter system.

5.2 General safety remarks

Personnel

- Commissioning, resp. recommissioning after changing the point of installation must only be carried out by qualified and specialised staff.
- Maintenance and repair work must only be carried out by specially trained personnel.
- Work on the electrics must only be assumed by specially trained personnel.

Protection measures

- Before handling coolant, put on eye protection and protective gloves.

Machine

- In dangerous situations, press the emergency stop switch on the electric cabinet.
- Never remove or bridge protection and monitoring devices.
- Machine covers which have to be disassembled for maintenance and repair work have to be reinstalled correctly before starting the machine.
- Before modifying or extending the system, contact ARO TECHNOLOGIES.
- Before starting maintenance or repair work – especially on the electrics – turn the main switch of the filter system OFF and secure it with a pad lock against accidental switching ON.
- The following sources of dangers have to be considered particularly:
 - Electrocution: during service work, contact with connections under voltage in the electric cabinet is possible, as the electric cabinet doors are possibly not locked.

Environmental protection

- Liquids must not reach the environment. Spilled fluid has to be retained and collected by means of an efficient absorption medium and delivered to the waste management in suitable containers.
- The used and contaminated filter paper has to be delivered to the waste management as per the local regulations.

Appendix

5.3 Manufacturer's declaration

Manufacturer's declaration

In the sense of the EC machine guidelines **89/392/EWG**, appendix II B, modification dated June 20, 91 (**91/368/EWG**) dated June 14,93 (**93/44/EWG**) and July 22,93 (**93/68/EWG**)

ARO TECHNOLOGIES, CH-4900 Langenthal, declares that the filter system has been conceived and built according to the regulations in the EC guidelines.

If the above mentioned product is integrated or added to a machine, its commissioning is expressly forbidden until it has been proved that the machine to which it is integrated or added conforms to the stipulations of the EC machine guidelines.

Conformity with the requirements of this directives is testified by complete adherence to the following standards:

Harmonised Europ. Standards: **EN 292-1, EN 292-2, EN 60204-1, EN 50081-1, EN 50082-1**

Applied internal standards, especially:

- tank tightness protocol at the manufacturer