

***“Can I actually feel a difference between  
hard and soft water?”***

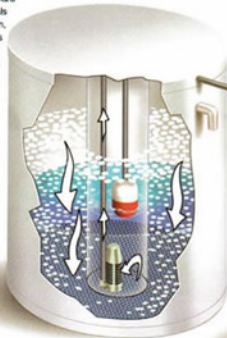


*With softened water,  
soaps lather better and  
clean more completely.*



# "How does a water softener work?"

To wash off hard water minerals from the resin, brine water is injected into the softener.

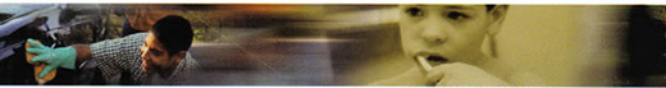


Brine tank



Hard water fills the tank. As it passes through the resin, the hard water ions are attracted to the resin. By the time the water gets to the bottom of the tank, it's soft.

Water softener





## Softening water is a 4-step process.

- 1) The body of a water softener is a tank filled with resin beads. These beads are covered with sodium ions. As hard water passes through, the resin beads act like a magnet, attracting the calcium and magnesium ions (hardness) in exchange for the sodium ions.
- 2) Eventually the resin beads become saturated with mineral ions and have to be "re-charged." This process is called regeneration, and is conducted by the control valve on the top of the tank. The control valve is the brain of the system.
- 3) During regeneration, a strong brine solution is flushed through the resin tank, bathing the resin beads in a stream of sodium ions which replace the accumulated calcium and magnesium ions (hardness).
- 4) The brine solution, carrying the displaced calcium and magnesium ions, is then flushed down the drain by fresh water. The regenerated resin beads can be used again and again.

**FYE:** Hard water measures from 1 gpg to well in excess of 100 gpg. The Environmental Protection Agency recommends using water not exceeding 7 gpg.

Capacity is one of the first things you should look for in a water softener. The average family uses 80 to 100 gallons of water per person per day. That means a household of five requires 400 gallons of softened water daily. If your water has a hardness rating of 15 grains per gallon (gpg), for example, you would need to remove 6,000 grains per day (400 gallons x 15 grains). With a water softener that regenerates every 3 days, your minimum softener capacity would be 18,000 grains (6,000 grains x 3 days).



**Fleck control valves are designed to meet rigorous fatigue standards, passing 250,000 pressure cycles at up to 190 psi, as well as 10,000 complete regeneration cycles. Structural fiberglass tanks offer a 10-year manufacturer's warranty, the best in the business. Plus, only Structural fiberglass tanks feature an injection-molded inlet for leak-free seals.**