

# KAY-IONS TECH (India)

## WATER SOFTENER QUESTIONNAIRE

### 1. Why should I buy your softener systems?

Our company is an incorporated, wholesale, worldwide distributor of quality, residential and commercial water treatment equipment. We have been in business since 1995, and have experienced a continual growth. We have managed to maintain a very low overhead, which permits us to market our quality water treatment equipment to our customers at a very low and competitive price. We design our systems more customer friendly and long lasting to minimize the replacement cost.

We have knowledge of 48,000 grain capacity water softeners with the manual and auto control valves that we are able to programme on PLC / HMI / SKADA and also without a meter, that has been sold to meet the various need of users.

We have found many companies on the internet that attempt to copy our systems, but we yet have to find one that can match the low prices, service and high quality of our water treatment equipment.

Our business is Water and Water is our business!!

We have sold, installed and shipped thousands of quality water treatment products, both locally and through our Internet web site!!

### 2. What is hard water?

Hard water is the most common problem found in the average home. Hard water is typically defined as water having more than 1 GPG (grains per gallon) of dissolved minerals in it, generally consisting of calcium, magnesium carbonate, and/or manganese. The amount of hardness in water is usually measured in either PPM (parts per million) or GPG (grains per gallon).

17.1 PPM or 17.1 Mg/L = 1 GPG

---OR---

PPM or Mg/L divided by 17.1 = GPG

A couple of ways for you to find out how hard your water is, would be to have it tested locally at your local public health department, or you can send a small sample to us, (at least 2oz), and we will gladly test it for you free, even if you decide to purchase your softener elsewhere!

We will test your sample for hardness, Iron, pH and nitrates and email or phone the results back to you.

### 3. Why soften my water?

Soft water greatly reduces the scaling of pipes, faucets, and bath fixtures, and reduces spotting of

glasses, dishes and flatware. Soft water also helps detergent clean your clothes better, while making your clothes last longer too!

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You can reduce your laundry detergent, dishwashing soap, hand soap and shampoo to half what you would normally use, not to mention soft water is much more pleasant to wash with, leaving less soap scum on you, and your tub/shower.

### **4. Why should hard water concern me?**

For many uses, it would not matter. For instance, to put out fires, water your lawn, wash the mud off the streets or float your boat, water would have to be pretty hard to cause a problem. But for bathing, washing dishes and clothes, shaving, washing your car and many other uses of water, hard water is not as efficient or convenient as "soft water."

For instance, you use only 1/2 as much soap cleaning with soft water because hard water and soap combine to form "soap scum" that can't be rinsed off, forming a bathtub ring on all surfaces and dries leaving unsightly spots on your dishes. When hard water is heated, the hardness minerals are re-crystallized to form hardness scale. This scale can plug your pipes and hot water heater, causing premature failure, necessitating costly replacement.

Soap scum remains on your skin even after rinsing, clogging the pores of your skin and coating every hair on your body. This crud can serve as a home for bacteria, causing diaper rash, minor skin irritation and skin that continually itches. For many industrial uses, the hardness minerals interfere with the process, causing inferior product.

### **5. Are there any reasons why I wouldn't want to soften my water?**

If you use salt to regenerate your softener, then a small amount of sodium is added to the water. For the majority of people this is not a problem.

If you're on a sodium restricted diet, we recommend either:

- \* Leaving the cold side of your water supply at your kitchen faucet on hard water, or
- \* Installing a separate faucet in the kitchen that dispenses unsoftened water for drinking and cooking, or
- \* Use potassium chloride instead of salt to regenerate your softener, (which adds a small amount of potassium to your water!), or
- \* Install a Reverse Osmosis unit at your kitchen sink, which will remove approximately 90-95% of Total Dissolved Solids (TDS) that are suspended in your drinking water, including the residual salt from your softener .

### **6. Why do water softeners add salt to the water?**

The softener operates using an "ion exchange" process. When hard water contacts the cation resin

beads, by passing through the softener mineral tank which have soft sodium/potassium ions attached to them, an ion exchange process takes place with the hard mineral ions, (normally calcium and/or magnesium), and during this contact, simply trade places with the soft sodium/potassium ions.

After a calculated period of use, the sodium ions are eventually depleted and are replaced by calcium and magnesium ions.

At this point, the resin then needs to be regenerated with new sodium ions, so the resin will again be able to exchange

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the hard for the soft. Salt, or sodium chloride, rinses through the resin beads during the regeneration of the softener, and washes the hard water ions off of the resin beads replacing them with new sodium ions.

**7. How much sodium is added to the water by the softener?**

That depends on the hardness of the water entering the softener. Below is a simple chart which shows the additional amount of sodium you would consume by drinking one quart (32oz) of softened water.

Hardness in Grains per Gallon	Sodium in Milligrams per Quart
1.0	7.5
5.0	37.5
10.0	75.0
20.0	150.0
40.0	300.0

To make a more normal comparison using everyday foods:

Item	Sodium in Milligrams
One slice of regular white bread	161
3/4 cup of canned baked beans	1130
1 tablespoon of catsup	204
1 medium frankfurter	610
1 cup of whole milk	127

As you can see, for water 20 grains hard you only have 150 milligrams per quart of water in sodium added which is less than one slice of regular white bread!!

**8. Do I have to use salt in my softener?**

No! Most stores that sell softener salt also sell a water softener salt substitute called potassium chloride. The potassium chloride for softeners is just as effective as regular softener salt but adds potassium instead of sodium.

The cost of potassium chloride is a little more than regular softener salt but well worth the small increase if you have concerns about residual sodium in your water. Call and check the availability of potassium chloride and the difference in price, compared to softener salt, in your area.

**9. Is there any concern about corrosion from the salt in the water?**

No!

**10. Should I soften the water to my icemaker or outside faucets?**

Normally, outside faucets or hose bibs, should not be softened. But, if you are a person who enjoys washing your car regularly and wants to use water that will not leave hard water spots on the car's finish then you may want to leave one outside faucet on soft water, for car-washing purposes. Or if you have no choice or don't want to go thru the additional expense of bypassing those outside faucets then use potassium chloride instead of salt. There was a three year study done by DR. Lynn Wu at UC Davis using different percentages of potassium in discharge water from water softeners to water different types of turf grasses and the study was very positive. Potassium is also a proven fertilizer to most plants.

We also recommend using softened water in your icemaker. The very small amount of salt that would be present from using ice made with soft water is extremely minimal.

Remember too, a water softener acts as a large filter which will make your water cleaner by removing large amounts of solids and iron from your water which will make your ice cleaner.

**11. What is the difference between a water softener-water conditioner-water filter?**

Basically, our water softeners are a private water treatment system. Through the ion exchange process described earlier, as the dissolved calcium and magnesium carbonate in your water, which are mainly responsible for the hard water, passes through the mineral tank and comes in contact with the softening resin beads, the sodium ions on the resin beads are exchanged with the calcium ions in your water thereby reducing the amount of calcium ions. This reduces the "hardness ions" of the water exiting the softener making your water "soft".

Water filters differ from softeners in that filters are made to remove suspended solids, chlorine, pesticides and some iron bacteria. A filter will not remove dissolved solids, such as the minerals responsible for hard water.

We view the term 'conditioner' as more or less a slang term and very vague. You could say that a water softener produces a form of "conditioned" soft water as a water filter produces "conditioned" filtered water.

**12. What do you think about Magnetic Water Conditioners?**

Magnetic water conditioning units have been available for several years and are not a new product. We have researched these products and have yet to find any non-biased, scientific proof that confirms this form of water treatment as being effective.

Basically, the claim is that these units change the electric charge of the hard water mineral molecules that are dissolved in the water. By supposedly changing the electric charge of the molecules, this causes the hard water minerals not to "stick" to whatever it comes in contact with, such as pipes, water heating elements, bath fixtures and faucets.

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As these units do not remove any minerals that cause hard water stains and buildup, we do not endorse any brand of magnetic conditioner. In addition and in our opinion, and based on years of independent research and articles disavowing this type of "water treatment", we highly recommend that the wise customer should beware of any company that markets these type of units.

### **13. Is there a difference between naturally soft water and soft water from a water softener?**

Yes! Naturally soft water is generally acidic and contains small amounts of dissolved minerals. Water of this nature tends to be more corrosive to plumbing and fixtures.

Water softened by a water softener is similar to "raw" water from which it is made but without the "hard water" minerals. It is usually alkaline rather than acidic, and contains larger amounts of other dissolved minerals.

### **14. Will your water softener remove iron from my water?**

Our softeners will remove certain types of iron from water. There are several types of iron found in water. If it is a soluble iron, commonly known as ferrous iron, and is not more than 3 ppm, then in most cases it will remove it from your water.

Other forms of iron, such as ferric iron requires the installation of a separate "iron filter" which looks very similar to a softener without the salt or brine tank. These iron filters generally have a timer and valve unit that are pre-set to backwash their special iron removing media as needed, usually every four days.

Iron filters should be installed ahead of, or in front of your water softener, to help keep your softener resin clean and free of excessive iron.

### **15. I have a water softener and now my water feels slimy!**

When the hardness minerals are removed, soap no longer forms a soap curd, or "bathtub ring" on your skin, plugging your pores, clinging to every strand of hair. You are now truly clean. That slick, slimy feeling you feel is your natural body oils without the soap scum.

The old saying that you get "squeaky clean" is a myth. That feeling was caused by the soap scum on your skin. By the way, that soap scum also provided an excellent place for bacteria to hide and grow, causing numerous minor skin ailments.

**For Any Query, Please Contact :**

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