



■ WATER FILTERS

A survey of how they work and what they remove

Truth be told, water in this country is pretty darn safe. If your house is on municipal water, regulations dictate little reason to question the safety of the water, even if the taste is a little off. Well water is also generally safe but requires regular testing.

If there is something unhealthful in the water, it could be lead or other heavy metals from the pipes in your house. The only way to know what's actually in your drinking water, though, is to test the water coming out of the tap. You can pick up a water test kit from the hardware store or at most municipal water

companies. Home-test kits that analyze well water, like the Watersafe kit found at www.filtersfast.com, are also readily available.

Once you know which metals, minerals, or biological contaminants need to be removed from the water, you can figure out which filter suits your needs best.



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	How it works	What it removes	Application	Maintenance	Price range
Carbon or absorption/filtration	Carbon comes in loose granular form or solid, porous blocks. Loose carbon works well in gravity-fed applications. Solid blocks work best under water pressure. The longer water is in contact with carbon, the more contaminants it can absorb.	Flavor and odor contaminants such as chlorine; metals such as lead, zinc, and cadmium; and chemicals including herbicides and pesticides.	Point-of-use filtration systems; also a component in almost all whole-house systems. Shouldn't be used in warm water, which causes carbon to release rather than absorb contaminants.	Most point-of-use filters should be changed after filtering 50 gal. of water. Some last as long as 100 gal. to 500 gal. Whole-house-system filter replacement depends on the manufacturer.	Pitchers, \$20-\$30; refrigerator filters, \$20-\$40; faucet-mount systems, \$30-\$50; undercabinet systems, starting at \$50-\$500; whole-house systems, starting at \$500+.
Kinetic degradation fluxion	A zinc-copper alloy that looks like steel wool exchanges electrons with contaminants such as chlorine, converting them into inert compounds (chlorine becomes harmless chloride). Other contaminants are trapped in the filter itself.	Eliminates or reduces calcium carbonate, chlorine, chromium, hydrogen sulfide, iron, lead, magnesium, mercury, fungi, bacteria, and algae.	Commonly used in shower filters because, unlike carbon, it works at high temperatures. KDF has a tendency to release metals, so it is not recommended for drinking water but may be a part of other filtration systems.	Replace filter every 8 to 12 months.	Shower filters, \$40
Reverse osmosis	A semipermeable membrane allows pure water through tiny holes but sends contaminated water down a drain line, preventing contaminants from clogging the filter. It wastes more water than it filters, rejecting up to 10 gal. of water for every gallon filtered.	All minerals, good and bad, but not synthetic chemicals or organics.	Whole-house and point-of-use systems. Common in the Southwest, where hard water means most households use a softener. Reverse-osmosis systems remove sodium that the softener puts in.	The membrane should be replaced every two to three years, or after 300 gal. to 600 gal.	\$150 for small point-of-use units; \$2000+ for custom whole-house systems.
Ultraviolet	Water is run under intense ultraviolet lamps to neutralize biological contaminants. Ultraviolet light has no effect on sediment, chemicals, heavy metals, or VOCs, so it's often used with other filters. UV purification lasts only a day or two.	Microorganisms such as algae, bacteria, mold spores, and viruses.	Point-of-use filtration, or as part of a whole-house system.	Clean the quartz sleeve on the bulb quarterly; replace lamps annually.	\$100 for small point-of-use filters; \$2000+ for custom whole-house systems.
Distillation	A device boils water and collects the steam, which converts back into water as a fan cools it. In theory, only clean water is left in the tank. The process can take eight hours and wastes gallons of water for every gallon it distills. The resulting water is soft and acidic.	Virtually all minerals, chlorine, and a broad range of microbiological and chemical contaminants.	Point-of-use filtration, or as part of a whole-house system.	Varies from one product to the next, but regular cleaning of all chambers and tubing is required by the manufacturer.	\$150-\$300 Electrical usage can be substantial.
Pleated	A folded-paper construction increases filtering potential. Only homes with serious sediment issues use pleated filters because they don't remove any other contaminants. Other filters can remove particulates, but for such heavy applications, they would clog faster than pleated filters.	Large particulates such as sand, dirt, rust, and giardia cysts.	Most often used as a component in a whole-house system.	Service life depends on the amount of sediment filtered. Some filters can clean 30,000 gal. (6 months of use) or more before they have to be changed.	\$5-\$30