

Ætrium System Maintenance

Ætrium-2.1 SmartFarm Cleaning and Disinfection

Cleaning & Disinfecting

After the harvest, once plants and roots have been removed from grow trays and tubs, cleaning and disinfecting is an essential part of preparing for the next growing cycle.

1. Pause or stop the growth plan for the specific device in the Guardian Grow Manager (see Guardian Grow Manager manual for instructions).
2. Drain reservoir:
    a. Engage drain pump (see Guardian Grow Manager).
    b. Manually drain with submersible pump.
    c. Manually drain by opening drain valve underneath the reservoir.

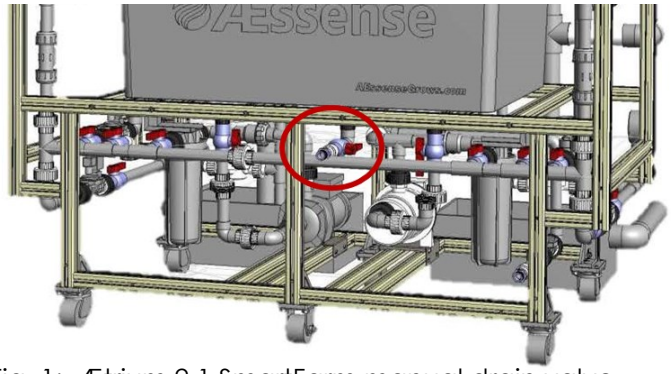


Fig. 1: Ætrium 2.1 SmartFarm manual drain valve

3. Remove pH sensor **(fig. 2)** and place it into the pH sensor storage cap.

Important: Exposing the pH sensor to cleaning agents/disinfectants may damage the sensor. For temporary storage, tap water can be used in cap. For long term storage, use KCl storage solution. DO NOT store in deionized or distilled water.

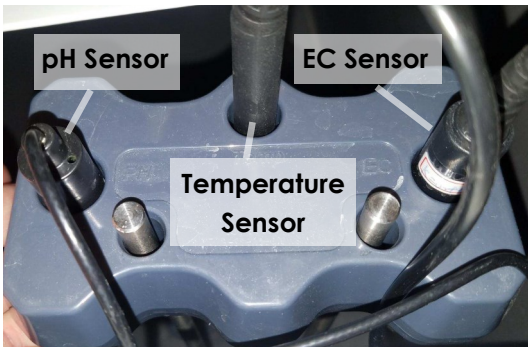


Fig. 2: Sensor float, pH, temperature, and EC sensors (l-r) inserted.

4. Remove and clean and sock filter **(fig. 3)** and primary filter **(fig. 4)** from the Ætrium Dosing Unit(ADU) (see **SOP1, Filter Cleaning** for instructions).

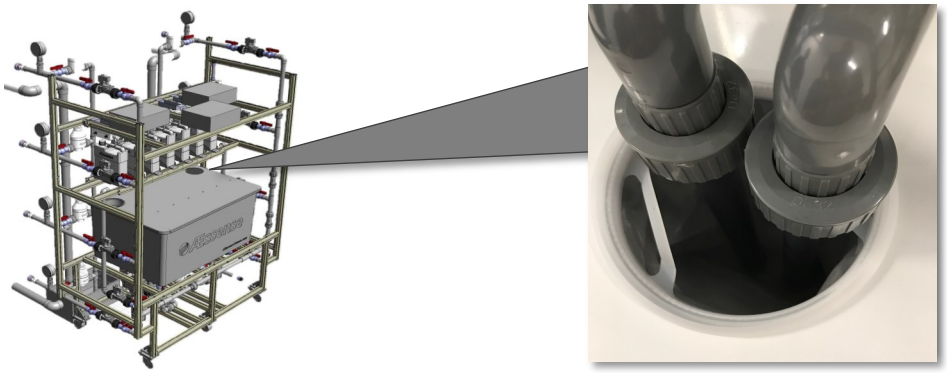


Fig. 3: Ætrium 2.1 SmartFarm ADU (l) and sock filter (r)

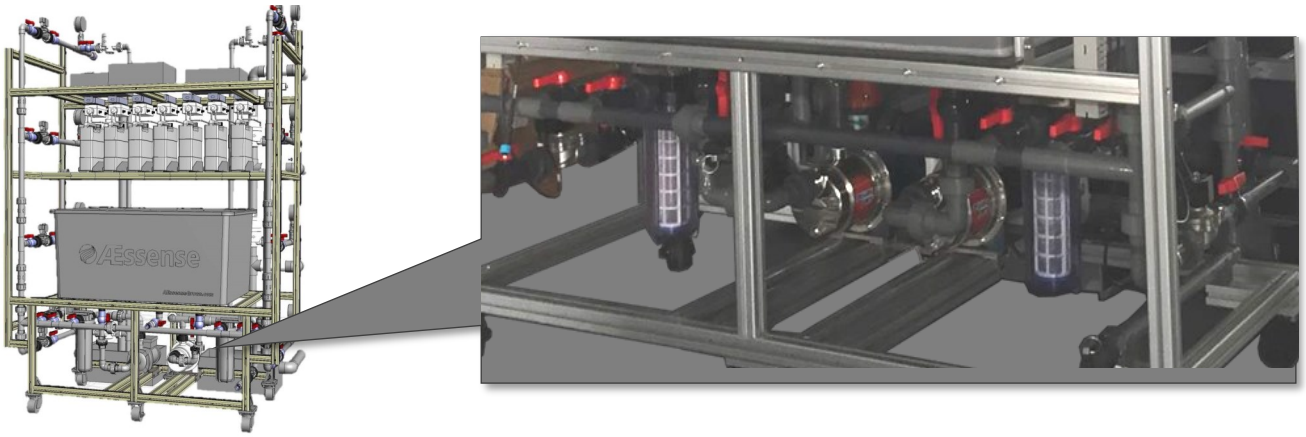


Fig. 4: Ætrium 2.1 SmartFarm ADU (l) and primary filters (r)

5. Using a wet/dry vac remove remaining liquid and clean any debris from the Growth Trays and reservoir.
6. Remove secondary filters **(fig. 5)** from reservoir and clean.



Fig. 5: Secondary reservoir filters beside sensor float (l) and return line (c) filter, and removed (r)

7. Wipe down, clean, and disinfect all grow tubs.
8. Remove the grow tray and take it to the washing area. Grow tubs can also be removed from the system for thorough cleaning.
9. Rinse and scrub all surfaces using soap and warm water.
10. Return the grow tray.

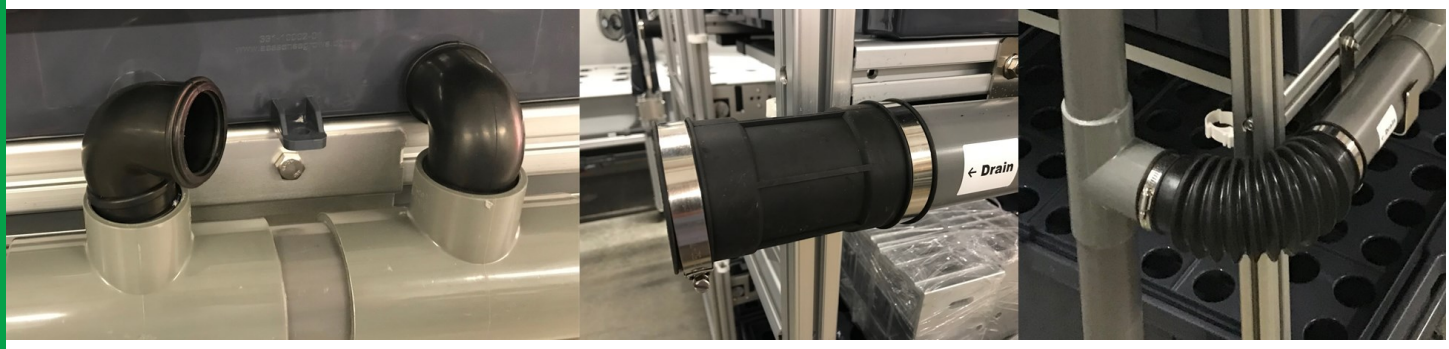


Fig. 6: Ætrium 2.1 SmartFarm rubber elbows (l), rubber coupler (c), and rubber accordion (r)

11. Remove rubber elbows between Growth Tray and drain lines, rubber couplers connecting drain lines of adjacent segments (if applicable), and rubber accordions from drain lines (**fig. 6**).
    a. Rubber elbows can be placed in a dishwasher to sanitize and disinfect.
    b. Rubber accordions may need to be scrubbed with a bristle brush (**fig. 7**).
12. Drain lines can be removed and the interior cleaned with a bristle brush.
13. Install cleaned filters. (see **Filter Cleaning SOP**).



Fig. 7 Bristle brush for cleaning drain lines

14. Return all rubber elbows, couplers, and accordions to drain lines.
15. Fill the dosing basin reservoir with clean water to 6"/15.25cm (about 30 gal, using one of these methods:
    a. Engage autofill (see Guardian Grow Manger Manual).
    b. Manually fill the reservoir.
16. Add preferred cleaner/sanitizer into reservoir using manufacturer's recommended rates.

Important: Avoid using bleach as it may cause phytotoxicity to adjacent plants, and may cause oxidation to accessory equipment.

17. Circulate in irrigation system for a minimum of 10 min.
18. Repeat steps **2**, **15,** and **17** at least two additional times to flush cleaning agent from system.
19. All plastic components can be cleaned with a domestic or commercial dishwasher and are rated to at least 140°F.
20. Recalibrate sensors (see **Sensor Calibration SOP**) and start new or resume Growth Plan.

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