

SOFTENER REPLACEMENT...

Many older water softeners regenerate based on a timer typically set to regenerate once every 2 or 3 days, depending on expected water usage and water hardness. By measuring actual demand on the water softener, "demand initiated regeneration", or DIR controls are much more efficient in the regeneration process. These systems can reduce salt use by up to 70%. These controls use either a flow meter or a hardness sensor to determine when to begin the cycle. The "payback" period for adding a DIR control to your water softener from reduced salt usage can be as little as 3 years.

Newer DIR Models

Even if your current meter-based softener is older, newer DIR controls can predict and monitor softener performance, reducing salt usage. These higher efficient systems can save an additional 30% of salt use compared to the traditional metered system.

Check with your local qualified water softening representative to see what is appropriate for your particular needs. Even if a newer, more efficient water softener is not in your immediate future, you can still optimize the efficiency of your home unit, resulting in savings for you and the environment.

Please do your part to address our chloride problem by tuning up or replacing your older softeners. The DNR and EPA have given the Village time to reduce chlorides through voluntary measures. If not successful, the DNR/EPA may mandate expensive measures that will impact sewer rates in the future.



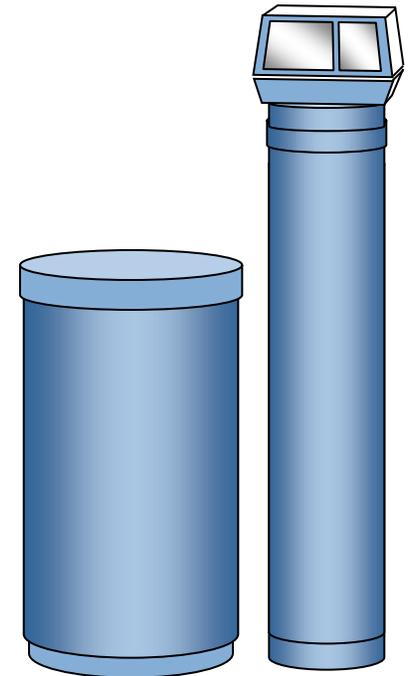
*An Environmental Awareness Message
brought to you by:*

The Wisconsin Department of Natural Resources
and

The Village of Potter

Water Softening and the Environment

Do you use a water softener?



If your answer is **"YES"**, this brochure contains information for you on how to optimize its usage, resulting in lower salt costs for you and helping the Village meet the permit limits of the Wastewater Treatment Plant.

The Village of Potter treats approximately 25,000 gallons of wastewater per day before it is discharged to the north branch of the Manitowoc River. Wastewater treatment plants are designed to remove solids and organics commonly found in wastewater, although it cannot remove chlorides.

The Wisconsin Department of Natural Resources (DNR) has set limits on the discharge of chlorides from the Village's wastewater treatment plant. Chlorides are dissolved solids in the water that pass through a wastewater treatment plant. Treating for chlorides would require exotic treatment technologies that are extremely cost prohibitive; therefore, the only feasible way to reduce chlorides discharged from the treatment plant is to reduce the amount of chlorides sent down the sewer.

Residential softening is the most significant source of chlorides entering the wastewater treatment plant. The salt (sodium chloride) used by the softeners, passes through the treatment plant and ultimately ends up in neighboring lakes, streams, rivers, and groundwater. The cumulative effects of the salt used from each softener can have toxic effects on aquatic plants and animals.

💧 Why Is Salt A Problem?

The primary salt utilized in home water softeners is sodium chloride (NaCl), a naturally occurring and commonly used substance. NaCl normally breaks down into sodium (Na+) and chloride (Cl-). These elements are discharged to the wastewater treatment plant via sanitary sewers.

Chlorides pass through the treatment plant and are discharged to surface water, where they may impact freshwater organisms and plants, from plankton to fish, by altering reproduction rates, increasing species mortality and changing the characteristics of the entire local ecosystem. In addition, as chloride filters down to the water table, it can stress plant respiration and change the desirability of our drinking water.

💧 How Does A Water Softener Work?

In many Wisconsin communities, people use water softeners to remove minerals from their water that cause hardness. An ion-exchange process is the traditional method of removing hardness from water. Hard water passes through a column of sodium charged resin, where hard water ions such as calcium and magnesium are removed from the water by exchanging places with the resin-bound sodium ions. The water is then said to be "softened".

The resin is "exhausted" when it has given up all or most of its available sodium ions. The resin is then "recharged" with sodium ions during a process known as regeneration. During this process, the resin is washed with a concentrated brine (salt) solution (most often NaCl) that reverses the hardness removal process. The regeneration wastewater, which is high in chlorides, ends up in the drain where it flows to the sanitary sewer.

💧 What Can I Do to Reduce My Salt Usage?

Soften only the water that needs to be softened. If you are building a new house, remodeling bathrooms or kitchens, replacing old plumbing or installing a new water softener, consider where your water needs to be softened. Work with your plumber to connect your water softener to only those areas that need softened water.

Places to "Feed" Softened Water Are:

- hot water heater
- laundry facilities
- dishwashers
- toilets (consider low flush models)
- showers

Places to Bypass Using the Water Softener:

- outside water spigots for yard use
- cold tap drinking water lines

By softening more water than what is really needed, you increase the cost of operating your softener (in terms of increased payments for salt and energy), and ultimately, more salt will enter the environment as a result of increased softener regenerations.

Softener Tune Up or Replacement TUNE UP...

The Village of Potter encourages residents to have their softeners inspected/tuned up on a regular basis (every 5-years) by a qualified technician who is knowledgeable in increasing softener salt use efficiency. Request that the softener be adjusted to minimize salt use while retaining enough softened water for normal household use. Things to consider include:

- Verifying softener set for proper hardness. If set for a higher than actual hardness level, the softener may be regenerating too often, wasting salt.
- Verifying/adjusting water demands
- Adjusting salt dose per regeneration

Water softener regeneration is most efficient at the beginning of the brine cycle. The higher the salt dosage in the cycle, the lower the regeneration efficiency.

By setting your water softener to regenerate more frequently and using less salt for each regeneration, you may be able to increase your softener's regeneration efficiency.