ECOWATER SYSTEMS®

Your Water. Perfected.™

Water Filtration Buyers Guide

How Does Your Water Get Contaminated?

Here is a breakdown of the process:

Rain water picks up toxins before it ever hits the ground. Some of these toxins can include, but are not limited to:

- Bacteria
- Carbon Dioxide
- Smog
- Acid Rain
- Molds

That water travels both on the surface and below the surface collecting minerals and contaminants along it path. Some of these minerals and contaminants can include, but are not limited to:

- Calcium
- Magnesium
- Arsenic
- Fungicides
- Salinity
- Nitrate
- Lead

The municipalities attempt to do everything to standards before the water hits your home. Some of these contaminants, from rivers and lakes, that run to the municipalities include but are not limited to:

- Mercury
- Solvents
- Petroleum by Products
- Phosphates
- Animal Waste

Finally, the city adds chlorine, that get to levels higher than a swimming pool, and then they deem the water useable for you and your family. They leave it up to the homeowner to remover anything unwanted.

So the question is….. How does this affect YOUR drinking water

What Contaminates Are Bad For You?

Calcium and Magnesium

Calcium and magnesium dissolved in water are the two most common minerals that make water "hard." The degree of hardness becomes greater as the calcium and magnesium content increases. Calcium and Magnesium are a leading cause of kidney stones.

Indications of Hard Water

Hard water interferes with almost every cleaning task from laundering and dishwashing to bathing and personal grooming.

- Clothes laundered in hard water may look dingy and feel harsh and scratchy.
- Dishes and glasses will be spotted when dry.
- Hard water may cause a film on shower doors, shower walls, bathtubs, sinks, faucets, etc.
- Hair washed in hard water may feel sticky and look dull.
- Water flow may be reduced by deposits in pipes.

Dealing with hard water problems in the home can be a nuisance. The amount of hardness in water affects the amount of soap and detergent necessary for cleaning.

- Soap used in hard water combines with the minerals to form a sticky soap scum.
- Bathing with soap in hard water leaves a film of soap scum on the skin.
- The film prevents removal of soil and bacteria.
- Soap scum on hair will make it dull, lifeless and difficult to manage.

When doing laundry in hard water, soap scum lodges itself in fabric during washing that makes fabric stiff and rough. Chlorine is like bleach and tears up fabrics.

- Chlorine causes the loss of brightness in colors.
- Soap scum left in cloths can cause a sour odor to develop in clothes.
- Continuous laundering in hard water can shorten the life of clothes by 50%.

Iron

Iron accounts for 5% of all the earth's crust-that is why the element can be found in just about all types of water supplies whether it is from the ground, surface, or well water. Iron in water is more of a nuisance than a health problem. Iron can be present as more than one form and can change forms when exposed to air, heat or chlorine.

Some symptoms of having too much iron in your water:

- Metallic or distorted taste in your water
- Brown-red stains on fixtures, dishes or laundry
- Water turning brown or red when drawn from the tap
- Clothing becomes discolored when laundered
- Tends to darken beverages.

And these are just a few….

The forms of iron that can be most commonly found in your water are:

Clear Water Iron: Clear water iron is otherwise known as ferrous iron. It is dissolved in water and will be clear at first. It will gradually turn slightly yellow or brown as the iron oxidizes.

Red Water Iron: Red water iron s otherwise known as ferric iron. It is clear water iron that has oxidized to a particle form. These yellow, red orange or reddish particles are suspended in water and will settle out after a short period of time.

Colloidal Iron: This iron is red water iron that is too small to be filtered by standard means. Colloidal iron will stay in suspension giving the water a redpink turbid cast.

Organic Iron: Organic iron is bound or complex to organic compounds such as tannin or humoic acids. It can be colorless but occurs most often as a yellow, yellowish-brown or pink color.

Bacterial Iron: A bacteria that feeds on clear water iron using it in their metabolic processes. It will cause staining, plugging, taste and odor issues.

Manganese

Manganese is less abundant than iron but whose behavior closely parallels. Deposits of manganese will collect in the plumbing of your house and appear when tap water is drawn. The bacteria can also cause clogging in piping and fittings. The difference between manganese and iron is that manganese oxidizes more slowly and requires more oxygen.

Some of the symptoms that occur if you have a high level of manganese:

- Black sediment
- Blackish turbidity
- Black water
- Clogged pipes

Other Contaminants

Tannins: When we refer to tannins in water supplies, we refer potentially to a number of such organic compounds that may be present. Two broad subcategories are humic and fulvic acids - giving the typical tea color to the water.

Sodium: Most water contains some sodium which naturally leaches from rocks and soils. An excess of sodium in water may cause a salty taste or odor, as well as presenting long-term health effects.

E-coli: *E. coli* comes from human and animal wastes. During rainfalls, snow melts, or other types of precipitation, *E. coli* may be washed into creeks, rivers, streams, lakes, or groundwater. When these waters are used as sources of drinking water and the water is not treated or inadequately treated, *E. coli* may end up in drinking water.

Nitrate: Drinking water high in nitrate is potentially harmful to human and animal health. Nitrate (NO3) is a naturally occurring form of nitrogen (N) which is very mobile in water. It is essential for plant growth and is often added to soil to improve productivity.

There are many other contaminants to think about and the best way to see what is in your water is by contacting a company like Universal Water Systems and requesting a free water analysis.

Do I Really Need Water Filtration?

A water filtration system is a system that removes impurities from your tap water. This water may be used in your bath, kitchen, and laundry and anywhere else water is used.

A water filtration system should ultimately work two-fold for the best effect: First you have a system that performs water conditioning which is a treatment to take care of "hard water". As discussed earlier, hard water is caused by magnesium and calcium and can make your water extremely rough on your clothes, appliances and pipes.

Secondly, you have another system that performs reverse-osmosis. Reverse osmosis treats the other impurities such as nitrates, lead and arsenic in your water by removing contaminants that you drink.

Below, we will review what water conditioning and reverse-osmosis means and how it will benefit your water at home.

Water Conditioning

It is important to know the difference between a system that performs just water softening and one that performs water refining.

A system that just softens your water makes it simply "soft". It does this by removing hard minerals such as calcium and magnesium and replacing them with a soft mineral like salt, hence the word softener. It will not remove ANY other contaminants that are in your water.

An EcoWater Refiner not only softens your water using potassium, not sodium, but also removes other bad contaminants, such as chlorine. Chlorine is one of the number one reasons for dry skin and a leading irritant for eczema and psoriasis.

Adding the reverse osmosis system takes away any other pollutants and contaminants that are in your water such as lead and arsenic. The result: 95-99% pure drinking water.

Reverse Osmosis

To understand reverse osmosis, first let us take a look at what osmosis is.

OSOMOSIS:

- *a process by which molecules of a solvent tend to pass through a semi-permeable membrane from a less concentrated solution into a more concentrated one, thus equalizing the concentrations on each side of the membrane.*

So, now that we understand the basics of osmosis, reverse osmosis is the idea that the direction of the water passing through the membrane will reverse.

The sheer force of outside pressure presses the water through the membrane.

The membrane again allows the water to pass while filtering the dissolved solids out of the solution. Some of the benefits of reverse osmosis include:

- Can move virtually 90-99% of all organic compounds, particles and ions so that you have better and safer drinking water.
- Low energy requirement.
- Allows oxygen to pass so that the water does not taste flat.
- Does not require chemical additions to your water.

So do you need a water filtration system?

Well, if you are worried about contaminants that may be in your water, it is important to get a FREE water analysis. Here are some sure signs that you may need one.

- Dry skin
- Soap scum
- Spots on your dishes
- Rough clothes
- Clogged pipes
- Dirty rings in your bath and toilet
- Cloudy water from your tap
- Smelly water
- Water with a bad taste

the list goes on and on……

What would be the Best System for my Home?

A water filtration system should be easy to have, comprehendible, and ultimately be very little to no work on your end. Below is a two step approach of how a whole home system works:

- Water enters your home flows through your water refiner where impurities are removed through softening, filtering and/or refining. This is where your "hard water" is taken care of.

- Water that is used for drinking, making ice cubes and humidifying your home is further filtered by reverse osmosis where other pollutants such as lead and arsenic are removed.

There are a lot of different systems on the market. Most work well at some level, but do not take care of a lot of unforeseen issues you may have with your water.

It is important to remember that this is a purchase that will change your life. You want a system that will take care of not one, but all of your problems. You also want to make sure you chose a company that has a qualified and friendly service department, and a warranty that will insure a lifetime of clean water.

Ultimately, it is about finding a company that is well-versed in the business, believe in their community, and wants to make sure they are perfecting the water for your life.

Here are some important questions you should ask:

- Is the water filtration system a refinement/conditioning system?
- Is the company I am dealing with insured? Bonded? Certified?
- Are the plumbers trained on the products? Are they continuously trained?
- Are the plumbers insured and certified? Are they in-house or contracted?
- Does the company have a 24 hour emergency hotline if problems would occur?
- Does the company have their own in-house service team?
- How does a company's warranties compare to others?

Here at Universal Water Systems, we would have not put this guide together for you unless we cared, knew the world of water treatment, and built such strong relationships with our customers that we continue to be the Gold Standard in the industry.

Our systems are without question the number one system on the market. But it is not about that, it is about knowing how to make sure you are receiving the best customer service, and the most qualified installers and service technicians.

All we want you to do is sit back, relax, and have the peace of mind that you are providing your family the finest, cleanest water available.