

CHANGING FILTERS GUIDE:

Caution!

- Do not attempt to open a filter that is under pressure.
- Have a sponge and perhaps a small pail handy. You will spill some water.
- Turn off / unplug any close electrical systems.
- The floor might become wet and slippery.

Note! This is a general guide. Have the instruction manual for your specific system handy. Your systems manual will go into detail about your systems specific features, valve positions and more!

The Basic Filter Changing Process: (at least every 6 - 12 months)

step 1: Turn off the water supply going into the RO / RODI system

step 2: Open a pure RO or RODI water outlet (ro faucet, ball valve OR di bypass) to relieve the water pressure

step 3: Change the filters

- 3.1 Unscrew the filter housings & remove the old filters and/or membrane (use the housing wrench).
- 3.2 Clean the housings with soap & water and rinse thoroughly.
- 3.3 Change the filters. **Note1)** When re-attaching the housings, NEVER use the housing wrench to tighten the housings. **Note 2)** Ensure the housing's O-rings are in place and properly seated before attempting to re-attach the housings. **Note 3)** For in-line filters, please note the arrow on the filters indicating the directional flow of water. **Note 4)** All In-line filters have blue dust caps, please remove & discard these in the same way tubing is removed... press in on the collet with your finger or wrench & pull tubing in the opposite direction (see pic)----->



step 4: Fast flush the system



- 4.1 Turn your fast flush flow restrictor's black handle parallel to the tubing- see picture above.
- 4.2 Next, open a pure RO water line (i.e. RO faucet, inline ball valve, etc). Now you are fast flushing!
- 4.3 Fast flush your system for 15 minutes.
- 4.4 After fast flushing, please ensure you return the flow restrictor's black handle back to the closed (normal operations) position (black handle pointed up - perpendicular to the tubing).

step 5: If you are replacing your membrane, discard the first hour of RO water the system makes.

IMPORTANT! Fast flushing sends almost all of the carbon dust/"fines" out of the system & directly into the drain as opposed to potentially clogging your system. Fast flushing is great way to keep your membrane clean & extend the life of your di resin. **Note!** Always fast flush immediately after installing new filters. If you have dramatically reduced pure RO water, little or no drain water, or constant drain water **AFTER** installing new filters and/or membrane, the following 3 items are the most common reasons why. IF these 3 items don't solve your problem, perform a system purge (see below).

Is your **fast flush in the closed position** ?

Is your **pressure tank pressurized***** ?

IF you have a **DI bypass, is it closed**?



How to PURGE: Step 1: Remove all of your filters & remove the membrane. Step 2: Screw the filter housings & membrane housings  back on the system without the filters or membrane. Step 3: Open a RO water line with the fast flush in the closed/normal operations mode for 30 minutes without any filters or membrane. During this step, turn the fast flush's black handle back & forth multiple times & tap the automatic shut off valve (ASOV)  and/ or the permeate pump  with your hand. Purging clears potential clogs 99% of the time. If this does not work, remove the fast flush flow restrictor. Hold the fast flush up to a light. You should see a large hole when the fast flush is open AND a small hole when the fast flush is closed. If you do not see light through the fast flush in both positions, your fast flush is clogged. To clear the clog: blow through, use a air compressor or your water supply line... this method also works for permeate pumps that get clogged.



***To recharge your pressure tank, inflate schrader valve to 7-9 psi with the tank empty & ball valve open.

When to change the filters?

The drain water made should be included in your calculation of when to change your filters. Drain water is the lifeblood of your system & essential for pure RO water. We plumb most of our RO systems to get a 3:1 waste to pure water ratio. This means for a filter rated for a 3,000 gallon life, it will be exhausted after we make 750 pure RO gallons as we have sent 2,250 gallons down the drain. Change filters when pure RO water production slows, if a filter look visually dirty, if the filter has reached the end of its filter life rating OR at least every year, whichever comes FIRST. If you have well water or otherwise hard water to begin with, you will need to change filters more often. Please note the membrane is always sold separately from our filter packs.



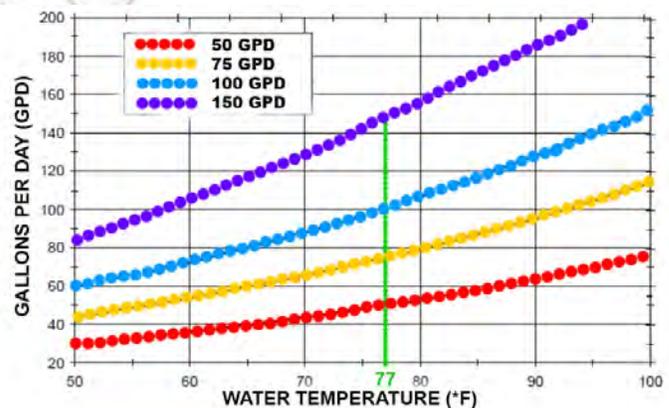
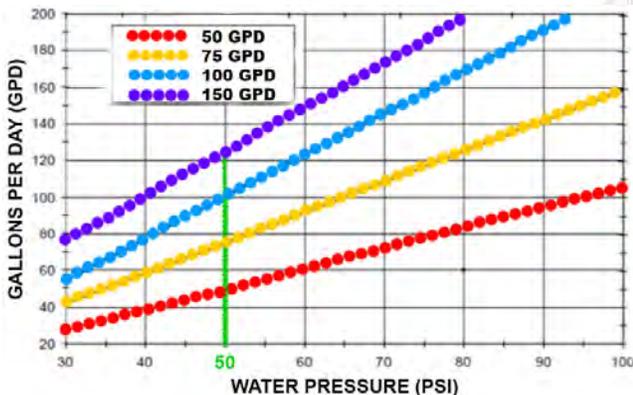
Sediment Filters: (Stage 1) (*pre-filter*) [life= 3,000 total gallons or 1 year for full 10" sediment filters or 1,500 gallons or 1 year for inline sediment filters ]. The sediment filter traps dirt & will become clogged. Sediment filters protect carbon filters from getting clogged.



Carbon Filters: (Stage 2-3) (*pre-filter*) [life= 3,000 total gallons or 1 year for full 10" carbon filters or 1,500 gallons or 1 year for inline carbon filters ]. Carbon filters remove chlorine, chemicals, taste & odor. The carbon block is vital & required to be changed on time to protect your membrane from exposure to chlorine. Changing carbon filters on time extends the life of your membrane. Among other things, carbon filters protect your membrane from chlorine & chloramines.



Reverse Osmosis (RO) Membrane: (Stage 3-4) (*the filter*) [life= 6,000 - 15,000 total gallons, 1.5 - 5 years, or when rejection rate drops below 90%. Membranes are normally changed because of slow or no production. The other reason to replace the membrane is production of excessive amounts of poor quality water. Chlorine exposure, inadequate carbon filter replacements or low pressure are usually to blame for a membranes reduced life. Many water chemistry matters go into membrane life expectancy & we cannot accurately predict how your membrane will do. What you must know is when your carbon blocks are exhausted, they allow chlorine to pass through to the membrane. A process called oxidation begins. This initially causes a reduction in pure RO water. Next, your membrane sheets break, putting holes in your membrane & you will have a large amount of poor quality water. When new, RO membranes reject 95-99% of TDS. Over the next 2-5 years, this rejection rate will decrease. You will need a TDS meter to easily perform a TDS test*** to find your membranes rejection rate. Temperature and water pressure play a role in your membranes production. Please see 2 charts below!



Deionization (DI) Resin Filters: (Stage 4-8) (*post-filter*) [life= minimum 3,000 ppm TDS capacity for our full 10" DI cartridges or [1500 ppm TDS capacity] for our inline di filters. Resin may smell "fishy" when exhausted. The color changing feature of our di resin goes from green or blue to a golden brown color and is a INDICATOR that the resin is exhausted. We recommend performing a TDS test when color changes. A rough mathematical equation of resin filter life: If your RO tds is 10 ppm, take $3,000/10 = 300$ gallons of zero tds water before the resin is exhausted & needs replacement.

Ultra Violet (UV): (*post-filter*) [life= 1 year] UV lights will make a humming noise when in need of replacement. Another way to check is temperature, a working light produces a warm housing.

Mineral Filters (calcium and magnesium) (*post-filter*) [life= 1,000 gallons or 1 year]

***How to perform a tds test? ALWAYS make one gallon of pure RO water before a TDS test to avoid testing the stale "tds creep" water in your system. Get a clean glass. Pour about 6 oz of pure RO water in the glass. Put your TDS meter in the glass & press the button on the TDS meter. Record the number. Pour out the glass and then test your TAP water, & then test your DRAIN water. Don't use the cap of the TDS meter - again, you want to sample about 6 oz of water! As always, we are committed to your success. Please contact us with any questions!

Questions? Call or text : 772-461-0256 / email : sales@airwaterice.com or visit us online at www.AirWaterIce.com