

The Hard Water Problem:

I keep getting this question, or something like it: "I was interested in hearing your take on the white residue left on containers and glasses."

What you are seeing are calcium deposits. I am writing this paper to get it all addressed; just compiling my thoughts so you have a complete picture of the problem, what to do and not do when trying to solve it. My discussion centers around the Enagic® brand of water ionizers, they are unique because they have the plate size and power to separate the calcium from the water, other brands not so much!

In the meantime the calcium is harmless, the ionization process causes it to be electrically charged which helps it disassociate and then cling to surfaces. It also clings to the ionizer plates, thus the need for cleaning.

Early on I would encourage you to run beauty water daily, E-clean more often and have Enagic® deep clean your machine. Your glasses and bottles can be cleaned with citric acid (same as for E-clean) or with white vinegar, I use the vinegar over and over, just mark the gallon jug for cleaning and use it for months!

Many people are trying to use ion exchange (salt or potassium) water softeners, some are using Reverse Osmosis (RO) systems, some are using both; neither of these are healthy. I'll share with you why these should not be used below.

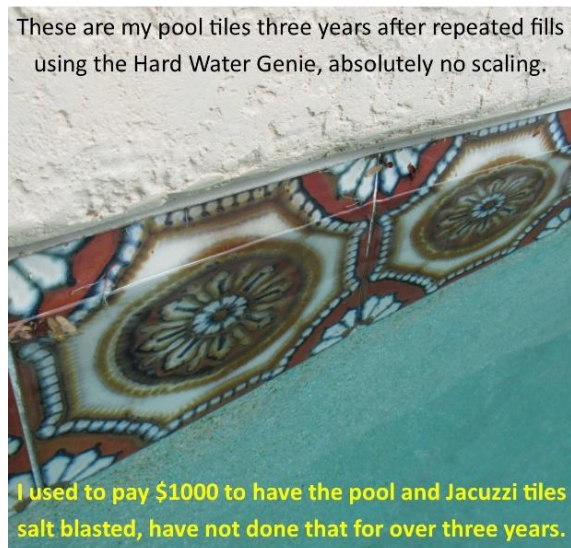
First I'll tell you what I have used now for many years, it actually works to reduce (not eliminate) the calcium flaking associated with the ionization process. It also helps the ionizer plates stay cleaner. The Genie Computerized Water Conditioner is a water conditioning technology that physically changes the minerals in water to prevent them from forming scale.

Introducing the Hard Water Genie:



For my whole house this is on the incoming water line (it could also be installed on the ionizer line, like in an apartment or a rental). It greatly reduces the calcification in containers after water ionization; quality is not compromised in the pH, ORP or H2 production. It also works throughout the house to stop the hard water deposits on faucets, showers, toilet bowls and where you can't see – inside pipes and the water heater.

The Hard Water Genie has (almost) eliminated the scaling on the tiles in my swimming pool!



The Hard Water Genie:

Read more about it at:

<https://www.greentechenv.com/nisen/index.php/products/pure-water/hard-water-genie.html> Look on the TABS for DESCRIPTION and DOWNLOADS, or I can send you the Owner's Manual and data sheets.

Please be kind to me, as a Managing Distributor for Green Tech Environmental I am NOT allowed to place product for sale on Amazon, E-bay auctions or the like. When you find my products on those sites they are either not legitimate distributors or they are not following the rules. **Order from me and you will get my full support.**

How it Works:

Be assured that I only promote the highest quality products available, that is why I own Enagic products, and I have proven the two work well together without compromising the HEALTHY BENEFITS we seek. The Hard Water Genie product has TWO coils; "There are two technologies employed in the Genie Computerized Water Conditioner output - Radio Frequency and Direct Inductive Coupling. The very powerful microprocessor delivers an unparalleled 13000 varying low frequency pulses per second. It is this action that neutralizes the calcium carbonate particles ability to adhere and form scale. As the treated water flows through your plumbing system the water will reverse the scale forming process, disintegrating the build-up already present, and offer future scale prevention."

Keep in mind this is a one-time purchase, no lease/rental fees, no maintenance costs, no salt or potassium to buy, no wasted water regenerating and flushing, no tanks to clean, no service truck outside.

Other Products on the Market:

There are many products claiming results for hard water issues, few if any address health. Inferior systems on the market only use ONE coil. Some systems use a permanent magnet, some use a cartridge to polarize the minerals. Almost all of these do not address the calcium deposits from ionization. I've heard from people using these products that their problem still exists.

Now I'll share with you why I do not promote or encourage the status quo technologies.

The Problem with Ion Exchange Water Softening:

The water softener that uses salt does two things, the resin bed gives up salt to the water stream as it collects calcium and magnesium (the hardness minerals) from the water. Then during regeneration salt from the brine forces out the hardness minerals sending them down the drain and salt once again occupies the resin beads. (This is a very simplistic description, it is actually the ions of these elements that are exchanged, thus the name *ion exchange*).

As it pertains to ionization the machine needs the minerals to work properly, now it is using salt to complete ionization and that makes most ionized waters taste really bad.

Ion Exchange water softeners are not and should never be touted as beneficial to health, in fact it is just the opposite. In removing the minerals from the water we are losing trace minerals our bodies need and replacing them with salt which most people don't need in their water. See below "Decision to Not Discuss in a Public Page" and "Where Did We Go Wrong?" for more details.

Why Pre-filters don't work:

Pre-filters are sold "to soften water" or "to remove hardness" and these are simply throw away, disposable ion exchange resin beds. They are pre-charged with salt and the supplier does not give you a method to re-charge the resin once the salt is used up and it is saturated with hardness. Other than the disposable part everything stated in the last topic applies to these.

Yes, I know, the seller says it will work fine, they are discussing the ionizer machine not your health. Again see below "Decision to Not Discuss in a Public Page" and "Where Did We Go Wrong?" for more details.

Why Reverse Osmosis (RO) is a Bad Choice:

Just about, everyone knows that Reverse Osmosis (RO) systems excel at removing water impurities, similar to distilled water they both take out the natural minerals in the water. Asia and the European countries call it dead water, in some countries it is even banned, few are aware that RO also removes the beneficial minerals. In fact, the reverse osmosis process removes 92-99% of beneficial calcium and magnesium.

RO is not and should never be touted as a health benefit, in fact it is just the opposite. See below "Decision to Not Discuss in a Public Page" and "Where Did We Go Wrong?" for more details.

But I Was Told to Use a Re-Mineral Filter:

(Taken from "RO and Re-min Filter" document by Pat Palmer).

Filters or rather adders; add calcite, magnesium, and/or other minerals to the water:

Ion Faucet has a mineral adder for RO and well water, they say "This filter uses calcite and Corosex blend to neutralize acidity in water."

Enagic has the orange filter, if the orange (orange is for well water acid reduction) is a re-min cartridge they don't say so specifically. They do list it as having Calcite Media.

Some calcite is from crushed white marble, some calcite is derived from limestone. Both media are similar in that they are made up of sea shell and skeletal fragments of marine organisms such as coral and mollusks. These are animal derivatives and so are in-organic.

The cartridges for RO re-min seem to be a 50/50 mix of Calcite and Corosex. Now we know RO water is stripped of minerals so this is supposed to add minerals, some say for health, some say for ionization or both. (I do not condone RO in general for drinking, whether re-min or ionized, it is unhealthy).

Calcium contains the mineral calcite (CaCO_3) so basically calcium in your water is naturally raising the pH. Then Corosex is a brand name for magnesium oxide powder, it raises the pH with magnesium, just like the pills or strips they sell for making your water hydrogenated. Both calcium and Corosex will make an ionizer work properly, they are by no means organic and healthy.

(Once again, adding these minerals is NOT HEALTHY, never has been, see next topic).

Decision to Not Discuss in a Public Page:

(Taken from "RO and Re-min Filter" document by Pat Palmer).

I have posted many times, over and over, about the fallacies of RO and the re-mineralization "filter" being sold, I give up commenting in the public arena and will attempt to help people one on one to figure this out. That person will be invited to a messaging service, E-mail or phone call.

1st: The same people I thought I'd educated on the topic continue with the same answer every time the RO topic is raised, "add a re-mineral cartridge".

2nd: When sending someone to Enagic® Support or Ion Faucet (both sell the re-mineral “filter”) they say it is just fine to use for the ionizer. This is a machine related answer, NOT a health related answer.

3rd: There are a very few instances where RO is a must have device, for these places the re-mineral cartridge is the only way to ‘make it work’ as far as ionization is concerned. Except for these few cases please encourage your new ionizer owner to ditch the RO and bypass the ion-exchange softener.

4th: This is a long term health issue I’m talking about, I’ve begun writing about it but it is not complete. We are at epidemic levels for bone loss, tooth loss, osteoporosis, gall stones, kidney stones, arthritis, gout, bone spurs, hardening of the arteries, cataracts, etc. all derived from crystalline formations created by the inorganic minerals found in these “filters”.

5th: It takes about 20 years for these to show their full devastation on the human body, it has been about 30 years since ion-exchange water softening and reverse osmosis (RO) as well as steam distilled waters were introduced for “drinking water”. With these came the re-mineralization of these depleted waters. Bottled waters take it one step further, they use all of the above to create “a dead water” and then the plastic (petroleum) gets leached into the water. The world is at a health crisis and doesn’t know what to do about it, “here chug down some more dead water laced with plastic poison and call me in the morning”!

6th: And most important of all, you as an Enagic® Distributor are trying your best to help people become healthy. In doing so let’s not promote un-healthy products to fix the source water.

As I get this nearer to a publication date I’ll just try to answer and solve individual questions, do bear with me, these are real problems, we can figure out workable answers. Your new customer has paid a lot of money for their “new RO system”, your only consolation for them should be “I’m glad you are trying to improve your drinking water but this is old technology...” Then add “with the Enagic® Kangen Water® device we have the latest in water technology and a quality that is also healthy for you.”

Where Did We Go Wrong?

Water treatment got its start when trying to solve industrial problems with scaling and boiler burn out.

As early as 1551 there was a steam devise similar to a turbine and in 1606 a patent is issued for a steam powered pumping machine to pump water out of deep mines. During the industrial revolution steam drove the factories and even after electricity took over steam powered generating plants were the answer where hydro-electric dams were not available. Oh, and don’t forget the steam locomotive and the steam ships with their powerful pistons. Yea, I know, common knowledge.... but what produced the steam? Boilers!

Boilers were in common use before steam power came along, they were used mainly for heating buildings, either hot water or steam but there were hundreds of industrial processes requiring steam heat as well. Early on the need for water conditioning became apparent, many methods were used to clean boiler tubes, it was a long and hard job and resulted in too much down time. Scale buildup in the boiler tubes would cause hot spots, places where the water could not get to and cool the tubes properly, this was the cause of many boiler failures and even explosions.

In the early 1900s they were figuring it out, however it was not until 1936 that dissolved solids reduction was achieved using *ion exchange*. We now know it as water softening, the resin beads attract and collect the hard water minerals and during regeneration the calcium and magnesium ions collected in the beads are exchanged for salt ions. Thus the name “ion exchange water softener”. The fix was achieved and adopted throughout industry as the standard method of water treatment for boiler feed water.

This was invented to solve an industrial problem, NEVER WAS IT IMAGINED OR PROMOTED AS A HEALTH DEVICE. During the 1930s it was dumbed down to be used in the home, it was still NOT a health scheme and is not healthy to this day.

The Reverse Osmosis Membrane or RO was also invented to solve water quality issues or where no water was available at all. It began as desalination (taking the salt out of sea water) in arid and desert areas of Israel and California so they could have fresh water for agriculture and general water use. Soon desalination became the standard for ships, they had been filling fresh water tanks in every port to last the voyage! Just can't imagine that today, even small sailing vessels have desalination units on them. Sadly in removing the sea salt the minerals are also removed.

Then the systems were shrunk and dumbed down for home owner use. Home units just don't cut it, running at pressures of 40 psi to 60 psi they are inefficient, slow and waste a lot of water. (To this day I wonder how California allows them, they have been suffering a drought for years). Light commercial RO machines run at pressures of 250 psi or higher, desalination plants operate at 3,000 psi or higher.

Once again the RO device WAS NEVER IMAGINED OR PROMOTED AS A HEALTHY PRODUCT. To this day RO, distillation, bottled water, etc. consumption is probably the worst thing you could do on your road to being healthy!

Being aware that this is long and tedious, just study it carefully. I've taken these excerpts from much more detailed and scientific papers. Much comes directly from my work experience, very few people even question what they are drinking (if they did they wouldn't be chugging bottled water) until the Kangen Water® machine is introduced. If they suspect source water problems you need to advise a quality lab for water testing, without it there is no reference on what to solve, and certainly not how.

From Connie: This was written by my friend Patrick, in his career he has run steam plants, performed their water treatment requirements, and operated municipal well water pumping, storage and distribution systems.

This is sent to you because you requested it, please see the contact information below, and do feel free to contact me if you need further assistance.

My web page: <https://www.greentechenv.com/nisen/index.php/products/pure-water/hard-water-genie.html>



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These are compiled answers to questions I get asked, I trust they are answered clearly.

If something in this document needs to be modified or added just PM me or give me a call.

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