



COMPARISON OF Water Treatment Technologies

	Sediment Filter	Carbon Filter	Reverse Osmosis	Steam Distillation
Aluminum	○	○	●	●
Arsenic	○	○	◐	●
Bacteria	○	○	◐	●
Benzene	○	○	● ¹	● ¹
Bromide	○	○	●	●
Cadmium	○	○	●	●
Calcium	○	○	●	●
Chlorides	○	●	●	●
Chlorine	○	●	● ¹	● ¹
Chromium (VI)	○	◐	● ¹	● ¹
Copper	○	○	●	●
Cryptosporidium	○	○	●	●
Detergents	○	◐	●	●
Fluorides	○	○	●	●
Herbicides	○	●	● ¹	● ¹
Iron	○	○	●	●
Lead	○	○	●	●
Magnesium	○	○	●	●
Mercury	○	○	●	●
MTBE	○	●	● ¹	● ¹
Nitrate	○	○	◐	●
Organics	○	●	● ¹	● ¹
Pesticides	○	●	● ¹	● ¹
Phosphates	○	○	●	●
Radon	○	○	● ¹	● ¹
Sediment	●	◐	●	●
Selenium	○	○	●	●
Silver	○	○	●	●
Sodium	○	○	●	●
Sulfates	○	◐	●	●
Sulfide	○	◐	●	●
TDS	○	○	●	●
TTHM	○	○	● ¹	● ¹
Viruses	○	○	◐	●
Zinc	○	○	●	●

○ Ineffective or No Reduction

◐ Significant Reduction

● Effective Removal

¹ Plus Carbon Filtration

OVER



Comparison of Water Treatment Technologies

Filtration

Filtered water has passed through a fine strainer and/or activated carbon. While carbon filters reduce disagreeable tastes and odors, they are not effective in removing contaminants such as arsenic, copper, lead, nitrates, parasites, sodium, sulfates, and the list goes on. A filter can also become a breeding ground for bacteria as the organic material which remains in the filter begins to decay. Another drawback is knowing when to replace the filter. Some manufacturers suggest replacing filters when bad taste or odor returns. In reality, a filter may be able to control taste and odor long after it has lost its ability to reduce tasteless, odorless organics such as THMs (trihalomethanes) and chloroform which are byproducts of chlorinated water.

Reverse Osmosis

Reverse Osmosis (RO) systems force water under high pressure through a synthetic semipermeable membrane to reduce inorganic minerals. These systems vary widely in their ability to reject nitrates, chlorides and some other contaminants. RO performance is affected by water pressure, water temperature, pH, bacteria, dissolved solids and the chemical contaminant level of raw tap water. Like other filtration systems, gradual clogging of the system by collected contaminants will result in declining effectiveness and can also lead to contamination from bacterial growth.

Distillation

Distillation is perhaps the one water treatment technology that most completely reduces the widest range of drinking water contaminants, including biological, organic and inorganic elements. A quality distillation system, in fact, provides water that is up to 99% free of impurities, including heavy metals and most chemicals. It is often considered the treatment of choice for removing biological contaminants, including giardia and cryptosporidium. The prolonged boiling action of distillation kills virtually all types of microorganisms, including bacteria, viruses and parasites. Microorganisms are not evaporated into the product water but remain in the boiling chamber as part of the residue. Additionally, a distillation system with activated carbon post filtration and venting system is effective in removing pesticides and contaminants such as VOCs (volatile organic compounds).

In this age of high technology, one of the most effective home water treatment systems available today is steam distillation. Based on Mother Nature's primary purification method, distillation uses evaporation, condensation and cooling to separate pure, fresh water from its contaminants. In nature, the process is called the hydrologic cycle. It occurs when water evaporates, condenses, then falls to the earth as H₂O. When adapted for use in a home distiller, the process is an effective means of removing bacteria, viruses, pathogenic cysts, toxic metals and most organic chemicals and nitrates from ordinary tap water.

Distillation Guarantees the Highest Quality Water Over Time

Distillation provides consistent purity, gallon after gallon, year in, year out. No other water treatment technology can guarantee consistent quality over time. The purity of your drinking and cooking water is guaranteed when you use a quality home distiller.

