

AeroBlock™ Filter Manual

Many hydroponic techniques require aeration of nutrient reservoirs. While unfiltered aeration of reservoirs contaminates the water within hours. PermaClone's AeroBlock™ Filters can be placed in-line with your air pump, blocking ALL airborne bacteria, fungi and their spores. The benefits include:

- Longer use of nutrients mixes without reservoir change-outs.
- Decreased frequency and use of chemical oxidizers.
- Positive air flow of HEPA filtered air across gaps in your system modules, preventing contamination.
- Evacuation of ethylene gas released by cuttings which slow rooting and cause leaf senescence or aging.

Installing AeroBlock™ In-line Filters:

1. Purchase new airlines AND air stones for your new AeroBlock™ filters.
2. When using a single pump with multiple out-puts, the tubing should be cut at equal lengths and air-stones placed at equal water depths for equivalent air-flow.
3. Filters may be at different locations in the tubing as long as the tubing is of equal length.
4. Ensure the air flow is entering the side of the filter labeled "IN".

Sterilizing Air Lines & Airstones:

5. It is important that airlines and air stones are sterilized by one of the following methods between cloning cycles:
 - **Boiling Airlines:** Test boil a single airline or air stone to ensure it can handle boiling temperatures. We recommend ten minutes at boiling temperatures (no more, no less).
 - **Pressure Cooking:** Pressure cooking tubing is quick and reliable, but reaches higher temperatures than boiling. Test a small sample of tubing and one air stone before committing your whole batch. We recommend 15 psi for 5 minutes. Don't start timing until full pressure is reached.
 - **Chemical Sterilization.**
 - Soak your airline (without the AeroBlock™ Filters) in ONE of the oxidizers listed in TABLE 1 for 6 - 12 hours at the recommended dose.
 - Attach the air stones to a separate set of air-lines and your air-pump. Put the pump on a timer for 45 min on, 15 off allowing the sterilizer to ebb-and-flow from the air stones for 12 hours or overnight. This ensures adequate exposure to the porous stones.

Oxidizer	Dosage
8.25% Sodium Hypochlorite (Bleach)	5.0 mL/gal (1 tsp/gal; 1 mL/L)
Hypochlorous Acid (e.g. UC Roots™)	20 mL/gal (4 tsp/gal; 5 mL/L)
29-30% Hydrogen Peroxide (e.g. H2O2)	30 mL/gal (2 tbs/gal; 8 mL/L)

General Tips:

- **Pump Height:** Always maintain your air-pumps above the water level to prevent back flow if the pump is OFF.
- **Pump Cycle Times:** Cycle timing your air pump during system sterilization allows you sterilizer to ebb-and-flow from your air-lines and air stones, causing the sterilizer to ebb-and-flow from the air stone and airline.
- **Filter Replacement:** Every 4 – 6 months, depending on environment. Visible debris on the filters' in-let side indicates the need for change-out.