

Residential Treatment Options

By Tina Fischer

Factors in choosing the right water treatment system

Choosing the right drinking water treatment product is not easy. There are many factors to consider prior to installation. Water characteristics, family members, price and certification by a reputable organization all are important. Share these factors with your clients to help them choose the right treatment system for their homes.

Water Quality

The first step is to determine which contaminants are present in the water. In the U.S., this is relatively easy to accomplish, as each municipality sends out an annual drinking water report that typically is available online. This report provides details on which contaminants are present in the local water supply.

The report will include information similar to that shown in Table 1, which contains information pulled from an actual municipal water quality report. In general, these documents show the contaminant levels the U.S. Environmental Protection Agency (EPA) has established as safe for humans to consume on a daily basis, as well as the concentrations of those contaminants found in local water.

In the example in Table 1, copper levels in the municipality's water were not above the action level. This means it would not make sense to install a water treatment device specifically for the reduction of copper.

Household Makeup

The next factor in determining the type of treatment a home's water needs is the age of its occupants. This is important because some contaminants are considered acute health contaminants, meaning that exposure can cause immediate health issues.

For example, nitrates may cause blue baby syndrome in some infants. Adults, however, are able to consume fairly large amounts of nitrates without concern, as they are found in many foods that are part of normal, healthy diets. If a household with an infant uses tap water to mix formula and the tap water contains nitrates above allowable levels, a water treatment device made specifically for

nitrate reduction should be used.

After the types of contaminants in the water and the household makeup are determined, a product can be chosen to best fit the family.

POU v. POE

Point-of-use (POU) products treat water only at specific points in the home. For example, a drinking water treatment device that is plumbed in under the kitchen sink will treat only the water at that faucet. Point-of-entry (POE) products treat all of the water that flows through a home.

Each has pros and cons. One advantage of POU products is that they can be specialized and that there are multiple options for these systems. Some POU products allow for water to be either treated or untreated through the use of diverters or faucets. POU products also provide a greater range of treatment technologies.

POU products, however, typically require more maintenance and ongoing costs. Most have cartridges or elements that require replacement after a certain amount of water has passed through them or a certain amount of time has elapsed.

POE products require less maintenance, but are more limited in the types of reduction claims they offer. Because POE products treat all water that flows through a home, consider whether all household water needs to be treated. This includes the water used to sprinkle the lawn. One option with POE is to install a bypass valve, which allows homeowners to bypass the POE system for activities such as filling the pool.

POE systems are typically good for many years without replacement media or filters. Initial upfront costs of POE systems are usually higher than those of POU products, but POE units allow elimination of contaminants with a single product for the entire home.

Certification Status

There are thousands of drinking water treatment companies advertising and selling treatment systems, so choosing which product to install

can be daunting. The easiest way to set some of the products above the rest is to look for a certification mark that indicates accreditation by a third-party certification body.

Currently there are five main accredited organizations in the U.S. that offer certification for drinking water treatment products: the Water Quality Assn., NSF Intl., UL, the International Assn. of Plumbing and Mechanical Officials, and Truesdale. Products that bear a mark from one of these certifiers have multiple levels of quality assurance.

Certified products have been subjected to testing to verify that the claims made by the manufacturer are accurate and meet industry standards. If a company is claiming that the product is certified for chlorine reduction, for example, the product will undergo a chlorine reduction test. Testing and evaluation of these products also verify that no materials in them will impart harmful contaminants into the drinking water through daily contact.

Additionally, certified products undergo structural integrity and performance claim testing. Structural testing verifies that the product will maintain its integrity when subjected to normal line pressure. Literature associated with certified products undergoes review to ensure that the statements the company makes about the product do not misrepresent the certification.

Beyond testing and literature requirements, each manufacturing facility that produces certified products undergoes onsite inspections at least once a year. Onsite inspections review manufacturing processes, procurement control, consistency and more. Verification of the mark and certification can be found on each certification body's official listing of certified products. *wqp*

Tina Fischer, CWS-VI, is product certification supervisor for the Water Quality Assn. Fischer can be reached at tfischer@wqa.org or 630.505.0160.

For more information on this subject write in 1008 on the reader service card or visit www.wqpmag.com/lm.cfm/wq031208.

Table 1. Sample Municipal Annual Drinking Water Report

Contaminant (units)	EPA Maximum Contaminant Level Goal	Action Level (AL)	90 th Percentile	Number of Sites Over AL	Sample Date	Typical Source of Contaminant
Copper (ppm)	1.3	1.3	< 0.1	0	2009	Corrosion of household plumbing systems, erosion of natural deposits, leaching from wood preservatives