



Technical Tip

How To Minimize Wasted Water From Your Water Softener and/or Filter System

Water treatment systems including water conditioners, reverse osmosis filters, iron filtration systems and other types of backwashing conditioning systems all produce wasted water, which eliminates contaminants. The waste water can be reduced with just a few simple steps.

It is very common for water softeners, iron filter systems, as well as other kinds of filtration systems to be hooked up and then ignored. As a homeowner you may have inherited a water softener, reverse-osmosis filter or backwash filtration system when you first acquired your house.

However, it isn't difficult to regulate these filters, and you can minimize the quantity of water wasted by these systems by following a few simple and easy .

The Top 5 Steps To Minimize Water Conditioning Waste Water

1. Identify the model of system you own
2. Analyze the water before and after the system to determine how it is performing
3. Check the configuration settings
4. Change the configuration settings in order to optimize water use
5. After 1 - 2 weeks, re-test and monitor the water before and after the system

Water Softeners

Water softeners take out calcium hardness from water with a method known as ion-exchange. The process back-washes as well as cleans the softening resin by way of a salt brine solution. In the course of the regeneration cycles, a quantity of waste water is produced, which cannot be re-used for garden water and is sent to the sewer or septic tank.

Most water softeners have a flow sensing unit, that meters the quantity of water being used which allows the softener to back-wash and regenerate, based on the quantity of water the softener has utilized in between regenerations

How To Minimize Water Softener Water Waste

Check hardness levels before and water softener

Check to see the number of gallons (or days if it is a time-clock type control) between regeneration cycles that the softener is currently set to regenerate

Determine how many pounds of salt, for each cubic foot of resin, the conditioner is currently set to use for every regeneration

Modify the settings to allow for more days between regeneration cycles

Adjust the lbs of rock salt used, if greater than 9 lbs of salt per cubic foot

Monitor water softener and on the day before the regeneration, and verify that the water continues to be softened to make sure the settings have not been too aggressive.

Iron Filtration and Other Types of Back-Washing Filter Systems

Iron filters, carbon backwash filters, acid neutralizer filters, as well as turbidity filters virtually all use some water to periodically backwash and rinse out the filter media which the system uses. Just like water softeners these filter systems can backwash depending on the amount of water used, and / or they may be simple time clock controls that backwash according to the day of the week, and / or days or weeks between backwashes.

How To Decrease Backwash Filter Waste Water

Analyze water both before and after system (for pH, iron, sediment etc)

Check to see how many gallons (or days if a time clock type filter) between regeneration cycles the filter system is currently set to backwash

Determine how long the particular backwash cycle is, and how many minutes the rinse cycle is set for

Modify the settings to allow for more gallons or days in between backwash cycles

Adjust the amount of minutes the backwash and rinse cycles are set for. Set for the minimal number minutes advised by the manufacturer. Typically this will be 6 to 8 minutes for backwash, and 4-6 minutes for rinse cycle.

Monitor filter and test the water frequently, both before and after the filtration system system, on the day before the next backwash, to verify the water continues to be acceptable.

Look out for changes in water quality and/or a reduction in water pressure, which may signify fouling of the filter media due to inadequate backwashing.

Do not make big reductions in time or days between cycles. Start by reducing it by 10 or 20 percent in order to avoid fouling your filter media.

Point-Of-Use Reverse Osmosis Systems

Reverse Osmosis devices take out total dissolved solids, dissolved salt and metals from water through a membrane process known as "reverse osmosis". They have cartridge filters that filter your water of chlorine, chemicals, tastes and odors. In the RO process, the membrane sends waste water to the drain at the same time allowing pure water reduced in TDS to permeate through the RO membrane.

How You Can Reduce Reverse Osmosis Waste Water

Analyze your water before and after RO system for TDS to make certain RO is eliminating at least 90% of the Total Dissolved Solids.

Keep pre-filters changed regularly. A clogged pre-filter may foul the RO membrane and reduce the amount of pure water being produced, which can increase the volume of waste water.

For best results, drain the RO tank entirely each time you use the pure water. This can allow the RO membrane to produce the most quantity of pure water, while losing the least volume of water. As the RO pressure tank gets completely full, the volume of pure water produced is much less, even though the amount of waste water stays the same, so it's far better to operate on an empty tank whenever possible.

Consider switching to a new more efficient RO system or retro-fitting your RO, and use a so-called 'permeate pump', which mimics the effects of the empty RO tank, and permits the system to utilize significantly less waste water.

Empty the RO tank through the faucet, and check the air pressure in the RO pressure tank. Be sure it is adjusted to 7 to 9 PSI and / or observe the manufacturer's instructions in order to keep air pressure within the tank at a proper level. If the RO pressure tank loses pressure, the system will not function effectively.

If it is feasible, during irrigation season look at routing the RO waste water line outdoors to shrubbery or landscaping to re-use for watering.

If your system had been put in professionally, consider contacting your water treatment professional and then schedule a service call. The water treatment pro can easily look at your system and improve it to reduce waste water, while keeping a high level of water quality!

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