



Aquaponic mini swirl filter (or standard filter)



Flex

[VIEW IN BROWSER](#)

updated 27. 3. 2022 | published 27. 3. 2022

Summary

Remove solids from Aquaponics

[Household](#) > [Outdoor & Garden](#)

Tags: [filter](#) [fish](#) [swirl](#) [microgreens](#)

If you use Aquaponics to grow stuff like Micro greens, the nutrient rich water contains lots of solids (Fish poo). This can be despite many levels of previous filtering. Plants of any kind can't consume these solids, so these naturally settle on the nutrient beds..... this builds up over time and becomes problematic.

In order to clean system one needs to drain everything, clean all the beds which is tedious for the home enthusiast or costly for the commercial growers.

This simple system adds a final swirl filter to remove solids (floaters and sinkers). It fits the standard wire rack system that almost all microgreen farmers seems to use. It clips on/off and easy to adjust height.

You can add extra filtration by either stacking the systems, adding Dacron between inner and outer bottles (free offcuts at most foam suppliers) or just having a simple one bottle Dacron filter.

It is a very simple process to clean these filters compared to cleaning the beds.

System relies on two PET bottles. One small and one big. Pictured is a 600ml inner and a 1000ml outer. You could use bigger or smaller combos. Cut a small hole near the neck of the smaller inner bottle.

25mm black poly pipe is standard for reticulation and extremely cheap fits perfectly into the opening of most PET bottles. Cut the black poly at an angle to make it easier to instal. If it leaks, push the barb of the lower connector hard against the PET mouth opening and this almost fixes any leak. If still leaks, put a tiny smear of silicon on the black poly before final assembly.

The black poly pipe should be near/at the top of the inner bottle. Water flows between the outside of smaller bottle and inside of larger bottle down, then up again through the small opening you cut in the small bottle. It then travels up to the top of the inside of the smaller bottle then down the 25mm black poly to out.

A short video trying to demonstrate what happens over a week by adding dried fish poo at inlet to system. In reality the fish poo solids are suspended in water and only slowly accumulate over time. However the video hopefully shows how a tiny swirl filter like this can remove both floating and sinking debris.

Model files

bottom-clip-v2.stl



bottom-clip-30mm.stl



clip-v1.stl





mossie-stopper-v7.stl



top-clip-v3.stl

License

This work is licensed under a
Creative Commons (4.0 International License)



Attribution-ShareAlike

- ✗ | Sharing without ATTRIBUTION
- ✓ | Remix Culture allowed
- ✓ | Commercial Use
- ✓ | Free Cultural Works
- ✓ | Meets Open Definition