

**What is a water softener?** A [water softener](#) is a type of water treatment system that removes minerals from hard water using a process called ion exchange. Essentially, water passes through a salt water solution into a resin bed containing small, negatively charged resin beads that attract and bind with positively charged mineral ions. The minerals are then removed from the water, which flows out of the water softener and into the plumbing system. Over time, the resin bed can become overloaded with mineral ions, and as a result, it needs to be regenerated using a salt solution to release the trapped minerals and recharge the resin beads for the next cycle. This means that periodic maintenance is necessary to ensure that the water softener operates at peak performance. Since hard water can cause a range of issues including poor appliance performance, limescale buildup, and inefficient water heaters—softening the water in your home can enhance your daily life in more ways than you may realize.

**What is a water conditioner?** A [water conditioner](#) is a type of water treatment system that alters the structure of minerals in hard water without removing them. Unlike water softeners, water conditioners (the salt-free kind) do not require salt or electricity to operate. Instead, they use a process called template-assisted crystallization (TAC) to convert dissolved minerals into microscopic crystal particles that remain suspended in the water and do not stick to surfaces. In TAC, water flows through a chamber containing a catalytic media that provides a surface for the minerals to attach to. When the minerals bond with the media, they transform into crystal particles that float in the water, unable to create scale or cling to surfaces. The treated water then flows out of the chamber and into the plumbing system. Water conditioners are typically low-maintenance and do not require the periodic addition of salt or regeneration like water softeners do. However, their effectiveness may vary depending on the type and concentration of minerals present in your water system.

**Water softener vs. water conditioner: similarities** Water softeners and conditioners aim to do the same thing: treat hard water and save you money. They're both installed at the main water line of your home to treat all the water that flows through its plumbing system. Water conditioners and softeners are also designed to target the minerals in hard water that cause scale buildup, which reduces water pressure, inhibits proper drainage, leaves behind hard-to-clean stains, and emits unpleasant odors. By addressing hard water at the source, both water treatment systems help prevent the negative effects of hard water on pipes, appliances, and fixtures, so that you don't have to spend thousands on repairs and maintenance fees to fix them.

### **Water softener vs. water conditioner: differences**

While both water softeners and conditioners treat hard water, they do have a few differences to be aware of. One of the main differences is the method they use to process hard water. As mentioned, water softeners remove minerals from the water through ion exchange, while water conditioners alter the structure of minerals so they do not adhere to surfaces through template-assisted crystallization. This means that water softeners effectively *eliminate* the minerals that cause hard water, while water conditioners do not remove minerals, but instead *prevent* them from adhering to surfaces.

Another significant difference between water softeners and conditioners is maintenance. Water softeners require regular maintenance, such as adding salt to the brine tank and regenerating the resin bed, to keep mineral filtration consistent. This can be time-consuming and can result in additional costs.

There are also environmental differences between water softeners and conditioners. Water softeners require salt to regenerate the resin bed, which can result in additional water usage and salt discharge into the environment. Water conditioners, on the other hand, do not require salt or electricity to operate. Overall, the choice between a water softener and a water conditioner depends on your specific needs and preferences as a homeowner. Are you okay with the regular upkeep that water softeners require? Is mitigating environmental waste a priority for you? Is cost a leading factor in choosing a water treatment system for your home? These are all questions to consider when vetting your options. In the meantime, here are some key distinctions to think about.

### **Water softeners**

- Removes hard minerals from water through ion exchange
- Requires electricity, salt, and a water drainage line to operate
- Regular maintenance is needed to upkeep the treatment process
- Higher long-term installation and maintenance costs
- Potentially greater negative environmental impacts due to brine water discharge
- Fully removes hard minerals from your water

### **Water conditioners**

- Turns hard minerals into harmless crystals using TAC
- Doesn't require energy, salt, or a drain line
- Environmentally beneficial
- Little maintenance is needed
- Lower long-term costs but higher upfront costs
- Trace minerals may still be present in your home's water