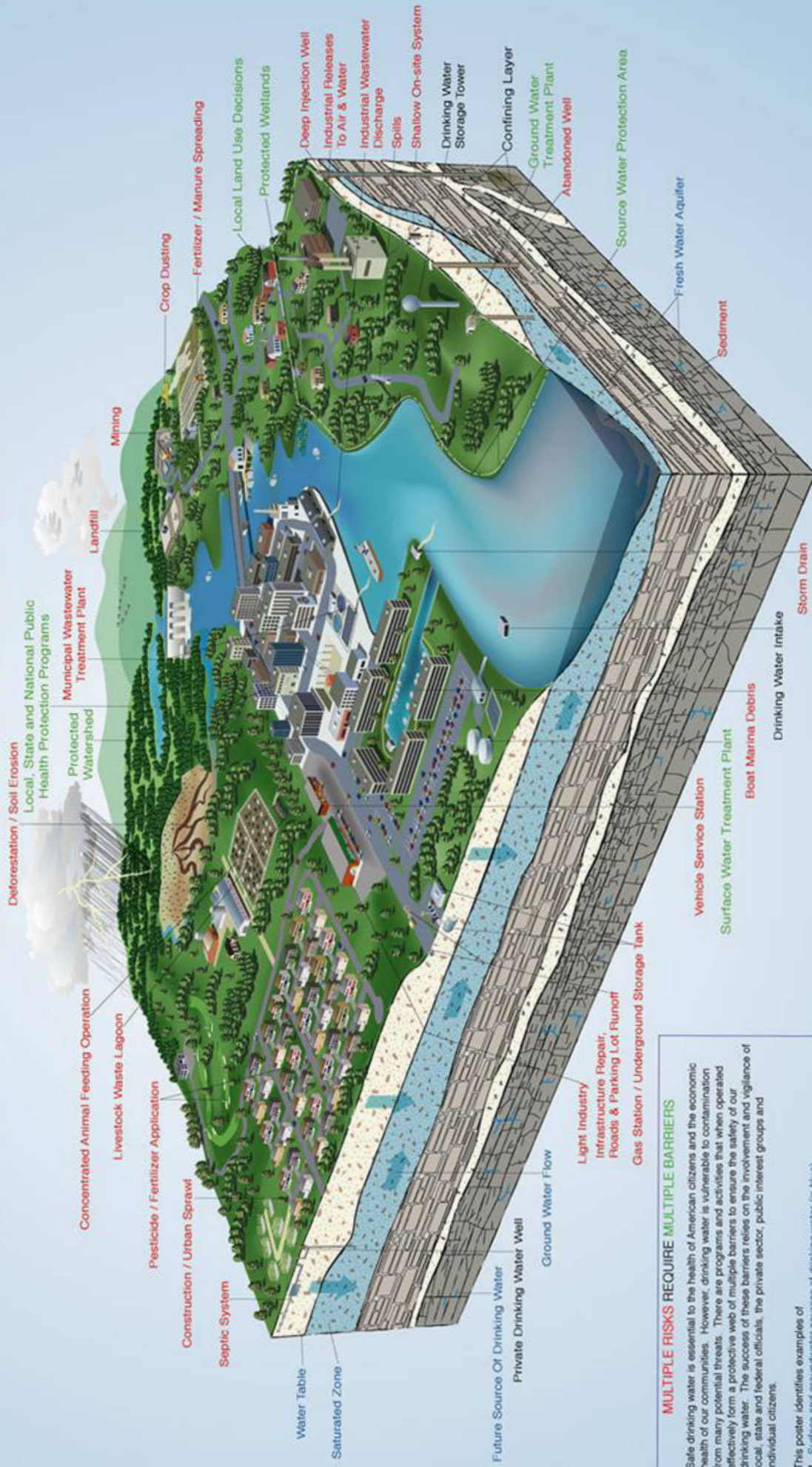


# How much do you know about your water?



**FLOW-TECH** HOME™  
exclusively distributed by  
**PLUMBER'S CHOICE WATER SYSTEMS**

# Safe Drinking Water Act - Protecting America's Public Health



**MULTIPLE RISKS REQUIRE MULTIPLE BARRIERS**

Safe drinking water is essential to the health of American citizens and the economic health of our communities. However, drinking water is vulnerable to contamination from many potential threats. There are programs and activities that when operated effectively form a protective web of multiple barriers to ensure the safety of our drinking water. The success of these barriers relies on the involvement and vigilance of local, state and federal officials, the private sector, public interest groups and individual citizens.

This poster identifies examples of

1. Surface and groundwater sources of drinking water (in blue).
2. Potential threats to those drinking water sources (in red), and
3. The multiple barriers that together protect our nation's public health (in green).

Risk Prevention Barrier  
 Risk Management Barrier  
 Risk Monitoring and Compliance Barrier  
 Individual Action Barrier

# Impurities Commonly Found in Municipal Water

## Reasons to Filter

**Chlorine or Chloramine** - Good for killing bacteria, bad for your plumbing and more importantly not good for you or your family. It doesn't taste or smell good either.

**VOCs(Volatile Organic Compounds)**- Includes things such as herbicides and pesticides and industrial solvents, many of which are not tested for under the Safe Water Drinking Act standards which municipalities are subject to follow.

**Disinfectant By-products** - Result when chlorine is in the water. Some of these by-products are defined as known carcinogens and therefore may cause cancer. Examples include Trihalomethanes (THMs).

**Turbidity**- Anything that causes water to have a cloudy appearance. Suspended solids is another term, or more commonly it's simply called dirt.

**Fluoride**- The government mandated the addition of fluoride into all municipal water supplies. This was the latest amendment to the Safe Water Drinking Act.

Reverse Osmosis is the only option should you elect to remove fluoride.

## Reason to Condition

**Calcium and Magnesium**- These minerals are naturally at high levels in over 80% of water. These minerals are good for you, but not your water using appliances and plumbing system when they cause scale build up. Scale reduces efficiency, increases energy usage requirements and shortens the life expectancy of water using appliances including your water heater.

# What's In the Annual Water Report Quality Report



The following information is in your water quality report.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

## **Contaminants that may be present in source water include:**

- (A) Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- (B) Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban storm runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- (C) Pesticides and herbicides, which may come from a variety of sources such as agriculture, storm water runoff, and residential uses.
- (D) Organic chemical contaminants, including synthetic and volatile organics, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff and septic systems.
- (E) Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities. In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems.

## **Every Water Quality Report has this warning:**

*Some people may be more vulnerable to contaminants in drinking water than is the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their healthcare providers.*

# Warnings in your water quality report

The following is a sample from a recent water quality report...

Regulated Contaminants							
	Highest Level Detected	Range of Levels Detected	Unit of Measurement	MCLG	MCL	Violation?	Likely Source of Contamination
Turbidity	0.25	<0.08-0.25	NTU	n/a	1	No	Soil run-off.
Disinfectants & Disinfectant By-Products <i>*MCL is based on a system-wide running annual average of several samples.</i>							
Total Haloacetic Acids (HAA5)	38.8	6.8-68.4	ppb	n/a	60*	No	By-product of drinking water chlorination.
Total Trihalomethanes (TTHMs)	79.3	18.9-159.3	ppb	n/a	80*	No	By-product of drinking water chlorination.
Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys or central nervous system, and may have an increased risk of getting cancer.							
Inorganic Contaminants							
Arsenic (9-26-2006)	5.7	<2.3-5.7	ppb	0	10	No	Erosion of natural deposits; run-off from orchards, electronics production wastes.
While your drinking water meets EPA's standard for arsenic, it does contain low levels of arsenic. EPA's standard balances the current understanding of arsenic's possible health effects against the cost of removing arsenic from drinking water. EPA continues to research the health effects of low levels of arsenic, which is a mineral known at high concentrations to cause cancer in humans and is linked to other health effects such as skin damage and circulatory problems.							

The average municipal water sample contains more chlorine than the average residential swimming pool.

According to the U.S. Council of Environmental Quality, the cancer risk to people who drink chlorinated water is **93 percent higher** than among those whose water does not contain chlorine.

# Chlorine/Chloramine Testing



**How to conduct a simple water test to check chlorine levels**

The CHEMetrics kit tests for Chlorine and Chloramine.   T   or   F  

Your testing kit should contain \_\_\_\_\_  
\_\_\_\_\_.

You should run the water for \_\_\_\_\_ before collecting your testing sample.

A good indicator that you will get a positive test is if your water sample has a slight \_\_\_\_\_ tint when placed on a white piece of paper after adding the activator solution.

An average residential pool contains \_\_\_\_\_ chlorine.

# Hardness Testing



## How to Conduct a Water Hardness Test

Before conducting a hard water test for a customer, you should

---

You should check for signs of hard water on

---

In order to get a sample on your hardness test strip, you should

---

For your hardness strip to turn the the proper color, you should wait at least

---

If a customer has hard water, you should recommend they consider a \_\_\_\_\_ or a \_\_\_\_\_

# What is Water Filtration?

## **Definition:**

Water filtration is a term that refers to any system or process that is used to filter out particles and pollutants from water. Anything that removes any amount of particles, sediment, bacteria, and the chlorine taste can be called water filtration. If it has a filter of any type, it's a filtration system.

## **Primary categories of water filtration systems:**

Municipal - used to produce water safe for distribution

Commercial - used to filter water for a specific facility

Whole House/ Point of Entry(POE) - Installed on the water main to filter all of the water in the building

Point of Use (POU) - Installed on a single outlet

## **Commonly used filtration medias:**

Granular Activated Carbon

Catalytic Carbon

KDF

Mixed Media

Reverse Osmosis Membrane





# Focus on Carbon



Carbon is one of the most common elements in the world.

Carbon filtering is a method of filtering that uses activated carbon to remove contaminants and impurities, utilizing chemical adsorption.

Activated carbon is designed to provide a large section of surface area, in order to allow contaminants the most possible exposure to the filter media. One pound (454g) of activated carbon contains a surface area of approximately 100 acres.

Carbon is activated with a positive charge and is designed to attract negatively charged water contaminants. Carbon filtering is commonly used for water purification, but is also used in air purifiers.

Typical particle sizes that can be removed by carbon filters range from 0.5 to 50 microns. The efficacy of a carbon filter is also based upon the flow rate regulation. When the water is allowed to flow through the filter at a slower rate, the contaminants are exposed to the filter media for a longer amount of time.

**Our standard whole house filters contain an uncommonly large amount (1.5 cf) of high quality activated carbon to provide the best quality water from a whole house carbon system.**

# WHAT'S IN THE TANK MATTERS

Each particle/granule of carbon provides a large surface area/pore structure, allowing contaminants the maximum possible exposure to the active sites within the filter media. One pound of activated carbon contains a surface area of approximately 100 acres.



The two most important factors affecting the efficiency of activated carbon filtration:

**Amount:** The \_\_\_\_\_ carbon the better.

**Contact Time:** The \_\_\_\_\_ the flow rate of the water, the \_\_\_\_\_ time that the contaminants will be in contact with the carbon, and the more absorption that will take place.

Particle size also affects removal rates.

## CONTAMINANTS COMMONLY FILTERED WITH CARBON:

- many volatile organic chemicals (VOC)
- many pesticides and herbicides
- chlorine
- benzene
- trihalomethane (THM) compounds
- radon
- solvents
- hundreds of other man-made chemicals found in tap water

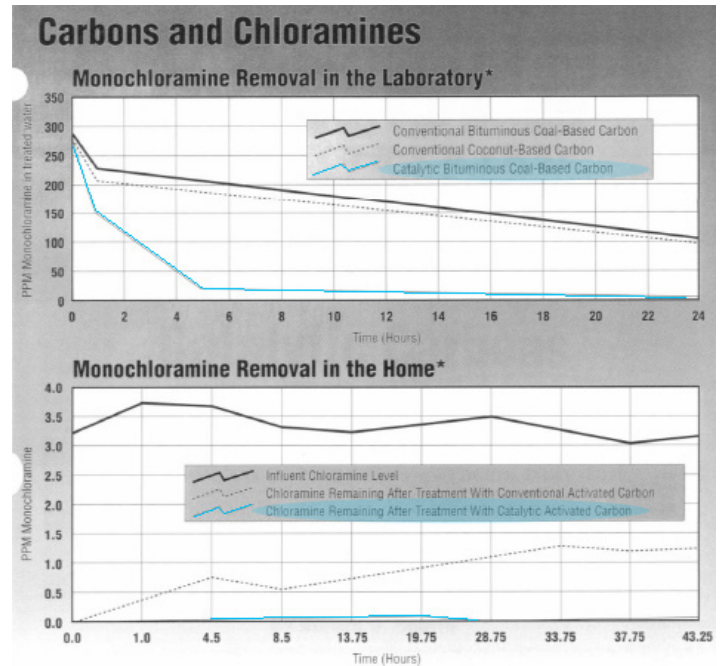
# SIZING AND MEDIA CHOICE

Whole House Carbon Filtration is a great primary line of defense for municipal water users as bacteria and virus are not generally a concern because the water is so heavily chemically treated.

By treating the water from the Point of Entry (POE) forward you are filtering beyond just drinking water, greatly reducing impurities in the water you shower and bath in as well as the vapors from water using appliances like the washing machine and dishwasher.

Our **STANDARD CARBON** is a coconut-based, high activity granular activated carbon (GAC). This carbon is ideal in **free-chlorine treated markets**.

Our **CATALYTIC CARBON** is a coconut-base carbon and is nearly 3 times more effective as standard GAC in its ability to adsorb **chloramine** which is the primary disinfectant in most municipalities.



All sizes available based on need.  
Common sizing for residential homes:

10x54

- Fits up to 1" inlet
- Services up to 18gpm peak flow rate
- Filters up to 1.5 million gallons of water

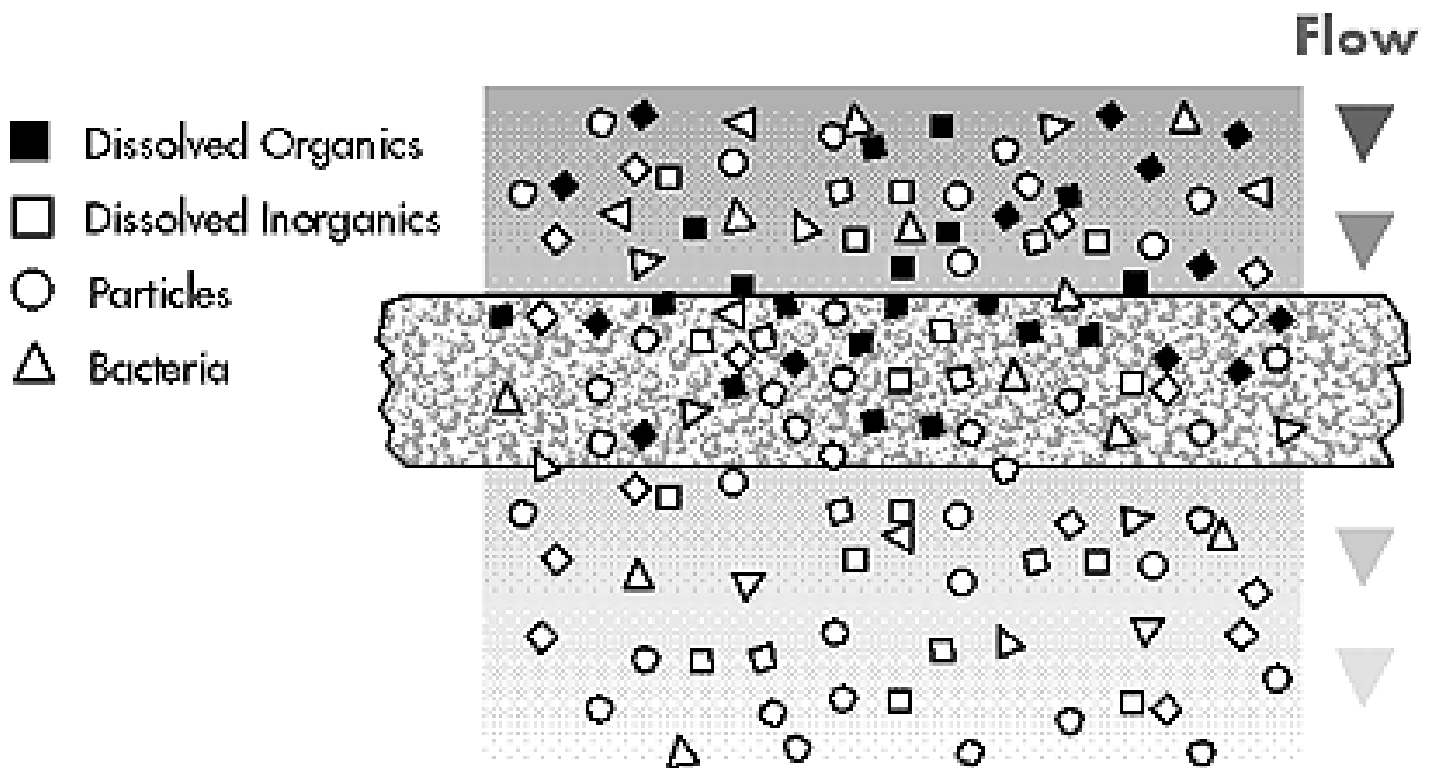
12x52

- Fits up to 1 1/4" inlet
- Services up to 22 gpm peak flow rate
- Filters up to 2.0 million gallons of water

# How Does Carbon Work?

Carbon adsorption is a widely used method of home water treatment because of its ability to improve water by removing disagreeable tastes and odors, including objectionable chlorine.

During water filtration the water is forced through the carbon bed where impurities are adsorbed. The water that passes through the filter into your home is therefore much cleaner, better tasting and better for you than unfiltered water.

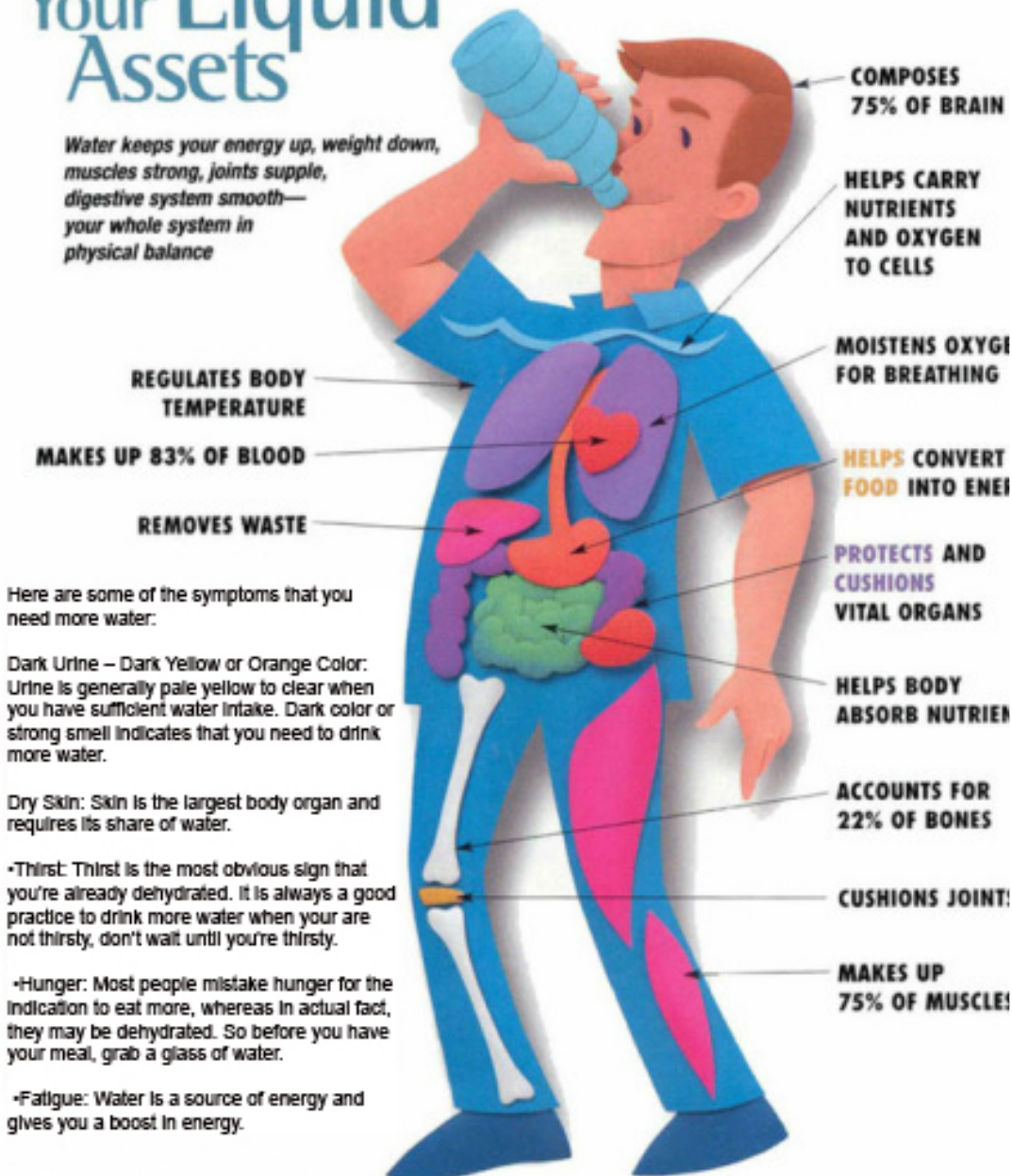


# You Need a Whole House Carbon Water Filter

Dr. Oz advised viewers, “You should also shower and especially bathe with toxin free H<sub>2</sub>O. Chlorine, which isn’t just found in swimming pools but also in our tap water - dries out the hair (as well as the skin). The problem isn’t the straight chlorine but what it turns into stronger toxins called trihalomethanes. These can irritate your skin and eyes but may also cause other health problems in higher concentrations.”

## Your Liquid Assets

*Water keeps your energy up, weight down, muscles strong, joints supple, digestive system smooth—your whole system in physical balance*



Here are some of the symptoms that you need more water:

**Dark Urine – Dark Yellow or Orange Color:** Urine is generally pale yellow to clear when you have sufficient water intake. Dark color or strong smell indicates that you need to drink more water.

**Dry Skin:** Skin is the largest body organ and requires its share of water.

**Thirst:** Thirst is the most obvious sign that you’re already dehydrated. It is always a good practice to drink more water when you are not thirsty, don’t wait until you’re thirsty.

**Hunger:** Most people mistake hunger for the indication to eat more, whereas in actual fact, they may be dehydrated. So before you have your meal, grab a glass of water.

**Fatigue:** Water is a source of energy and gives you a boost in energy.

Prevention Magazine recently published “20 Ways to Prevent Cancer” and number one was “Filter Your Tap Water”. They noted, “You’ll reduce your exposure to known or suspected carcinogens and hormone-disrupting chemicals. A recent report from the President’s Cancer Panel on how to reduce exposure to carcinogens suggests that home filtered tap water is a safer bet than bottled water, whose quality often is not higher - and in some cases is worse - than that of municipal sources, according to a study by the Environmental Working Group.”

# Whole House Carbon Filter Benefits

The primary cause of bad taste or smell in water is

\_\_\_\_\_.

The 10x54 Flow-Tech Pure filter regenerates every

\_\_\_\_\_ gallons.

The 10x54 Flow-Tech Pure filter will last an average of

\_\_\_\_\_ years for a family of 4.

The benefits of a Whole House filter are:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Catalytic carbon is \_\_\_\_\_ times faster at breaking down chlorine/chloramine in water than standard granular activated carbon.



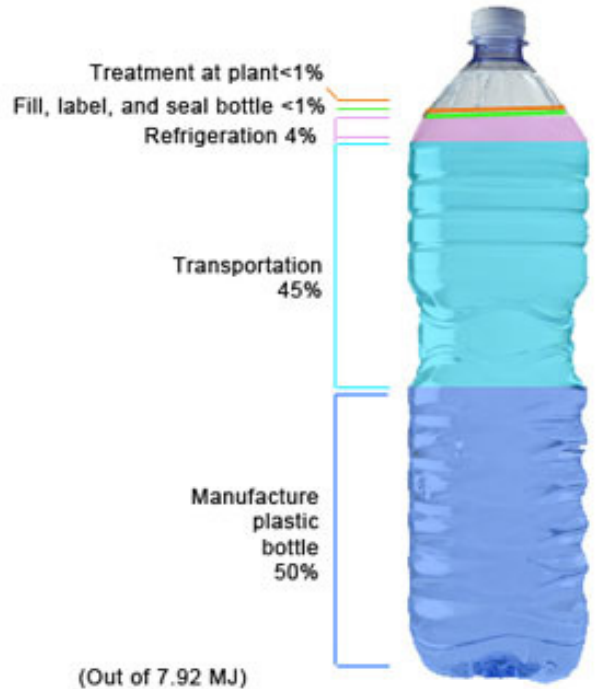
# Bottled Water Is Expensive

## Did you know?

It takes 1,000 years for a water bottle to begin to decompose

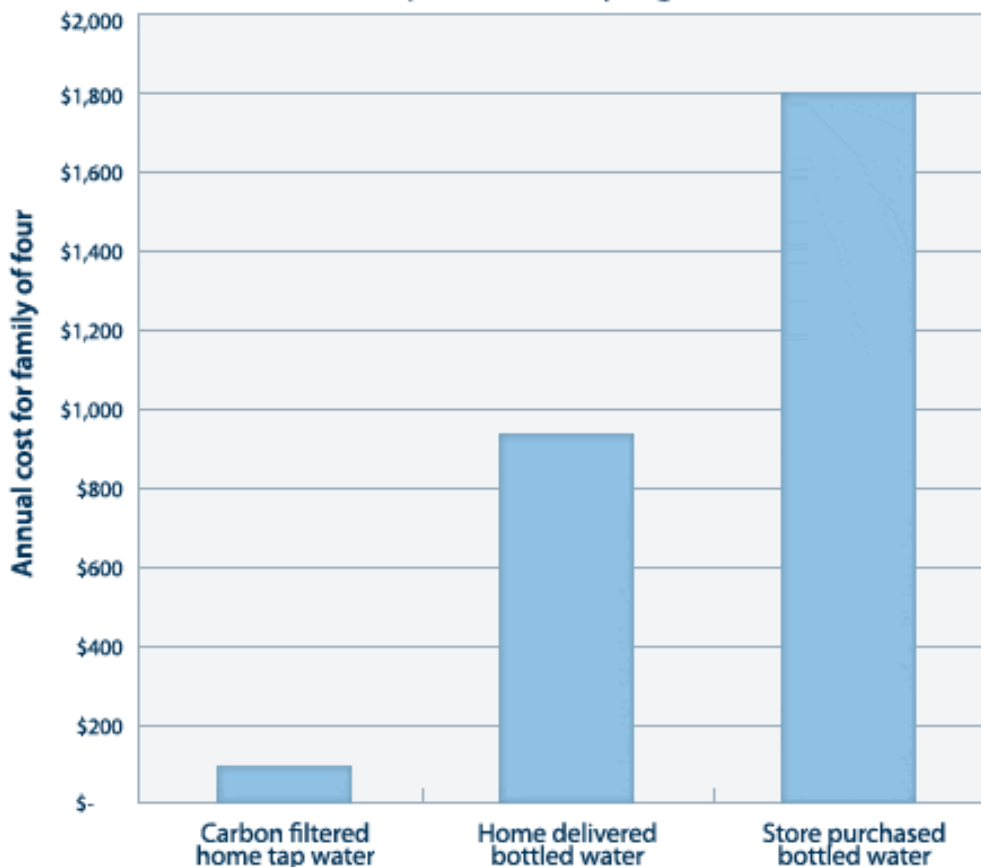


Figure 1:  
Energy Required to Make Bottled Water



Pacific Institute, 2009

Filtering your home tap water is 10 to 20 times cheaper than buying bottled water



# Point of Use Filtration

## Inline Cartridge Filter

**Alwaysfresh®** filters single line completely down 0.5 micron particles without the water waste associated with a Reverse Osmosis system.

**Alwaysfresh®** provides a high flow 1.5 gpm high capacity/performance drinking water system. It requires no unsightly extra faucets or attachments. You will enjoy the taste of fresh filtered water from your existing kitchen cold faucet.



**Alwaysfresh®** removes unpleasant chlorine taste and odor from your ice cubes, drinking water, coffee, teas & food.

- Certified protection from parasites and harmful chemicals.
- Easy cartridge replacement.
- Easy connection to your ice maker and other faucets.
- Easy to Maintain: Just one cartridge to replace annually\*

## Shower Filters

By using a shower filter, the levels of harmful chemicals and bacteria found in your water may be greatly reduced, decreasing your risk of dermal irritations and possible disease. Once installed, a shower filter removes any sediment that may be present in your water, and reduces the traces of chemicals, making your water cleaner and safer on the body.

Science News reported that researchers found increases in chloroform in study participants' lungs of about 2.7ppb after a 10-minute shower. Combined with warm water opening pores, skin absorption and lung inhalation during a 10-minute shower showed to be greater than the amount that would be ingested by drinking 8 glasses of the same water.



# Reverse Osmosis Filtration

Reverse Osmosis combined with activated carbon technology reduces up to 99% of impurities and eliminates bad taste and odors for refreshing clean, clear water. The Millennium is NSF Certified for reduction of many contaminants including Cysts, Lead and Radium.

Our RO System has a space-saving design is ideal for under sink installations and uses a minimum of space. The high capacity tank holds approximately 2 gallons of water without taking up a lot of space. The system has an automatic shut-off that signals the system to stop making water until more is needed.



- Maximum Production: High performance T.F.C. membrane with a rating of 50 gallons per day, (189 liters per day).

## FOUR HIGH PERFORMANCE FILTRATION STAGES...

### Stage 1

The Sediment Prefilter protects the automatic shut-off, Activated Carbon Filter and membrane from clogging with debris.

### Stage 2

The water is then routed to an Activated Carbon Filter, where the chlorine is taken out to protect the refined T.F.C. membrane.

### Stage 3

Reverse Osmosis. This is the heart of the system.

Most particles too small to be trapped by the prefilters are removed by the T.F.C. membrane, reducing unwanted contaminants from the water stream.

### Stage 4

The final stage of filtration, an Inline Carbon Filter, removes any remaining tastes and odors before the water



## REASONS TO RECOMMEND AN RO SYSTEM

Customer wants one

Add on to a softener for drinking water

Customer has concerns about flouride

Bacteria and Virus concerns

# How Does Scale Form?

Scale forms inside a plumbing system under two scenarios:

1. \_\_\_\_\_
2. \_\_\_\_\_

It's called supersaturation!

Supersaturated solutions are prepared or result when some condition of a saturated solution is changed, for example increasing temperature, decreasing volume of the saturated liquid (as by evaporation), or decreasing pressure.

## Heterogeneous Scale



Scale is commonly visible in the following places:

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_

**A quarter-inch of limescale build-up in a water heater equates to about a \_\_\_\_\_ percent loss of efficiency.**

# Options for Treating Hard Water

## Water Softeners

### Physical Water Treatment

Flow-Tech Home

Media Based Systems

Coil Wrap Systems

Magnets

	Salt-Based Water Softeners	Flow-Tech Home	other PWT
<b>Limescale</b>	While preventing future buildup, does not treat existing buildup	Prevents future buildup; Breaks up existing buildup	Best case senario, works like Flow-Tech, when water is flowing, but stops working when water isn't flowing
<b>Minerals</b>	Removes calcium and magnesium completely	Retains natural level of healthy minerals in water	and when left for significant amounts of time return to normal state and form scale
<b>Salt</b>	Increases salt content in water slightly	No increase in salt	no salt
<b>Corrosion</b>	Have be shown in studies to reduce corrosion	Removal of existing limescale reduces corrosion	no know effect on corrosion
<b>Maintenance</b>	adjustments needed; Salt bags must be frequently purchased and replenished	Maintenance-free	Media systems require replacement of media when exhausted.
<b>Water Usage</b>	Backwashes based on hardness requirement	No water wasted	None on electronics. Significant on backwashing media systems
<b>Environment</b>	treated to prevent damaging plant life, but 50% detergent saving is good	significant detergent reduction but not equal to a softener	no negative of positive impact if they aren't working consistently
<b>Installation</b>	Requires special plumbing, electric and space	plugs in; No complicated installation or extra	The better versions of these systems are more challenging to install (tank and stron coil)
<b>Cost</b>	similar initial investment plus regular maintenance	Not cheap	The cheaper ones are "cheaper nad the better ones are similar in cost

# Traditional Water Softeners ...



The performance of a water softener is dependent on two key components:

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**The resin tank:** contains media called resin. The resin attracts and collects minerals from hard water. Once the resin is saturated with hardness minerals it must be cleaned and regenerated. Once regenerated, the resin is ready to remove more minerals from the water.

**The control valve:** routes the water flow through the system and controls the operating cycle. Hard water passes through the resin bed to become soft. During regeneration, water flow is reversed to clean the resin bed. Brine is pulled in and then rinsed out to regenerate the resin, preparing it to soften more water. The brine tank is then refilled with fresh water for future cycles.

# How a Water Softener Works

When your water passes through the ground it picks up minerals found in the earth like calcium, magnesium, and iron. At high levels these minerals cause your water to be hard. The best way to get rid of hard water is to install a water softener.

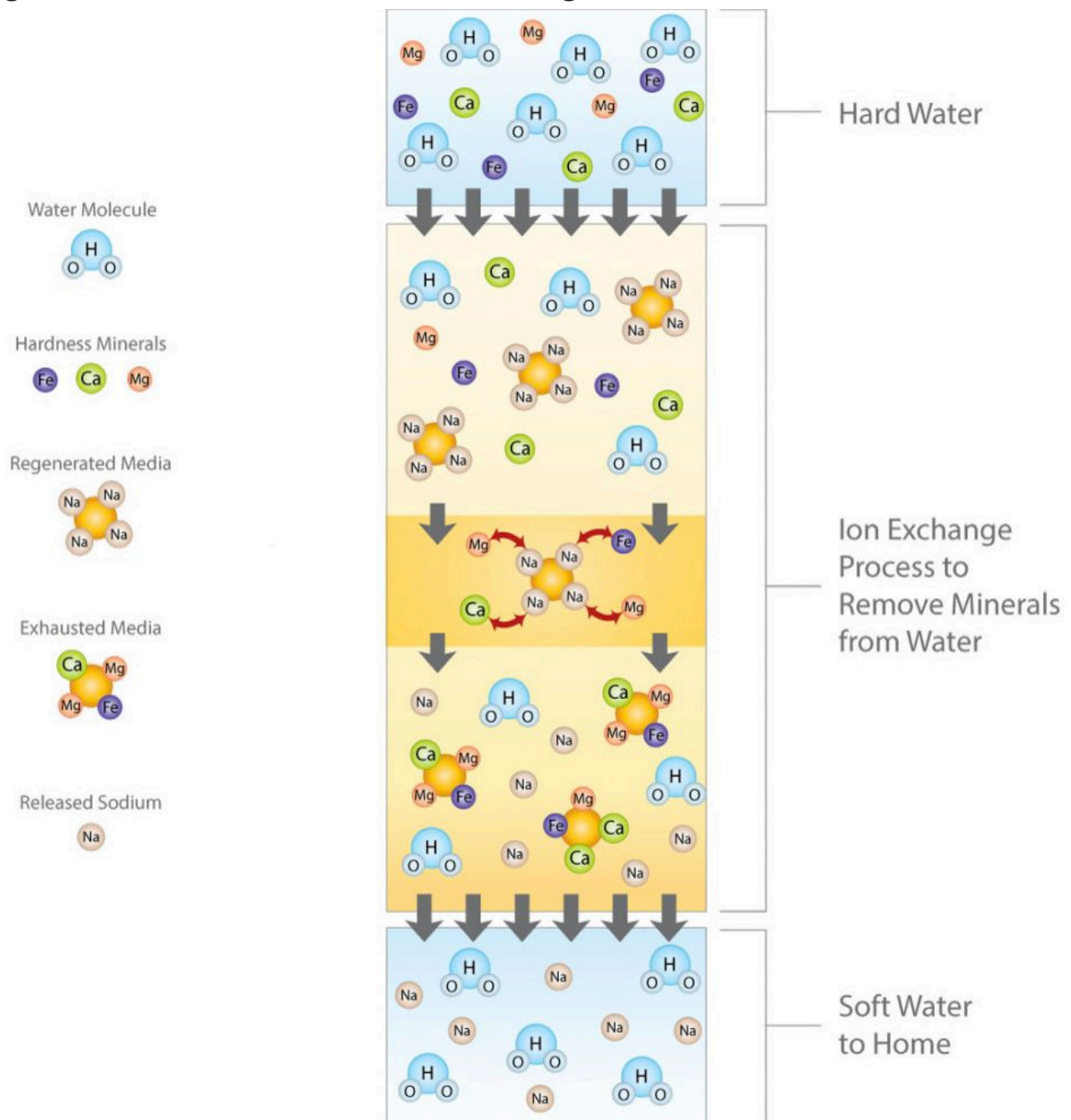


1. Hard water passes through the resin tank of the water softener. In the tank, the water's hard minerals are removed and replaced with soft minerals from the resin beads. This process is called "ion exchange."
2. Over time, the resin tank will get full of the hard minerals and be unable to soften water any longer. During a process called "regeneration," salt water flushes the resin tank. This forces the hard minerals to be wiped clean from the resin beads.
3. Resin beads are then filled with sodium ions and are once again ready to soak up hard minerals.

# Understanding Ion Exchange

Ions are atoms or molecules that carry either a positive or negative charge because there's an imbalance between electrons and protons. Cations have a positive charge and anions have a negative charge.

Calcium ( $\text{Ca}^{+2}$ ), magnesium ( $\text{Mg}^{+2}$ ), iron ( $\text{Fe}^{+3}$ ), and sodium ( $\text{Na}^{+}$ ) are all positively charged cations. However, sodium has a much weaker charge, which allows for the exchange.



# How much sodium is a softener adding to my diet?

Hard water contains minerals such as calcium and manganese that cause scaling and soap scum. It is important to soften hard water in your home to protect your plumbing and appliances from mineral buildup. Soft water will also reduce the amount of soap used in your home. During the traditional softening process, sodium is released into your home's water supply but how much sodium are you really drinking? Compare the information below regarding the amount of sodium transferred into your water by softening to a few common daily foods.

Adults drink an average of 1 quart of water per day. Depending on the hardness of the water, the amount of sodium released into water can be seen in the chart below.

Initial Water Hardness	Sodium Added by Softening	
	Grains Per Gallon	Milligrams Per Gallon
1	30	7.4
5	148	37
6	180	45
7	208	52
8	240	60
9	268	67
10	298	74
15	448	112
20	596	149
30	892	223
40	1,192	298

## Dietary Sources of Sodium

### APPROX. SODIUM CONTENT (MILLIGRAMS)

#### BREAKFAST

1/2 cup canned tomato juice	439
1 egg (no salt added)	59
2 biscuits	350
2 teaspoons margarine	140

#### LUNCH

3 ounces sliced ham	1,114
1 ounce processed cheddar cheese	406
2 slices white bread	228
1 cup milk	122
1 large olive	80
1 dill pickle	930
1 teaspoon mustard	65
10 potato chips	200

#### DINNER

6 ounces steak (no salt added)	110
Green salad with 1 ounce French dressing	450
Baked potato (salt added)	270
2 teaspoons margarine	140
2 slices rye bread	278

<b>POSSIBLE DAILY SODIUM INTAKE</b>	<b>5,605 MILLIGRAMS</b>
-------------------------------------	-------------------------

Information taken from a study presented by the Water Quality Association. The daily sodium intake for an adult is about 2,500 milligrams per day. Medical issues may require a reduced sodium diet. Consult your physician for any concerns regarding daily sodium recommendations.

# Understanding the Flow-Tech Anti-scale System

## **GREEN IN EVERYTHING BUT EXPERIENCE.**

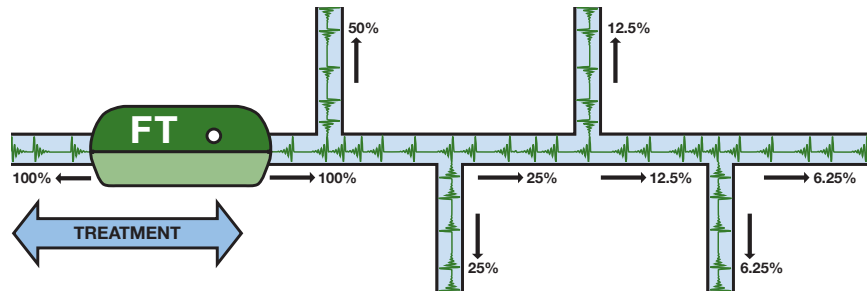
The Flow-Tech System was developed from years of research by a team of top petrochemical engineers and scientists for use in large industrial applications. We have adapted this technology to make it available to homeowners. Finally, you can have an economical, environmentally friendly, no-maintenance water treatment system that works all the time, not dependent upon flow.

## **SALT FREE. CHEMICAL FREE. WORRY FREE.**

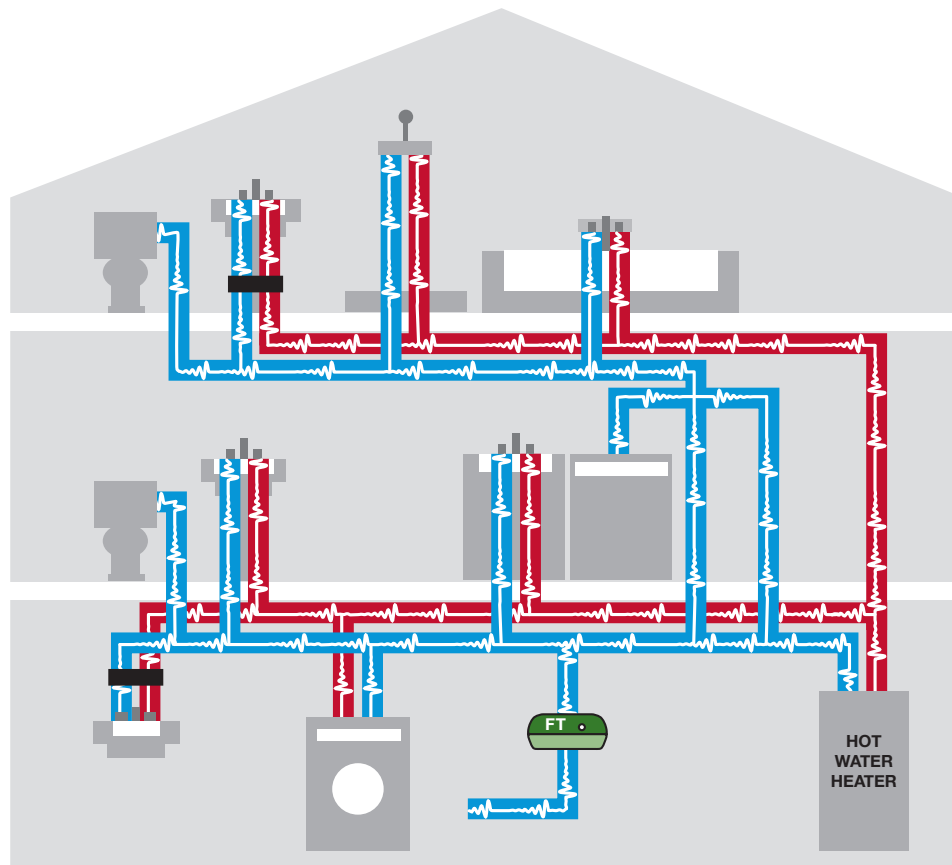
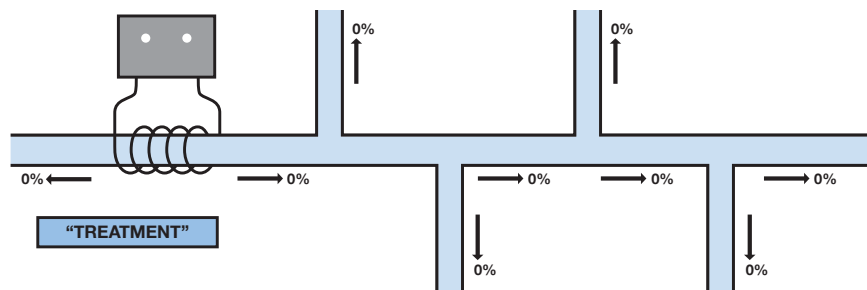
Prior to Flow-Tech Home™, customers have been forced to use undesirable techniques such as salts, magnetic coils and chemicals to try and manage these effects.



### WITH FLOW-TECH HOME



### OTHER PHYSICAL WATER TREATMENT SYSTEMS



Flow-Tech was originally developed for use in

\_\_\_\_\_.

Flow-Tech (circle one) does / does not remove minerals including calcium and magnesium from water?

In order for the Flow-Tech to work you must have two

\_\_\_\_\_

The Flow-Tech Home needs be installed on

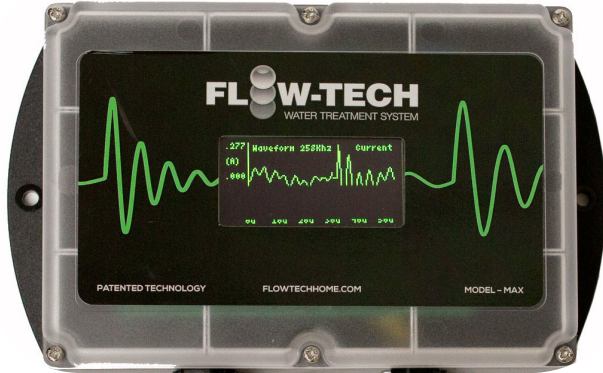
\_\_\_\_\_

Flow-Tech Home is unlike other physical water treatment because it is not \_\_\_\_\_

Flow-Tech forms (circle one) Heterogeneous / Homogeneous scale.



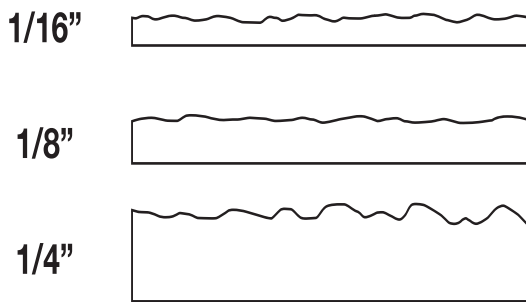
# The Ultimate Anti-Scale System



- Saves Money
- Does Not Use Salt or Chemicals
- Protects Appliances and Fixtures
- Removes Existing Scale Build-up

## THICKNESS OF LIMESCALE

## LOSS OF EFFICIENCY



12%

26%

40%

- Increases Energy Efficiency
- No Maintenance Required
- Saves Space
- Environmentally Friendly and Healthy
- No Drain or Wasted Water

## ANNUAL COST COMPARISON

### HOME WITHOUT FLOW-TECH

### WITH FLOW-TECH

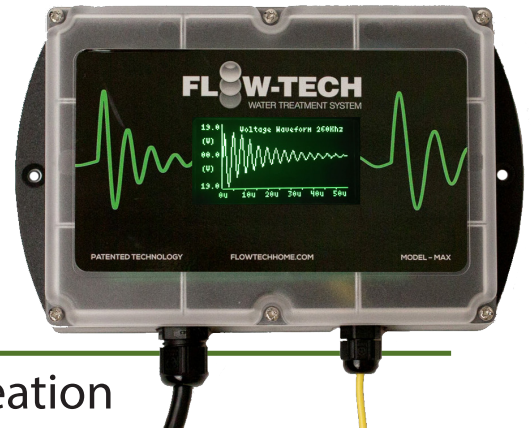
Water Heater	\$80	\$53
Washing Machine	50	33
Dish Washer	40	27
Fuel Cost (H <sub>2</sub> O heater)	450	320
Softener Maintenance	180	0
Detergent Cost	240	120
<b>Total Annual Cost</b>	<b>\$1040</b>	<b>\$553</b>

**Total Annual Savings**

**\$487**

Assumptions: Life of appliances extended 50%, Average Energy savings 29% on domestic water heating, annual softener cost \$180 eliminated and annual detergent cost \$240 with 50% savings.

# Flow-Tech Home Technical Data Bulletin



## Signal Propagation and Nucleation

Flow-Tech Home MAX generates an electromagnetic field (power is less than 15 watts) in the 80-300kHz frequency range that is induced into the water of the entire plumbing system and creates a diminishing sine wave. That sine wave randomly cycles on and off thousands of times per second. (Any interference from this signal, under normal circumstances, will only travel an inch or so outside a conductive pipe.)

The effect is disruption of the layer of water molecules around calcium and carbonate ions. This allows the positive calcium ion (cation) to join with the negative carbonate ion (anion) to form a calcium carbonate particle that acts as a "seed crystal".

The system is capable of producing millions of these nucleation events per second throughout the plumbing system. When heat or pressure changes occur and the solution becomes super saturated these seed crystals start to join and form clusters (Homogeneous Scale) that continue to grow in suspension, instead of forming Heterogeneous Scale on plumbing surfaces.

While metal piping is required for signal induction, the complete make-up of the plumbing system (copper, cpvc, pex, etc.) is irrelevant as the signal travels in the fluid column. Generally there is accessible metal piping at the water heater per code in most markets. If no metal piping is accessible than a 12 inch piece of pipe can be plumbed inline on the cold water main and hot water line out of the water heater.

# Tank System Installation - Filter Example

Video available online at [www.plumberschoicewater.com/dealer/videos](http://www.plumberschoicewater.com/dealer/videos)

The Whole House filter in this video is a 1.5 cubic foot system, which holds about \_\_\_\_\_ pounds of carbon.

Once the filter is in the proper location, the first step in installation is \_\_\_\_\_.

You should fill the tank about \_\_\_\_\_ % full of water.

For quieter discharge it is recommended a \_\_\_\_\_ inch drain.

The Flow-Tech Pure filter, once the time is set, will regenerate every \_\_\_\_\_ gallons or \_\_\_\_\_ weeks, whichever comes first.

During setup, you should unplug the unit during \_\_\_\_\_.

After the installation is complete, you should \_\_\_\_\_.

See programming video for instructions on changing the regeneration time. Time is factory preset to \_\_\_\_\_.

# Flow-Tech Home Anti-scale System Installation

Video available online at [www.plumberschoicewater.com/dealer/videos](http://www.plumberschoicewater.com/dealer/videos)

The ground clamps must be attached to \_\_\_\_\_

The tag line on the unit comes coiled. You should

\_\_\_\_\_

The tag line from the MAX unit should be clamped to the \_\_\_\_\_ water side. Use additional wire to jump to the clamp on the \_\_\_\_\_ water side.

Once plugged in, we want to ensure we are seeing a \_\_\_\_\_ waveform on the Flow-Tech screen.

After installation, use a signal tester or a picoscope at one or two other locations to test for proper installation. You should see a \_\_\_\_\_ when the top of the signal tester is touched to conductive metal piping.

The unit \_\_\_\_\_ during the start up self-diagnostics screening.

To help a specialist diagnose any problems you should take a picture of the \_\_\_\_\_ screen.

When running properly, the unit displays \_\_\_\_\_ different screens in a cycle.

# FLOW-TECH HOME™

exclusively distributed by

## PLUMBER'S CHOICE WATER SYSTEMS

*Helping you protect your family, home and the future of our planet.*

### Flow-Tech Home™ Whole House Water Filter



Remove undesirable impurities for clean, clear, odor free water throughout your home.

- Reduction or removal of chlorine and associated disinfectant by-products
- Clean, filtered water from every tap
- Better tasting coffee, tea and other water mixed beverages
- Reduced environmental impact due to bottle waste associated with plastic bottles and the production process
- Better tasting and smelling water makes drinking water more attractive
- Your home's pipes will be protected against chlorine's corrosive effects
- Costs saving based on the reduced use of bottled water
- These Whole House Filters contains a Vortex® plate at the base of the system which increases backwash efficiency by creating tornado like motion and allows for up to 50% less back wash water usage
- Professional installation and service back up the product

### Flow-Tech Home™ Anti-scale Water Softener Alternative



Receive the desirable benefits of a water softener without salt, chemicals, water waste or the slimy feel of salt softened water.

- Saves money
- Does not use salt or chemicals
- Protects appliances and fixtures
- Removes existing scale build-up
- Increases energy efficiency
- Eliminates the need for maintenance
- Saves space
- Retains beneficial minerals
- 1 year satisfaction guarantee
- 3 year warranty

#### ANNUAL COST COMPARISON

	HOME WITHOUT FLOW-TECH	HOME WITH FLOW-TECH
Water Heater	\$80	\$53
Washing Machine	50	33
Dish Washer	40	27
Fuel Cost (H <sub>2</sub> O heater)	450	320
Softener Maintenance	180	0
Detergent Cost	240	120
<b>Total Annual Cost</b>	<b>\$1040</b>	<b>\$553</b>

#### Total Annual Savings \$487

Assumptions: Life of appliances extended 50%, Average Energy savings 29% on domestic water heating, annual softener cost \$180 eliminated and annual detergent cost \$240 with 50% savings.

### Flow-Tech Home™ Ion Exchange Water Softener



Remove calcium and magnesium to eliminate hard water scale.

- Reduction in soaps and detergents needed for equal results
- Reduction in the cost of maintenance and replacement of pipes, water heater, and other appliances
- Dishes will look less spotty from the mineral deposits from hard water
- Less minerals help clothes come cleaner and stains come out easier so they last longer
- No spots reduce the need for harsh chemical cleaners
- Softer water keeps skin and hair looking healthy

Reductions in detergents used in homes mean reductions in phosphates being sent to the sewer and eventually to wastewater treatment plants. This eventually leads to less phosphates discharge to surface water which can cause eutrophication or algae bloom which can interfere with the ecosystem.