Matala Biofilter 10 Installation and maintenance manual

Matala Biofilter 10 is suitable where you have a small water consumption of max 400 l/day and 55 l/h.

If you have several wires out of the house, it can be led to the same filter, or you could place a filter in each place. It is also available as a model with a built-in pump, to pump away the water after the filter.

Matala grey water filter/BDT (bath, dishes & laundry) is the original and it has sold in the thousands over the past 15 years.

- **No costs for consumption**
- **No electricity consumption**
- **No moving parts**

Matala grey water filters are adapted for smaller amounts of BDT wastewater such as in small houses, holiday homes, sauna houses, building sheds and others where you do not have water connected.

Not all types of grey water filters can handle high flows that you can have in year-round houses with high water consumption, then choose other technology.

The capacity is from 400 to 750 liters/day, depending on the model and accessories. Biofilter 10 has a capacity of 400 l/day or 55 l/h and Biofilter 20 & 25 can handle 750 l/day and 75 l/h.

Function

The function is completely natural by purifying the water, as it slowly flows through the patented filters that break down biological nutrients with Biofilm technology with microbes.

Since the filters are airy in the biofilter and the water varies in level all the time, no air compressor is needed for oxygenation of the biohud.

There is always some water at the bottom of the biofilter so that the biohud should always have a good environment even when the load stops.

Contents
1 pcs Tank with lid
3 pcs Implementations 75mm
2 pcs green filters
2 pcs blue filters
2 pcs black filters
1 pcs ventilation hat
1 pcs manual

Dimensions
Height: 510mm
Width: 370mm
Length: 590mm
Weight: 9 kg

Total internal volume: 75litres

Filter material / Total filter area:15,88m²
2x Green Matala FSM290 (1.46m² filter area per disc)
2x Blue Matala FSM 365 (1.84m² filter area per disc)
4x Grey Matala FSM460 (2.32m² filter area per disc)

Pipe connections:
Inlet 75mm (3") 390mm cc from floor
Outlet 75mm (3") 100mm cc from the floor
Ventilation 75mm (3”) 360mm

Placement

Bio Filter 10 must be placed on a stable and a flat frost-free surface. If Bio Filter is to perform during the winter, it must be insulated in such a way that the container does not freeze.

Bio Filter 10 must also stand in such a way that it is easy to lift the lid off and inspect and, if necessary, clean the filter material in the box - under normal conditions 1-2 times a year.

The inlet grey water is connected to the short side that has only one inlet hole of 75mm (as well as drainage plugs at the bottom).

The pipes for Bio Filter 10 must tilt at least 1% (1cm per meter) to ensure that wastewater is standing in the pipes. If it is slow to push the pipes through the sleeves, we recommend that you use lubricants.

Outgoing water is connected in the lower hole on the short side with two 75mm holes. The purified water can be led directly to a ditch, if there is no possibility then we recommend a recipient to help the ground receive the outgoing water.

Emissions by bio filter
You can choose to release the purified water into a stone coffin or simple HS infiltration. Under normal ground conditions, we recommend a recipient of 1x1.2m with Matala FSM 190 as a biomodule and 30-50cm gravel underneath.

The spreader tube is placed in the middle of the Matala FSM 190 biomodule and the whole thing is covered with ground cloth before the post-polishing is covered.
At the end of the pipe the ventilation hat is placed.

In difficult soil conditions where the soil has difficulty absorbing the liquid, the area is expanded, and you can supplement with drainage pipes at the bottom as a so-called ground bed. The water is then passed on to, for example, a suitable ditch.

This image is an example of installation above ground where an insulated box has been built around the biofilter – observe the grey vent pipe that goes up after the wall.

After the Biofilter, an HS infiltration (accessory) has been used to improve purification and get a place that receives the purified water. The ground cloth is put on before filling the filling soil. This is a better solution than a stone coffin.

Leveling tank

If you have a short pipe length from, for example, the sink, you might can get warm water over 50 degrees that can knock out the biohud. Try to pour out a pot of boiling water if the temperature in the filter is above 50 degrees.
The problem can be solved by waiting for the temperature to decrease before flushing out the water - or that you increase the pipe length or installing a leveling tank of about 50 liters.

The leveling tank is available as an accessory.

Parallel pair two filters

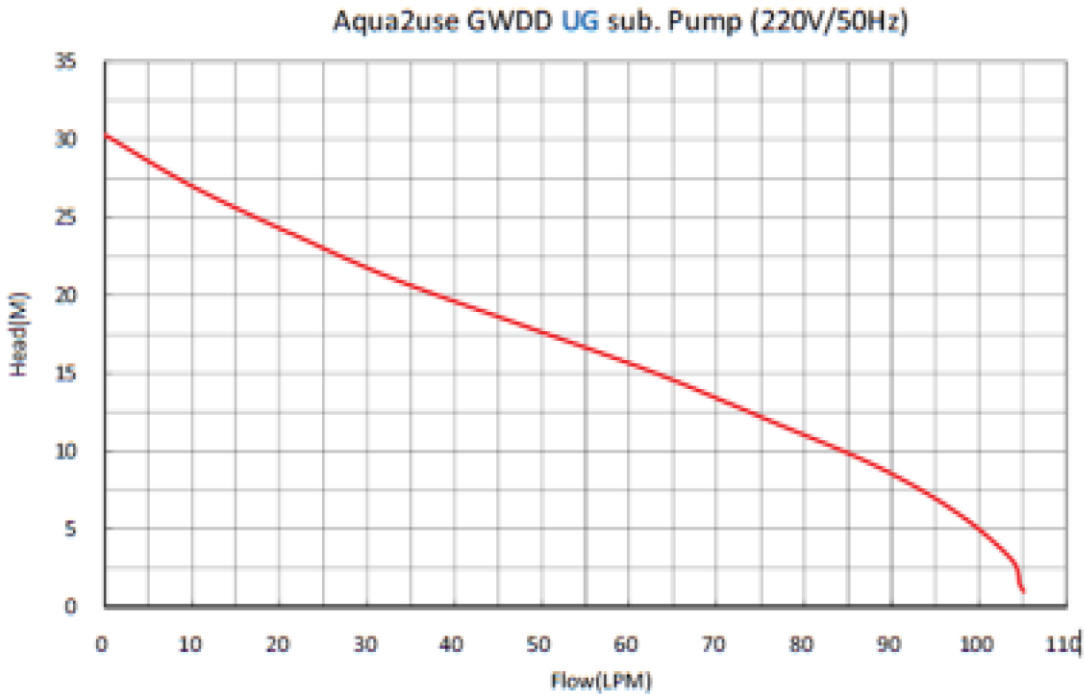
If you want to increase the capacity to 600 litres/day, you can parallel connect two filters

Pumping
Many times, pumping is needed to solve the installation, Matala Biofilter 10 is available in a version with built-in pump to pump out purified water.
Please note, it can`t suck water in - it must be self-draining into the filter.

In the package it is included a 32mm PEM connector. For this it`s suitable to use is 32mm

PEM hose.

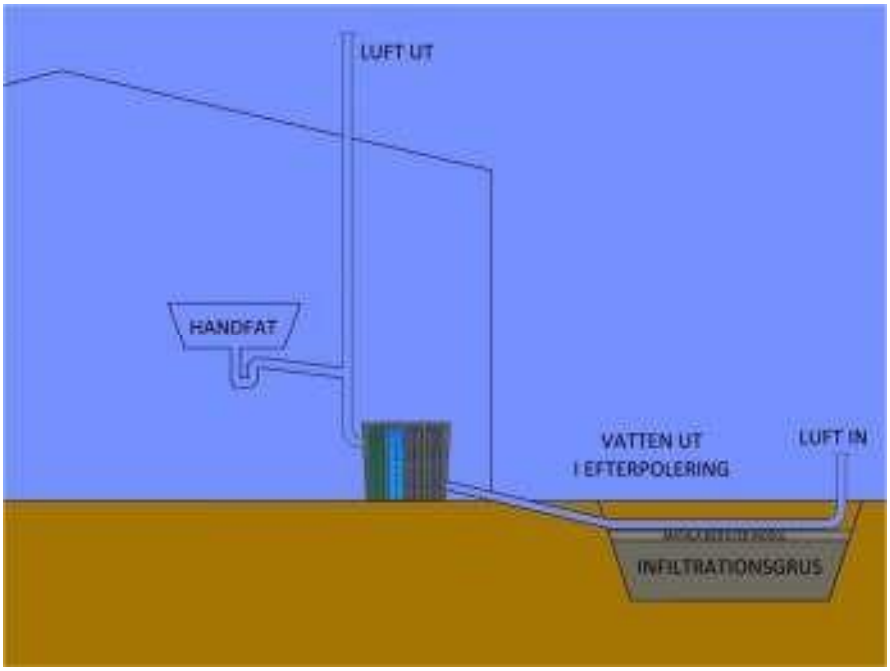
Pressure curve for pump



Ventilation
Ventilation is always necessary to oxygenate a biodegradation. Inbound air is through the pipe for outgoing water, if possible - or via the upper hole on the same short side as outgoing water, if an unventilated post-polishing is used.

Outgoing air goes through the housing pipe trunk or via the hole in Bio filter 10's lid. Outgoing air should be drawn as high as possible, over the roof nook is the best. This leads to a good self-draught and oxygen addition, as well as pulling out any odors.

All sewers need ventilation and good air exchange thus - also Bio Filter 10. Keep in mind that there should be ventilation at both ends of the biofilter.



Ventilation on the discharge pipe and the roof of the house.

Maintenance
The microbial growth formed on the filter element collects nutrients from the gray water flowing through the filter elements. The biological purification process is sensitive to poisoning i.e., drugs, chemicals for sewage stops, chlorine, large amounts of antibacterial detergents, solutions, oil, paint, or other problematic waste. This is because all of this kill the microbe function of the bio filter.

One should also avoid directing nutritious substances, such as milk and fats to the bio filter, nutritious substances should be composted.

Keep in mind that large amounts of greasy dishwashing water may cause the filter elements to be cleaned more often.

If the water flow through the filter elements deteriorates significantly, the filter elements should be cleaned more often. The clearest sign that the filter elements need to be cleaned is that the upper part of the filter elements (10 highest cm) is dirty. Contamination of the upper parts of the filter elements may also be due to a temporarily large amount of wastewater or to a stop in the discharge site after the filter.

Location of the carpets from the inlet to the outgoing water:
2 green, 2 blue and last 4 grey filters.

Filter elements are absorbed and cleaned once a year by shaking them out above a compost.
The residual sludge should be composted in a latrine compost.

Cleaning
Sewage sludge contains bacteria and therefore it should be handled with caution.

The easiest way is to shake off the carpets above the compost, about 90% of the sludge will then release. The knocked-out filters are then put back in the Biofilter, the 10% of sludge and bacteria that remain ensure that the biological purification continues.

The sludge should be composted in a latrine compost for a normal 6 months to ensure full degradation.

It should be avoided to clean the filter elements too often, as this reduces microbial growth, which leads to a deterioration in purification results.

In winter, you can drain the biofilter if there is a risk of freezing that stops the flow, if you want to be able to use the biofilter in winter, you should insulate it extra.
The biofilter can resist freezing temperatures normally well, nothing that breaks.