

# **Waste water treatment plant - instructions for checklist 1**

**Municipality of Hörby**

# HÖRBY ÖNNEKÖP Waste Water Treatment Plant

## – Instructions for checklist 1

### V1. Check the inlet pump P6

Check beneath and around the inlet pump, P6 to ensure there is no leakage.

In case of a leakage the Operational manual shall be consulted, see chapter 8 "Malfunctions, causes and corrective actions".



### V2. Check the BOD and nitrification tank

### V3. Check the dispersion

- 1) Unpack the portable oxygen detector.



- 2) Climb up the ladder and measure the oxygen level.  
The following applies;  
**BOD-tank: > 2-3 mg/l O<sub>2</sub>**  
**Nitrification tank: > 3 mg/l O<sub>2</sub>**  
Document the values in the logbook!



- 3) Check that the dispersion in each tank is adequate, i.e. that the stirrers are moving/ functioning as intended.

Note! The dispersion of materials usually defines the amount of oxygen needed and the oxygen levels are significantly higher than the minimum values specified above.

Document all of your observations in the log book.

**Note! Often the surface may be covered with carrier materials while the rest of the tank has an even dispersion. If this is the case, the oxygen level does not need increasing and it will be sufficient to stir the surface of the tank.**



- 4) If the oxygen level is lower than required or if the dispersion is insufficient, perform the following precautions;
  - a) Turn up the frequency of the aeration blower by (maximum) one unit.
  - b) Check the dispersion in both tanks.
  - c) Check if the air is dispersed unevenly between the tanks. If so the valve in the nitrification tank must be adjusted. (The BOD tank has a larger volume than the nitrification tank, hence the air does not pass through as easily and the valve is required to be completely open.)
  - d) When the dispersion is OK in both tanks, check the oxygen levels again.
  - e) Repeat step a-d until the oxygen levels are as specified under 2)
  - f) Document all the measurements, observations and changes made in



the log book.

#### V4. Check the sedimentation

Check the surface of the sedimentation tank. Is there any surface sludge (as shown in the picture below)? Is the dispensation of chemicals work, i.e. do chemicals drip from the white plastic tube)

SEDIMENTATION SURFACE



DOSAGE OF CHEMICALS



OUTLET FUNNEL



#### V5. Check the compressor

- 1) Check the oil level in the compressor. If the level has drop to the last marker. Fill the tank immediately.

Fuel type; SAE 5 W 30, or see Operational manual chapter 9.2.

**Filling the tank:**

- Disengage the compressor
- Remove the ventilation valve in the crank house (see picture on the right)
- As the oil has to flow through the crank house first it will take a few minutes to fill the tank.
- Always use a sieve or pour straight from the oil can when refilling the tank.
- Always fill the tank to the highest marker
- Put the crank house valve back in its place

VENTILATION VALVE

OIL LEVEL



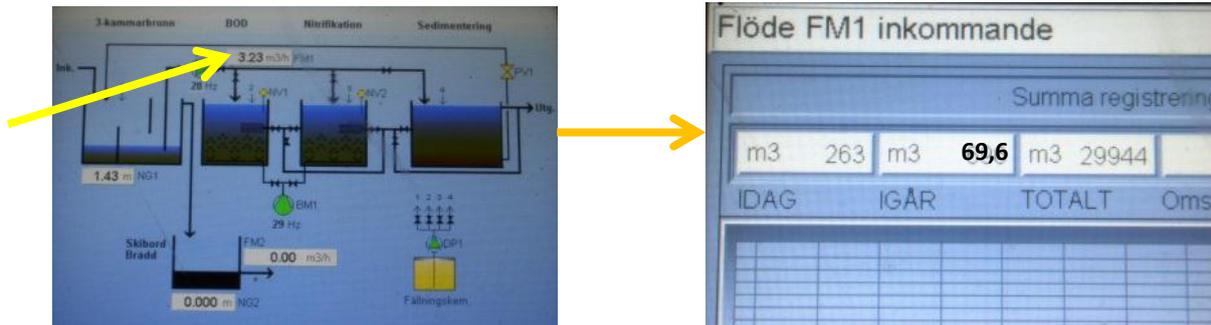
- 2) Drain any condensation in the pressure container by releasing the valve, see Operational manual chapter 9.4.

The condensate is retrieved in a container and handled in accordance with applicable environmental legislation.



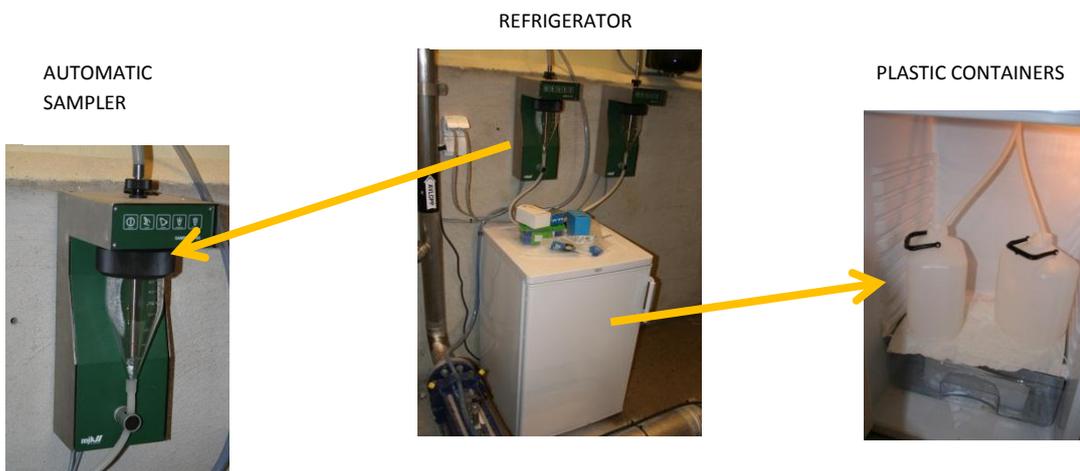
## V6. Sample extraction

1. Press incoming flow on the flow chart displayed on the touch screen. The flow will now be displayed.



2. Log yesterday's date and incoming flow in the log book.

3. Test samples for incoming and outgoing water are automatically collected for the 24h period Monday to Tuesday. The test samples are refrigerated in clean plastic containers. Before extracting test samples from the containers shake them well. Transfer approx. 1 litre of water into test bottles and send them for analysis.



4. Clean the plastic containers and return them to the refrigerator. Thoroughly clean the test samplers.

## V.7 Check the chemical dispenser

There are two containers for chemicals, container 1 and 2. The chemicals for the sedimentation process are dispensed from container 1. Normally container 2 is not used as it contains the chemicals needed when sewage water has been circumvented.

- 1) Check that the dispenser pump in container 1 is functioning properly and that the chemicals are being dispensed correctly, see V4 above. Changes to the dose dispensation are made based on the analysis of outgoing water. The amount of outgoing phosphor should not exceed 0,3 mg/l.
- 2) Check the level in the chemical containers, when approx. 200 litres remain, order a new supply. Each delivery of chemicals contains 800 litres. If container 1 is full, any remaining chemicals will be transferred to container 2 (or vice versa). Replenishment of chemicals shall be documented in checklist 3.



LEVEL GAUGE ON THE  
CHEMICAL CONTAINERS



CONTAINER 1, CHEMICALS FOR THE  
SEDIMENTATION PROCESS



CONTAINER 2, CHEMICALS FOR  
CIRCUMVENTED SEWAGE WATER

**For more detailed info on each step and info on troubleshooting see the Operational manual for Önnköping sewage treatment plant.**