

R.O. MAPLE SYSTEM MANUAL

START-UP

Open the concentrate pressure valve to decrease the operating pressure to approximate 50 psi - 70 psi for about 2 minutes. Opening the concentrate pressure valve will allow the thick syrup-like concentrate to escape from the membrane and clean off any sugar build-up.

PRE-FILTERS

If your pre-filters are clogged, you'll notice the booster pump will make a loud noise — this is because it is being restricted. How often you change your pre-filters depends on the amount of dirt/silt in your sap. Usually the first pre-filter is changed more frequently.

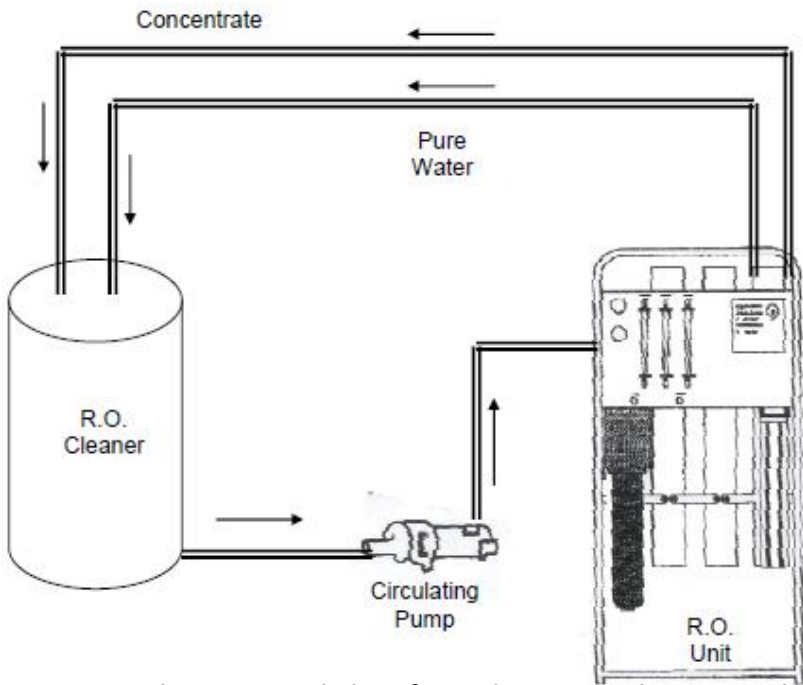
When doing a filter change, use the concentrate pressure knob to let air out (this is called “burping” the unit). Once all the air has been let out, you can put the operating pressure back up.

MONITORING SUGAR LEVELS

We suggest regularly checking the sugar levels of the concentrate and reject using a TDS meter. When the TDS of the concentrate is double or greater than that of the reject, the batch is ready for boiling



CLEANING INSTRUCTIONS



1. Disconnect the sap supply line from the unit and connect the circulating pump discharge line to the inlet. Minimum 30 psi is required.
2. Thoroughly mix cleaning solution with R.O. water. (**Note:** The warmer the water, the easier it will be to mix in the cleaning solution.)
3. Disconnect the concentrate line and reject line, and reroute these lines into the cleaning solution tank — this will create a closed loop.
4. Open the concentrate valve to reduce the overall operating pressure and remove any restriction across the membranes.
5. Turn on the circulating pump and R.O. Maple unit. The feed pressure should be a minimum of 30 psi. (**Note:** The unit may sound different because you have reduced the operating pressure.)

6. Once the cleaning process is underway, you may notice the cleaning solution start to become discoloured — this is normal, however if you notice extreme discoloration happening quickly, turn off the unit and circulating pump, dump the solution, and make up a new batch of cleaning solution (step 2). Before dumping the batch you should neutralize the solution to a pH level of 7.0 with Acid Osmosis.
7. Once the second batch of cleaner is ready (if required) repeat **step 5** and run the unit for 10-15 minutes.
8. After the cleaning process is done, neutralize the batch to a pH level of 7.0 and dump.
9. Fill the cleaning tank with R.O. water, check to make sure the water is below 9 pH and rinse the system by cycling for about 10 minutes. If the water is dirty, dump it and make up a new batch of R.O. water. Repeat rinse cycle for 10 minutes.
10. Before ending the rinse cycle make sure the pH level is close to 7.0. (Use Acid Osmosis to lower the pH level if needed.)
11. Disconnect the circulating pump and reconnect the sap feed line to the unit. Reconnect the concentrate line and reject line.

NOTE:

While R.O. membranes are pH resistant, it is important to know that pH levels above 9 can cause the membrane to swell (this will decrease the rejection efficiency) and pH levels below 4 can cause the membrane to shrink.

If a too high or too low pH level occurs during the cleaning process, simply rinse the membrane with pure R.O. water until the pH returns to a safe level.

STORAGE INSTRUCTIONS

SYSTEM STORAGE

At the end of the season, it is important to flush your system with pure water, discard pre-filters, and make sure filter housings are free of any sugar. The booster pump *does not* like sugar as it solidifies and can seize the impellers. Be sure to thoroughly rinse the whole unit to ensure no sugar is left behind.

MEMBRANE STORAGE

Your membrane can last 5+ years with proper care. At the end of the season, membranes should be stored in a food grade storage solution in an air-tight container to prevent bacteria growth. Do not store membranes in extreme weather conditions.

Note: Storage solution must be flushed and neutralized prior to starting the system for the new season.



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