

WHAT IS THE QUALITY OF YOUR TAP WATER?

Source Water Problems and Solutions Chart

Water in the US/Canada varies greatly. For example, areas in the southern parts of the US usually have hard water whereas areas in the northern parts sometimes have soft water. While the Genesis can correct for some variation in the source water, it cannot handle all types of water because some types of water simply can't be ionized well.

You'll know if your Genesis is achieving the correct pH levels by using the provided pH drops (red solution). Push the "alkali" button to the #4 level; put a small amount of this water into a glass, like a shot glass. Then add two or three drops of the pH drops. You should see a purple result, like the color of the screen, indicating a 10 pH. Getting this purple result tells you that your Genesis is accurately ionizing the water and no further treatment of your water is necessary.

Dark blue is also acceptable, indicating a 9.0 to 9.5 pH. Any other color requires pretreatment of your water.

Note: The optimal drinking water you should consume is indicated by a dark blue result with the pH drops.

If you live in an area where there is an abundance of alkaline minerals in the water, like calcium, it is very difficult to achieve a strong acidic pH with a water ionizer alone. To get a stronger acid, you will need to pre-treat your water with a reverse osmosis filter and a remineralizing pre-filter. The reverse osmosis filter removes most of the scale from the water, while the remineralizing pre-filter adds soluble minerals necessary for ionization. The map below represents average hardness of an area. Your water quality may differ.

CANADA WATER HARNESS



MAP

0.6 to 3.6 gpg		Slightly Hard
3.6 to 8.6 gpg		Moderately Hard
8.4 to 14.4 gpg		Hard
14.4 gpg and over		Very Hard

How is Water Hardness Measured?

Water hardness is measured in "grains" per gallon, in milligrams of calcium (Ca) per liter, or parts per million, and German Degrees of Hardness (dH) [which we drop here as this is for fish tanks]. You can take a water sample to a water test lab to have its hardness measures.

Use this simple soap test to measure the grains of hardness of your water supply

But water hardness can be easily measured using a simple soap test kit that will measure in "grains of hardness" (a little bottle with a line marked on it which you fill to the line with water, add a drop of soap, and shake to look for suds. More drops of soap - more degrees of hardness).

You might want to buy a water hardness kit at Sears or from another store in your area where water softeners are sold. You can also go to <http://www.discovertesting.com/> where you can buy a test kit for hardness and other contaminants.

I also found one site that will send you a free test kit but who knows how long it will take for you to get it: <http://www.diamondcrystalsalt.com/Contact-Us.aspx>. These kits won't fib about the hardness level, but beware; wherever you get the kit, they will try to talk you in to buying their products.

You can also call your local water authority and ask them how many grains of hardness are in your water supply, then rate your water using the chart below.

Water Hardness Measurements		
grains/gallon	ppm mg/L	Softness of the Water
0-1	0-17.1	Very Soft
1-3.5	17.1 - 60	Slightly Hard
3.5 03/26/2009 - 07.0	60 - 120	Medium Hard
7.0 - 10.5	120 - 180	Hard
> 10.50	> 180	Very Hard

NOTE: 1 German degree of hardness dH = 17.5 ppm. For fish tanks, 200-300 ppm is considered "hard", 300-500 ppm "very hard" and over 500 ppm "extremely hard" water.

On this chart you will find some general recommendations

Source Water	Comments	Solution
Acceptable hardness (Approximately 7-12 grains)	Water contains acceptable mineral content. Genesis will produce nearly accurate pH and ORP water.	No water pre-treatment is required.
"Hard" water (Approximately 12-16 grains)	Water contains excessive mineral content that will shorten Genesis filter life and reduce electrolysis accuracy.	Install one or two "hard water" pre-filters along with a "remineralizing" pre-filter to reduce hardness and scale and add soluble minerals to water.
"Hard" water (16 grains and higher)	Water contains excessive mineral content that will shorten Genesis filter life and reduce electrolysis accuracy.	Install Reverse Osmosis filter to purify water (removes scale). Install remineralization pre-filter to add minerals to water for ionization.
"Soft" water (below x grains)	Water lacks enough mineral content for Genesis to produce accurate pH and ORP water.	Install remineralization pre-filter to precondition Genesis source water.
Excessive sediment.	Water contains material that may clog Genesis filters.	Install sediment (hard water) pre-filter
Soft Water (from salt – based water softener)	Water is void of minerals necessary to ionize water. Salt content in water may damage Genesis electrolysis plates.	Install Reverse Osmosis filter to purify water (removes salt). Install remineralization pre-filter to add minerals to water for ionization.
Reverse Osmosis Water	Water is void of minerals necessary to ionize water.	Install remineralization pre-filter to add minerals to water for ionization.
High Fluoride Water	Water has high levels of fluoride, usually in cities.	Install fluoride prefilter.
Chloramine in Water	Water has chloramines (chlorine bonded with ammonia).	Install Reverse Osmosis filter to purify water (removes chloramine). Install remineralization pre-filter to add minerals to water for ionization.
Heavy Metals in Water	Water has heavy metals like arsenic in water (typical in desert states).	Install heavy metal (KDF) prefilter.

Note: All pre-filters are available for purchase on our website. Please visit us there at www.waterforlifeusa.com/dealer/susan.drinkard

For more information on hard water, please read:

http://en.wikipedia.org/wiki/Hard_water#Hard_water_in_the_US and <http://www.ext.vt.edu/pubs/housing/356-490/356-490.html>