

How to Choose the Best Method of Water Treatment

The market is literally flooded with water treatment options. Reverse osmosis systems, loose granular activated carbon, solid carbon block filters, and distillers all promise sparkling, clean water, but how do you know which one is really best? With a little research, you can find the ideal water treatment system for you.

Steps

- 1 Find out the source of your home's water.** If you are receiving water from a well on your property rather than municipally treated water, your needs will be much different.
- 2 Is your well water treated (chlorinated) or untreated?** Chlorination will kill all bacteria and virus -- then the chlorine can be completely removed by a good whole house pre-filter and/or chlorine-removing fixtures in the bathrooms, coupled with a solid carbon block drinking water system at the kitchen tap.
- 3 Chlorine is also inexpensive to administer and maintain; it keeps the entire water system cleaner and freer of algae, bacteria and other pipe and holding tank contaminants.** (This is in contrast to ultraviolet (UV) radiation to kill bacteria and viruses. UV is expensive to buy, expensive to maintain and only disinfects for a short length of the pipe downstream from the light.)
- 4 Is there dirt, turbidity, or other organic matter in your well or spring water?** Put a good 10 to 15 micron pre-filter to remove these big chunks before they hit your house taps.
- 5 Reverse osmosis and distillation, by themselves, do not remove bacteria, viruses, and some chemicals; all reputable RO and distiller units are always coupled with good carbon filtration, preferably carbon block, to ensure removal of these contaminants.**
- 6 Learn about specific water contaminants in your area.** A lot of this information can be found out through the EPA. Also, each year your city should produce a water safety report, discussing the incidence of specific contaminants in your city's water. However, using a filter that removes the widest range of contaminants overall guarantees that you will be protected, no matter what the contamination.
- 7 Find out about the use of pesticide chemicals in your area.** Water in Midwestern states is much more likely to contain chemicals from pesticide runoff. In fact, any agricultural area is subject to groundwater contamination from pesticides, herbicides and fertilization by-products.
- 8 Determine if your city receives its water from surface water or groundwater sources.** Groundwater is much cleaner, overall, and may need only mild treatment with a home water filter. However shallow wells or dug well can be contaminated by pesticides, petroleum spills and animal droppings. In either case, there is contamination that can be removed by the right technology.
- 9 Find out if your community fluoridates its water.** Fluoride can be particularly damaging to the elderly and has been linked to cases of Alzheimer's disease. If complete fluoride removal is a concern for you, consider the RO technology coupled with solid carbon block, to guarantee fluoride-free drinking water.
- 10 Evaluate the needs of your family.** If anyone in your family is prone to asthma or respiratory illness, you will want to cut down on chlorine fumes in your home with the use of a whole house pre-filter that can remove 80+% of the chlorine entering the home, or put a chlorine-removing shower head (or chlorine-removing tub ball) in every bathroom.

- 11 Learn about your home's plumbing system.** Many homes built before 1998 contain lead in their pipes that can corrode into drinking water. If you have lead pipes, you will definitely need a point-of-use water treatment system that is certified by an American National Standards Institute accredited certification body such as [WQA Gold Seal](#) or [NSF International](#) to remove all lead.
- 12 Recognize that some believe that distillation is the only method in which water can be purified.** The thinking goes that the only real definition for pure water is "H₂O" with a complete absence of any contaminants. Distillation mimics the hydrologic cycle of evaporation (boiling to steam), precipitation (precipitation in an apparatus), normally a condensing coil), and condensation leading to rain (water cooled usually by a fan and and drips into a sterile container).
- 13 However, the problem is that distillation, by itself, does not remove all chemical pollution.** Some chemicals evaporate and re-condense, just like the water, and pass through with the "pure" water. All reputable distillers have good carbon post-filters, such as a carbon block, to completely clean all the water coming through the unit.
- 14 The other problem with distilled water itself is that the water is lacking an ion, and it aggressively attaches to calcium and other minerals in the body, and flushes them out.** For a short time cleaning agent for the body, in the case of health problems, distilled water can work well. But for an everyday, lifetime beverage, distilled water is actually unhealthy over time, and can negatively affect teeth, bones and other bodily processes dependent on trace minerals. At the very least, you need to take mineral supplementation to counteract this factor.
- 15 Take all of the above factors into consideration when researching and purchasing a water treatment system.** The EPA recommends that if you have a well it should be tested annually for bacteria and other impurities. Remember that not only do you drink water but you brush your teeth and wash your fruits and vegetables and dishes in water that could be contaminated.
- 16 Testing is the only way to determine if your water is suitable for drinking and other uses.** You can have the test performed by a chemist or a certified laboratory; you can go to your local water board and get the most recent water quality testing reports that they provide to the public.
- 17 Understand that testing is only telling you what was in your water at the moment the water sample was taken.** A day, a week, a month or later, you could have contamination from any number of sources come through your pipes and you would never know it. While testing is valuable, the better use of your dollars would be to put in a system that is certified to remove the most contaminants -- in this way, you have total peace of mind. Search certified product listings on [WQA Gold Seal](#) or [NSF International](#) websites.

Community Q&A

Is my water dangerous to use for cooking if it has an acidity level of 6?

 You should avoid using this water as much as possible and pick up water from the supermarket or water vendor. If you must use it, boil the water beforehand.

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My well water turns everything orange! It also smells. What can I do to correct this?

 Have professional examine your well, and don't drink any of the water in the meantime.

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What do I do if my well water smells like sulphur?

 Don't drink it. Call your county's health department and ask for instructions on testing your water for toxins.

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Tips

- If you have a motor home, trailer or RV, keep the holding tank and system clean by periodically putting in some liquid or

granulated chlorine (in the right proportion). The sloshing of the chlorinated water inside the tank kills all algae and bacteria growing there. As you draw the chlorinated water from the tank, the chlorine disinfects the pipes throughout the rig. You can then install a quality water filter at the tap -- one that is certified to remove chlorine, and the widest range of other contaminants.

- Do a little independent research about each water treatment method. Each method is designed to remove different chemicals and contaminants. You want to invest in a unit that will remove the widest range of all contaminants, has the lowest cost of ongoing maintenance, has the longest warranty, in years, NOT lifetime warranty.
- Avoid carafe style water filters. They do not filter as effectively (they are usually only certified to remove lead and chlorine IF THEY ARE PROPERLY MAINTAINED ie changing the filter every 2 weeks. The hidden cost of these types of filters is the cost of filter replacement -- at the end of one year, you could have paid for a filter certified to remove everything of health concern, with a cartridge that totally cleans hundreds of gallons of drinking water, and you only have to change once a year!
- Consider talking with a certified water treatment professional in your area about treatment options.

Warnings

- If you are approached by this type of sales pitch, contact your local Better Business Bureau, and your local attorney general to report them. There are currently investigations nationwide against these practices and the companies that use them.
- Do not buy any acid/alkaline filtering products, because they are useless and expensive. It is said that they separate the water into acidic and alkaline, and that it is better for your body to drink alkaline water. This is not true. It is best to drink pure water, with a pH of 7, because your body needs acidic or alkaline water for different functions. If you really want alkaline water, all that you need to do is put a teaspoon of baking soda into a glass of water once a day or just get some mineral drops. If you really want acidic water, just add some lemon juice to your water (without any sweetener) and enjoy.
- Be careful if buying a filter from a salesperson who shows you a test demonstrating all the "pollutants" you have in your water. This test is usually with an electrode or chemical that causes the minerals in the water to congeal and form blackish-gray deposits in your previously clear glass of water.
- If you live in an area of hard minerals, you can go to Sears and purchase a decent water softener for around \$500 - \$700. This will cover the house in general. You can then purchase a top rated RO system, with a carbon block post-filter, for around \$600 - \$700. This will cover the drinking, cooking and ice cube needs.
- Pregnant women should be especially careful about lead in their drinking water. Lead is shown to cause severe developmental delays in young children. Trihalomethanes (THM's) are the by-product of chlorination and are very difficult to remove by filtration. Only certain units are certified to remove THM's, so it's important to check this before buying. The same goes for Chloramines, a combination of chlorine and ammonia -- this chemical is added in water systems, both municipal and rural, when they have maxed out on the amount of chlorine that can be added, and have to add more disinfection, in the form of chloramine. Only certain units can remove chloramine, too.

Sources and Citations

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