

DRINKING WATER FILTRATION PRODUCTS

Your Final Barrier for Water Consumption

What does POU/POE treatment mean?

Point-of-Use (POU) is water treatment for a single tap. Point-of-Entry (POE) is water treatment for a whole house.

Possible POU/POE options are:

- | | | |
|--------------------------|--------------------------|-----------------------|
| -Pour-through pitchers | -Under-the-sink filters | -Distillation |
| -Countertop units | -Refrigerator filters | -Water softener |
| -Faucet-attached devices | -Reverse osmosis systems | -UV treatment systems |

The Challenge

Several communities throughout the United States are impacted by the presence of naturally occurring arsenic in the groundwater. Drought conditions can result in a higher concentration of contaminants in the water, such as arsenic. Arsenic is a tasteless and odorless mineral that when consumed in high amounts, has been proven to increase the risk of cancer, skin problems and negatively affect the circulatory system. The *Washington Post* (July 5, 2015) reported, "During California's unrelenting drought, as municipalities join farmers in sucking larger quantities of water from the ground, the concentration of arsenic is becoming more potent". This is an opportunity for Point-of-Use (POU) and Point-of-Entry (POE) whole house or at the tap water treatment technologies to help keep drinking water safe.

The Solution

There are many options to consider when selecting choices for POU/POE water treatment solutions. Depending on the specific contaminant, some technologies are better suited to reduced contaminants than others. In addition, some contaminants are better addressed by POU (ingestion exposure), while POE is preferred for other contaminants (not only ingestion, but also dermal or inhalation exposure).

Certain high-quality POU Activated Carbon filters are excellent at reduction of many industrial chemicals found in water. These filters are relatively inexpensive, as top-end certified units cost in the range of \$180 - \$300, and need a filter replacement only every six to twelve months. For many natural-occurring contaminants including Arsenic, Nitrate and Hexavalent Chromium, POU Reverse Osmosis systems are a preferred way to effectively address these contaminants. In some situations, Point-of-Entry (POE) systems can be used to treat water for an entire house instead of a single tap. While POE is desired in certain applications, the equipment is higher in price and equipment certification is more limited due to current lower consumer demand. These systems vary tremendously in scope and price depending on the specific contaminant and application. A water treatment professional can assess whether the POE options are appropriate and cost-effective for each individual application.

There are multiple approaches for implementing a POU/POE program. Utilities may choose to buy the systems and then contract out a maintenance plan. Many water treatment professionals also offer full-service rental systems that include supplying the equipment as well as the annual required filter replacement and system sanitizing. These all-inclusive service programs range in price depending on the number of installs and replacement filter/membrane cost, with a one-time professional equipment installation including labor and materials. In terms of maintenance for either approach, a tiered compliance for maintenance would have a professional come out to all of the units and check on the equipment and run a field test or collect samples every three months for the first year. Following the first year, with successful demonstration of contaminant removal, the system should be able to move to twice a year (every six months). Following this second year, and again based upon successful reduction of the contaminant, the system should then be able to go on to annual monitoring.

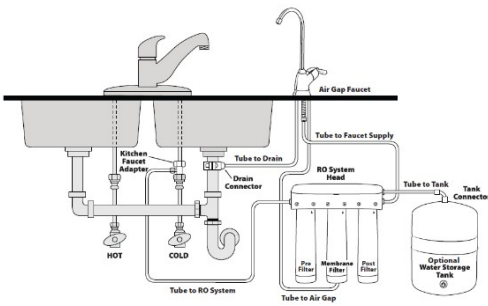
Programs using POU technology have been implemented and have provided data demonstrating the cost-effectiveness of the program. WQA would be happy to further discuss the history of these programs with interested members.

Product and Professional Certification

With both POU and POE equipment, third-party laboratory certification for product performance and materials compatibility is a standard in the water treatment industry. In addition, it is important that the technical support and personnel competence is in place. While these programs can vary in each State, most States have licensing or technical personnel certification programs that specifically pertain to water treatment professionals. Together, both product integrity and personnel competency is imperative.

DRINKING WATER FILTRATION PRODUCTS

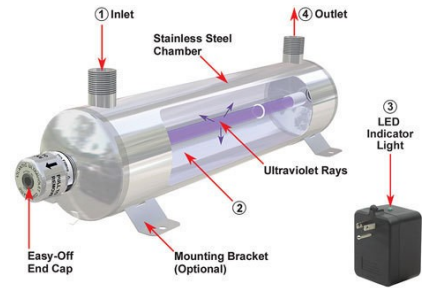
Your Final Barrier for Water Consumption



Example of a reverse osmosis systems



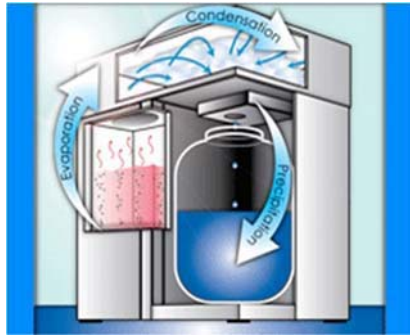
Example of a refrigerator filter



Example of a UV treatment system



Example of a pour-through pitcher



Example of a distillation treatment system



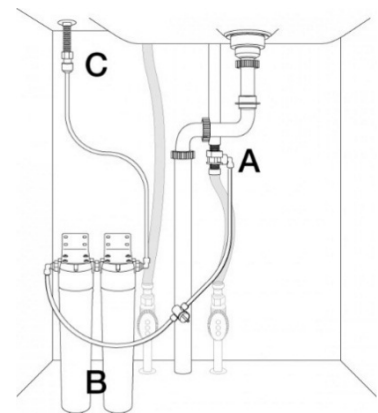
Example of countertop unit



Example of a faucet attached device



Example of a water softener



Example of a under the sink filter