

**ALPINE PURE WATER SOFTENER TREATMENT SYSTEM.**

Please note that the Alpine Pure Water Softener is an Ion Exchange system and the resin is designed to reduce hardness in your water supply as well as a small amount (< 1.5 PPM) of iron/manganese.

A water softener works by having a separate brine tank that is filled with salt, and the main pressure tank full of a special Ion exchange resin. The resin removes the hardness from the water, but requires that it be regenerated by washing it with a salt brine during regeneration. Alpine Pure Water Softeners are demand based (after a certain number of cubic meters have been processed) Regeneration happens in the early hours (2am) in the morning. It then goes through several cycles, which are basically:

- Fill: Water is passed to the salt tank from the Auto regeneration head. (Done at the last regeneration)
- Brining: This water is left in the tank to mix with the salt to form brine
- Rinse: The brine is sucked up into the pressure tank to rinse the resin. It will remove the calcium/iron/manganese in the resin that has been removed from the water in the past service cycle.
- Back Wash: The resin pressure tank is then flushed to remove the residues and iron deposits to waste.
- Fast Rinse: The resin is rinsed from all the above
- Service: This means that the water softener is serving soft water for the house

**How often will the water softener regenerate?**

- Your water softener will regenerate about every three-four days depending on water usage.
- The electric control on your Alpine Pure water softener uses three factors to determine when to regenerate:
- The total capacity of the water softener resin and tank size.
- The water hardness setting that was programmed into the control when it was first installed.
- The actual water usage per day.

**How does it work?**

Softening water is accomplished by passing hard water over a "resin bed" of plastic beads that attract the minerals in the water like a magnet. Water, without the hardness, flows from the softener and throughout your house.

Depending on the hardness of your local water, at some point the resin bed becomes coated with hardness minerals and must be regenerated or cleaned. Alpine Pure Water Softeners are programmed to regenerate at 2:00 am.

The water softener should have a reserve capacity of 20 to 25% before it regenerates; this means that it regenerates when the "resin beads" are 75 to 80% saturated.