


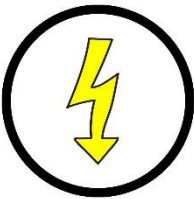



## Quarterly Service Procedures Frequency of Sludge Pump For UBI Aqua Mark II 6000 treatment System.



## Safety Instructions

Please read the information provided.

	<p><b>PLEASE NOTE - Each State Government has regulations for Water Treatment System and they are required to be registered with your local council and comply with their required standards. The requirements may vary depending on your location, soil type and proximity to water ways.</b></p> <p><b>A Quarterly Maintenance report is required to be sent to council</b></p> <p><b>As a Water Treatment System owner you are responsible for ensuring your system is working properly and not posing a health risk to your family and the wider community.</b></p> <p><b>DO NOT Enter the SEWAGE TREATMENT PLANT.</b> Risk of drowning or asphyxiation due to low oxygen environment is present. Ensure all access lids are closed securely after servicing and accessing the treatment plant to prevent unauthorized or accidental access</p>
	<p><b>PLEASE NOTE - Follow all safety precautions and accident prevention guidelines during installation, use, maintenance and repair of the UBI Aqua Water Treatment Plant. All local safety precautions and accident prevention guidelines established in the area should also be followed.</b></p>
	<p>The waste water contained in the UBI Aqua Water Treatment Plant may contain harmful bacteria. Persons coming in contact with waste water must immediately wash and disinfect all exposed areas. Contact your personal physician for all health concerns</p>
	<p><b>WARNING!</b> All electrical work required must be carried out by a licensed electrical contractor or authorised service professional.</p>
	<p><b>SLIPPERY WHEN WET!</b> When Maintenance is being undertaken by your certified contractor ensure children and animal are keep away from site. During cleaning, maintenance and repair work the surrounding area may become extremely slippery in some circumstances due to spilled water. Caution is to be taken when walking / standing near the UBI Aqua Water Treatment System when these activities are being conducted</p>

The service manual for the UBI Aqua Mark II 6000 sets out all the procedures that need to be carried out. The order as listed will produce the best result.

To service the UBI Aqua Mark II you will need to:

**Check: Safety Warning** If the unit has been installed in an area that can be accessed by the public, care must be taken to exclude them from accidentally falling into the open tank.

Remove the lid from the tank.

Inserting a 12mm bolt and handle into the mould-in nuts in the top of the lid will make this easier and a more safe procedure. Place the lid well away from the tank.



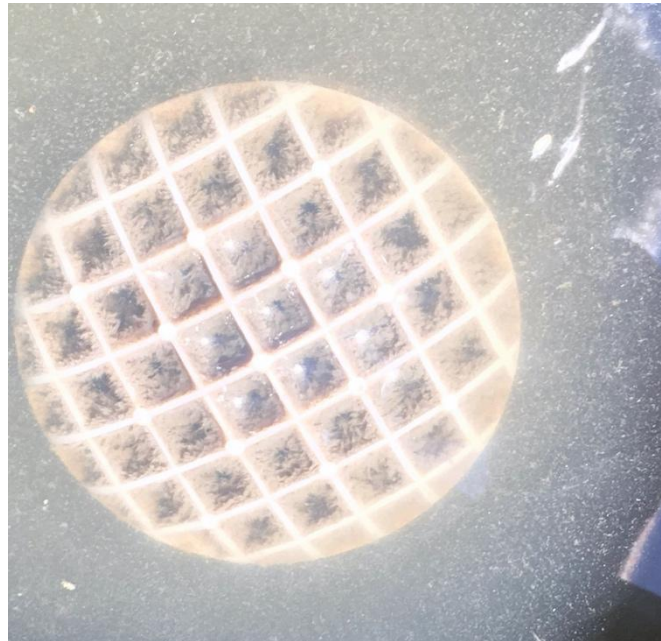
Remove the smaller lids.

Each of the internal chambers inside the tank have a central lid and some also have a 100mm lid, remove these and place these away from the tank to keep them from falling into the main tank.

Visually assess the general condition of the contents inside each of the chambers.

The Primary chamber should have a well-covered crust, the smell should be that of a healthy humus smell.

The aeration chamber should have a somewhat “boiling effect” on the surface with some bubbles making it all the way to the surface. There should be a steady circulation of the Bio-Media in the liquid.



The liquid should be a clear “tea-tree brown” colour.

The settling chamber should have no visible movement in the water, the liquid should be clear and there should be no debris floating on the surface.

All the above chambers should have a consistent level.

The pump out chamber will have a different water level compared to the other chamber, there should be no debris floating on the surface. Liquid should be clear. Visually take notice of the pump float position and its ability to move freely in its arc of movement.

Testing.

Record both the air/water temperature.

A sample of the water in the pump out chamber should be collected; you will test the chlorine content and the water clarity from this sample. A collection bottle and extension handle should be used, make sure that as you collect the sample you do not contaminate it by brushing the bottle against the side of the chamber or pipework/electrical cable. Conduct the chlorine test and gauge the NTU reading from the Jackson turbidity tube.

Test the Dissolved Oxygen level in the aeration chamber either with an electronic test unit or chemical kit.



The inter-chamber in-pipe filters should be cleaned out when clogging becomes evident, this will occur at around 18 month intervals. One evidence of this will be the backlog of fluid through the filter creating differing levels in each chamber. The most likely filter to block will be the one inside the aeration chamber.



Check the inlet tee in the aeration chamber to ensure that no bio-media have become lodged inside the tee causing backlog of fluid in the primary chamber.

Check the high-water alarm float to ensure that the alarm is working. Raise the float into the upward extremity of its arc of movement, the light should flash and the audible alarm should sound. Lower the float to its appropriate position.

Remove the cover from over the air pump.



Care should be taken when removing the air pump cover to ensure that the lead from the control box to the visual alarm is not damaged.

Check the temperature of the air pump. You do not need to record this; very high temps indicates either a blocked filter or worn-out pump.

Check that the lower pressure alarm operates correctly, turn the power off to the air blower and remove the hose from the blower to the control box at the control box end. The alarm should sound.

While the power is off, check the air filter under the lid on the top of the air pump.



Remove the filter and tap it to remove any organic matter and some dust. The filter should be replaced every 12 months.



Restore the power to the air pump.

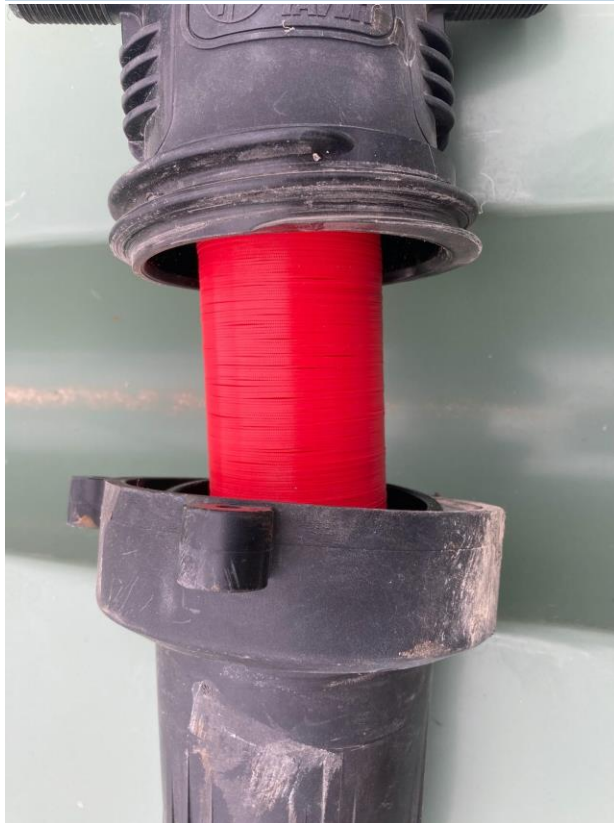
A test to confirm the amount of waste that is not broken down should be conducted at regular intervals to assess the need to pump-out the unit. A sludge judge should be used to assess the build-up. A test should be taken at both sides of the primary chamber, start on the side of the chamber that is closest to the air pump, then test the opposite side. The test is conducted by:

1. Pushing the sludge judge down through the crust on the surface until it reaches the base of the tank, when removed the water column in the tube should be measured. You measure the total depth in the water column, record the amount of crust and scum and then record the length of fluid.
2. Then you averaged the two samples and if the total amount of scum and crust are greater than 60% of the water column the unit should be pumped out. If the test shows that the unit needs to be pumped out a test should be conducted on the pump out and settling chambers, gauge if these chambers also need to be pumped out.

NOTE If you need to pump the tanks, make sure that the company pumping the tank knows exactly the procedure to pump out and refill the unit.

Using a garden hose, (ensure that this is done safely, no backflow issues). to put water into the settling chamber, ensure that water flows into the pump out chamber freely, if chlorine is installed ensure that water is flowing through the canisters correctly. Restock the chlorine canisters and record the number of tabs installed.

As water flows into the pump out chamber observe how the float moves through its arc of movement and that it moves freely without obstruction. You could at this time flush the irrigation lines, firstly clean the disc filter on the irrigation system.



Open all the flush valves, using the cycle of the pump turning on and off to operate the indexing valve, turn off each flush valve as the water becomes clear.

Replace the cover over the air pump after checking that the power has been restored.

Replace the internal lids and ensure that they are tightly sealed.

Replace the large lid on the unit.

Visually check the irrigation field area to ensure that the area is performing as required and that the owner has been treating the area respectfully.

**Remember to lodge service report on the Ubi Aqua web App.**

## Quarterly Maintenance Record Sheet

Date	Test	Results
	Chlorine	
	PH Test	

Day Temperature \_\_\_\_\_ Water Temperature \_\_\_\_\_ Service No 1 2 3  
4





<b>General Inspection</b>	Irrigation Area	
	Tank Area	
	Drainage	
<b>Electrical Equipment</b>	Timer	Check and reset
	Venturi	Operation
	Irrigation Pump	Operation
	Aeration Pump	Operation
	Warning Lights	Operation
	Connections	Check
<b>Holding Well</b>	Sample Test Water	
	Check Airlines	
	Adjust air supply	
	Operate de-sludge unit	
	Reset air control	
	Operate submersible switch	
	Check bio-mass growth	
	Replenish chlorine	
	Check sludge level	
<b>Irrigation</b>	Inspect lines	
	Inspect Jets/ outlets	
	Pressure clean system	
<b>Report Copies To</b>	Customer	
	Council	
	Office Record	



	Maintenance Technician  Name	Signature
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Remarks

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**PUMP OUT Schedule Frequency**

No in Household	Frequency
2 people	6 years
4 people	5 years
6 people	4.25 years
8 people	3.5 years

Sludge accumulation and desludging interval is calculated based on the sludge accumulation level in the septic tank chamber which after the total operating period between system commissioning and final sludge depth measurement (385 days) had accumulated sludge to 23.5% of its total operating capacity. The surface crust thickness on the septic tank chamber was to a depth of approx. 10 cm and was not taken into consideration when calculating desludging intervals since it is assumed that much of the crust sits above the normal operating water level.

Accordingly, and based on the 23.5% sludge accumulation level in the septic tank and 385 days of operation, desludging interval at the daily flow of 1,200 L is calculated as 1,310 days, or approx. 3.6 years. This calculation is based on sludge accumulation in the septic tank up to the point where sludge volume occupies 80% of its total capacity (i.e. 20% clear liquid volume). It should be noted that sludge accumulation calculations here are based on maximum wastewater design loading rates of 1,200 L/d and so sludge accumulation and subsequent desludging frequency under different wastewater influent flow rates would need to be adjusted accordingly.

**When your service providers pumps your tank out they MUST firstly pump the main chamber out and then the 2 remaining chambers.**

**When filling the tank all chambers MUST be filled evenly.**

Remember to lodge a service report on the UBI Aqua Web App.

