Specialty filters such as ice maker and scale filters are placed on the cold water supply line to appliances. Ice maker filters are attached to the cold water line to refrigerators or standard ice makers. Scale filters are connected to the supply line to water heaters or humidifiers.

A **point of entry** (POE) device treats all water coming into the residence. There is no bypass option although water can be tapped prior to filtration to provide for outdoor, nonconsumptive usesThis device should meet certain guidelines concerning the application rate of water to the carbon, contact time between the water and the carbon, the type of carbon used, and the wastewater discharge.

Cost: Carbon filtering devices vary in price from $10 to $400 or more. For some models, cost of installation by a licensed plumber must be added to the purchase price. Replacement cartridges range in price from $3 to $50 or more.

Fiber Filters

Fiber filters contain spun cellulose or rayon and are designed to take out turbidity (suspended sediment). The tightly wrapped fibers form a cylinder around a tubular opening and line pressure forces water through the wrappings to the inner opening that leads to the faucet. After the fibers tap silt, filtered water passes to the opening that leads to the faucet. Fiber filters come in various meshes from fine to course with the lower micron rating being the finer. The finer the filter, the more particles will be trapped, requiring more frequent filter change.

Cost: Fiber filter systems run about $25 to $1400, depending on whether they are a simple faucet attachment or connected directly to the plumbing for whole house treatment.

Reverse Osmosis Units

A reverse osmosis unit is effective in removing a wide variety of inorganic chemicals, such as nitrates, calcium, and magnesium. A reverse osmosis unit is up to 95 percent effective in removing inorganic contaminants. However, reverse osmosis units also remove beneficial chemicals such as fluoride. Typically, a reverse osmosis unit is used to treat water only for drinking and cooking.

A reverse osmosis system typically includes: a pre-filter to remove sediment; an activated carbon filter to remove odors and taste; a semi-permeable membrane through which water flows under pressure; a tank to hold the treated water; and a drain connection for discharging concentrated contaminants. Different size reverse osmosis units are available. They may be located under the sink, counter top or in a remote location, depending on the size of the water holding tank.

Cost: A reverse osmosis unit ranges in price from $200 to $400 for counter top and $600 to $1,000 for under-counter unit, but renting can be an option. The cost of a reverse osmosis unit needs to be weighted against the type and quantity of contaminants in the water, and the concern for safety. Further, the cost of a reverse osmosis unit should be compared to other alternatives such as bottled water.

Free Water Testing Done in the Home Precautions

Some approaches used in selling water treatment devices are offering a free in-home test of your drinking water. Some sales people leave a bottle on your doorknob, offer to pick it up, run the tests, and then contact you with the report. Other sales people may visit your home wearing lab coats to make an impression.

The in-home test will show there are minerals in your water, and perhaps the acidity/alkalinity level. The testing procedures use a chemical that combines with dissolved minerals, such as calcium and magnesium, and causes them to settle to the bottom of the bottle. Keep in mind that all water, except distilled water, contains some minerals. In general, the presence of minerals is not a health threat. In fact, many of the minerals are beneficial to the body. However, some do cause water hardness and an undesirable taste. Another demonstration uses a face cloth that you previously washed. The demonstrator will put the cloth and a water softening agent into a jar of your tap water and shake vigorously. Suds will occur in the bottle. This is normal as some detergent residue remains in all washed articles. These free, in-home "water quality tests" are merely sales ploys designed to sell you a water treatment system. Often the "test report" on your tap water is given in a way that implies that your water contains a lot of minerals that are not good for your family's health. Usually the people who do the home testing will require that both spouses of a married couple be present for the demonstration. This prevents one spouse from using a delaying tactic by insisting on talking to the other spouse before making a decision to buy a water treatment system.

Taste and Appearance

Claims that a water treatment device can improve the taste of your water may be accurate. Also, softened water saves some energy because it takes less to heat water and because you need less detergent for laundry. However, claims about saving hundreds of dollars in laundry and water heating costs may be exaggerations.

Myths and Frauds:

"All water is poisonous (germ-ridden, dangerous, etc.)." Many advertisements start out with some variation of this baloney. It isn't true in some places, but it is in others. It's easy for a fixed-home owner to find out with a test.

Harmful contaminants in water are often more difficult to test for than the common minerals in tap water. For example, lead is odorless, colorless, and tasteless, but may be harmful at even very low concentrations in water. Tests for lead, and most other contaminants that are health concerns, require special equipment and complex procedures. Tests for most potentially harmful water contaminants cannot be done in your home.

"This filter is EPA-approved." Run away. EPA does not approve filters. EPA only registers filters to insure that any silver, etc., used in the filter to kill bacteria is not released in the water at unsafe levels. No one filter or treatment will remove everything.

Protection from Deceptive Sales Practices

Your best defenses are knowledge about a product and a healthy skepticism of advertising and sales pitches. Recognize that a considerable amount of "puffery" is used in promoting most products. Be particularly wary of "scare tactics."

When dealing with telephone sales, learn what city the company is calling from; get a specific address.

Ask the person his or her name.

Ask for a Business Card or Company Name.

Ask for information about the product in writing before you agree to buy.

Check the company's record with the Better Business Bureau where it is located.

Don't buy something merely because you'll get a "free gift."

Be cautious about letting someone into your home for "free testing" of your drinking water. Understand that this is merely a sales ploy to convince you that you need a water treatment system. Thank the person for the information and say you will check on the problem. Keep in mind that sales persons are not scientists. They are not trained to make judgments on the safety of your tap water.

How do I report fraudulent devices or False Advertisment?

To report a suspected uncertified device, send the written material you received (containing health claims and the name of the device) along with the salesperson's business card to CDPH at the following address for follow-up investigation.

California Department of Public Health, DDWEM-Technical Operations Section,
Device Certification Unit, P.O. Box 997377, MS 7417
1616 Capitol Avenue,Sacramento, CA 95899-7377
(916) 449-5600 (phone) (916) 449-5656 (fax)

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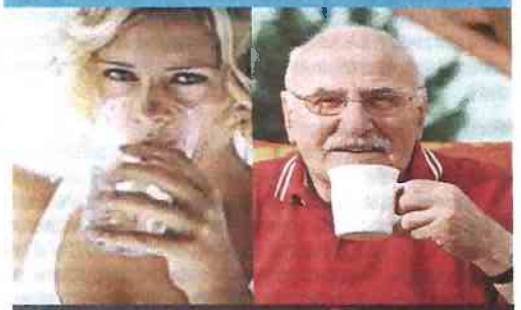
Water Filters And Home Treatment Devices Tips

CITY OF WHEATLAND



Wheatland's Water

The home water treatment industry has responded to recent public concern over water quality by introducing a wide variety of home water treatment products into the marketplace. When faced with so many choices, consumers wonder what, if any, water treatment system they need. The various methods for treating water and some of the advantages and disadvantages of those methods are described in this bulletin. The City is not endorsing any particular method or product for treating water in the home. Whatever a consumer's reason for purchasing a home treatment device the City is providing this information so consumers can be make informed decisions.

Wheatland's water system meets the all standards mandated by the Safe Drinking Water Act, CA Department of Public Health (CDPH), and by the Environmental Protection Agency. The City's Water quality exceeds the degree of acceptability for household uses such as drinking, cooking, bathing and laundering. Despite the high quality of tap water throughout North America, national opinion research suggests that more than one in three customers use a supplemental water treatment device at home. While some families use devices that are already built into their refrigerators, others believe pitchers or faucet-mounted devices improve the taste of their water. Still others may choose a filter for a perceived health benefit. Tap water taste varies depending on your taste sensitivity and personal preference. Not everyone has the same conclusion of how their tap water taste. Chlorine is one of the most commonly perceived tastes associated with municipal water and the chemical imparts a slightly acidic taste. Minerals in the water may impact the taste quality of the more sensitive taste buds of certain people. The household piping can play a huge part in water taste quality from your tap.

Differenrt water conditioning equipment improves quality by reducing turbidity (suspended sediment), reducing hardness, removing disagreeable odors and/or tastes, reducing minerals and possible contaminants.

Why Communicate with our Customers About Home Treatment Devices?

City of Wheatland has an opportunity to increase consumer confidence in both the quality of tap water and the industry's commitment to water utility customers. We hope the goodwill generated through this public service will help strengthen the relationship between our customers and the city.

Making the Right Choice

If you're thinking about buying a water filter, you've probably discovered how confusing the information and literature can be. Before you buy a water treatment system be sure to research all the options and types to make a right choice for you. Whatever your concern, the solution may be easier—and a lot less expensive—than you think. The City of Wheatland wants to give you the information you need to decide whether a water treatment system is a good decision for you. While we can't recommend specific brands, we can help you find a system that meets your specific needs.

Do I need a water treatment device?

You should consider the following when deciding if you need or want a home water treatment device:

Does anyone in your household have a compromised immune system (chemotherapy, transplant patient, HIV) that would require drinking water of a higher quality than is required by the general public? For more information, call the EPA Hotline 1-800-426-4791.

Are you concerned with taste, odor, appearance, chlorine content, high mineral content (total dissolved solids, TDS), or hardness only? These devices are not regulated by CA Department of Public Health (CDPH). However, NSF International, Water Quality Association and Underwriter Laboratories (independent testing organizations) do certify the performance of water treatment devices for aesthetic claims. Look for the NSF, UL or WQA mark on packaging, advertising and the Performance Data Sheet.

Are you concerned about contaminants that might affect your health?

You can obtain information about your water quality through the City's Annual Consumer Confindence Report which you sohold of received in the mail. You may also call Wheatland Water Dept at 530-633-2785 or Contact CDPH at 530-224-4867. If you believe that your water needs additional treatment, CDPH maintains a list of certified Water Treatment Devices in its directory at *www.cdph.ca.gov*

Do I need to test my water?

Generally not, as testing can be expensive. However, having your water tested will tell you whether there are unacceptably high levels of any tested contaminant. The City of Wheatland uses Yuba City Labs which is certified by CDPH's Environmental Laboratory Accreditation Program. Sometimes household plumbing fixtures and materials can contribute contaminants such as lead or copper to the water. If you think that you may have a lead problem, have your water tested. If the test results show lead in your water, purchase a unit certified for lead reduction and remember to change the filter cartridges. Also, caution household members, especially children, to flush the tap before use.

Certified Water Treatment Devices

There are hundreds of California-certified drinking water treatment devices. Carbon filters are the most common type of device, typically sold in the form of counter top, faucet-mount or under counter models. Other types of technologies available include distillation, reverse-osmosis, ion-exchange, ceramic filter, and ultraviolet light.

What does California Certification mean?

When a manufacturer claims that a drinking water treatment device will reduce toxic chemicals or makes other health related performance claims, the device must be certified by the California Department of Public Health (CDPH) [Health & Safety Code Section 116830].

CDPH certification means that the device has been tested by an independent, state-approved laboratory (1) to verify the manufacturer's health-related performance claims, and (2) to ensure that materials within the device do not add contaminants to the treated water. CDPH certifies devices for specific health claims such as:

- "Reduces THMs, 2,4-D, DBCP, lindane, TCE, PCE" (examples of organic chemicals)
- "Reduces lead, copper, mercury" (examples of heavy metals)
- "Reduces bacteria, cysts, Giardia, Cryptosporidium, viruses" (examples of microbiological contaminants)

Do I need to be concerned about non-certified devices?

Yes, many fraudulent water treatment devices are being marketed. If a device is being sold on the basis of health claims and is not certified, there are two problems: (1) there is no reason to believe that it works as advertised and the product warranty and replacement parts will not solve the problem, and (2) the device is being sold illegally in California. Here are some questions to ask about any water treatment device that is being sold on the basis of health claims:

Is it certified by the State of California? What specific contaminants does the device reduce? (Verify that they are listed on the certificate.)

What is the rated capacity of the device? (Also verify this on the certificate.

(**Note**: Some devices do not have a capacity.)

You can protect yourself by not buying an illegal and unproven device.

Types of Water Treatment Systems

There are different kinds of water filtering systems out there, and you should think about what your needs are before deciding on the type of filters you should get. Primarily, how much water will you need to filter.

Filters

Dirt, sediment, and odors can be removed from water by using filters. Adsorption and mechanical filters are available. Carbon filters are the most common adsorption filters. Fiber filters are the most common mechanical filters.

Filters Precautions

All sorts of crud builds can up in the filters and, if they're out in the sun, algae and bacteria start growing inside. Next, the water moves into the charcoal/carbon cartridge. Carbon will reduce bacteria, but, when it starts to load up, it grows ***lots*** of bacteria, and a lot of that passes through the filter. You can make things worse than with no filter at all if you're not careful.

Carbon Filters

Carbon filtering devices use activated carbon (cartridges) with a porous surface to collect dissolved organic compounds including TMHs, odors and disagreeable tastes.

A filter's effectiveness depends on how long the water stays in the unit. The longer the water is in contact with the filter medium, the more time the carbon has to remove impurities. Those packed with a large volume of charcoal generally remove more organic material at the beginning of the cartridge life; performance decreases less rapidly over time that it does for those containers with a small amount charcoal.The form and quantity of carbon used varies; they can be granular, powder in block or powder in pad. Tests by a private testing organization indicated the powder-in-a-pad type was less effective than other types. Granular is most frequently used. The cartridge sides should be rigid (hard plastic or stainless steel) to force water through the length of the column bed. Cartridges with sides of mesh or wound string allow water to bypass extensive contact with the carbon.

Pour through is similar in design to a drip coffee maker, and is the simplest type of activated carbon filter. A quantity of untreated water is poured through the carbon and treated water is collected in a receptacle. The units are not connected to the water supply and usually sit on the counter. Pour-through devices will treat only small quantities of water at a time and are not as effective as larger, automatic units.

Faucet mount units are attached to the faucet (usually in the kitchen) or placed on the counter with connections to the faucet. There are two basic designs. Oneis the bypass option which has a valve to filter water used for cooking and drinking, and prolongs the life of the carbon cartridge. In contrast, the nonbypass option filters all water passing through the faucet. Because the quantity of carbon contained in a faucet-mount unit is not large enough to provide extensive contact with the water, these devices are not recommended for removal of toxic organics

The **In-line** device is installed beneath the kitchen sink in the cold water supply line; bypassing the unit for uses other than drinking or cooking is not an option. If both hot and cold water come from a single spigot, the treated (cold) water can mix with the untreated (hot) water. Treated water is assured only when using cold water for drinking and cooking.

The **line-bypass** unit is also attached to the cold water pipe, but a separate faucet installed at the sink provides treated water for cooking and drinking. The regular tap delivers untreated water. This design increases the life of the carbon by allowing a choice of treated or untreated water, depending on the intended use.