In-home Water Filtration Options for Household Drinking Water

Water filtration units that use **granulated activated carbon (GAC),** also called **charcoal filters**, and **reverse osmosis (RO)** can be effective in reducing and/or removing the amount of perfluorooctanoic acid (PFOA) and other perfluorinated chemicals (PFCs) in drinking water.

Activated carbon (charcoal) water filters are made from porous charcoal that attracts and holds chemicals. These filters remove chemicals from the water as it passes through the filter.

Reverse osmosis (RO) units push your water through a semipermeable membrane, which is about as thick as cellophane. The membrane filters the chemicals out of the water.

GAC and RO can be used as either point of use systems or point of entry systems.

Point of use systems (POUs) attach at the point where your water is dispensed. These can be installed at your drinking water tap or your refrigerator's water dispenser. POU charcoal filtered water pitchers or water bottles are also available as more economical options.

Point of entry systems (POEs) are water filtration systems that are installed at your home's main waterline and filter the water used throughout your home. POE systems can be more costly than POU options.

Examples of in-home point of use drinking water filtration units. From left to right: charcoal filter tap unit, RO tap unit unit, charcoal filter water pitcher, and refrigerator water filter.

Things to Consider

- **Look for an NSF, UL, Water Quality Association or CSA Group certification label when considering which unit to purchase.** To earn certification, a manufacturer must undergo testing to confirm that the unit meets all chemical reduction claims and is structurally sound. Units that are labeled as effective for removing pesticides (such as Aldrin) and volatile organic compounds should also be effective for PFOA and other PFCs.
- **Change the filters periodically.** Your water filtration unit must be maintained for it to continue to be effective. Follow all maintenance schedules provided in the manufacturer's owner's manual. The more you use your water filtration unit, and the more water you run through it, the more frequently you will need to change your filter. The characteristics of your water (hardness, temperature, etc.) may also affect how frequently you need to change your filters or service your unit.

Additional Links

Consumer Information

1) NSF International Information Home Drinking Water – Quality and Treatment
http://www.nsf.org/consumer-resources/health-and-safety-tips/water-quality-treatment-tips/

2) EPA Researchers Investigate the Effectiveness of Point-of-use/Point-of-entry Systems to Remove Per- and Polyfluoroalkyl Substances from Drinking Water
https://www.epa.gov/sciencematters/epa-researchers-investigate-effectiveness-point-usepoint-entry-systems-remove-and

Technical Information

Several studies have evaluated specific water filtration units for removing trace contaminants. Links to some of these evaluations are provided below:

1) Minnesota Department of Health July 2008 *MDH Evaluation of Point of Use Water treatment Devices for Perfluorochemcial Removal Final Report-Summary* 6 pp.
http://www.health.state.mn.us/divs/eh/wells/waterquality/poudevicefinalsummary.pdf
2) Minnesota Department of Health and Minnesota Pollution Control Agency June 2017 *Evaluation of Perfluorochemical Removal by a Small, In-home Filter*
https://www.health.state.mn.us/communities/environment/hazardous/docs/pfas/poueval.pdf