How much Soda Ash Should I Inject to Raise the ph of My Well Water?

Questions?

For assistance call: 1-831-462-8500

Email us: support@cleanwaterstore.com

GERRY BULFIN CWS-IV

How Much Soda ash Should Be Injected To Raise the pH of my well water from 5.0 to 7.5?

Generally, you want to inject 100 to 200 mg of soda ash for each liter of water (mg/L). Milligrams per liter is the same as saying parts per million (PPM).

Mix up the soda ash solution

Soda ash is a powder that is mixed with water to form a saturated solution. You can make the solution stronger or weaker. At a water temperature of 50F, it is easy to keep a 10% soda ash solution dissolved in water, and this is what we recommend you start out with.

To make up a 10% solution mix 4 lb of soda ash powder for every 5 gallons of water, which is approximately a 10% solution by weight. It is best to use warm purified distilled or reverse osmosis water to make up your solution, although if your untreated well water is very low in total dissolved solids and other minerals, you can generally use the untreated water to make up the solution.

Start out with a couple of gallons only in your solution tank and test the pH to see how it is working.

Set the Pump Output

We will use the Stenner pump as an example since the Stenner 85MHP-40 pump is a good pump to use for residential well water applications.

Set the Stenner pump “Feed Rate Dial” to 5 (which means that it is set to pump 50% of its output).

Run the water and test the pH to make sure it is at the desired level of 7 to 8.0 pH range.

If you find the pH is fine then you don’t have to change the solution or the Stenner pump setting. Otherwise, if the pH is still too low, then you can first try turning up the Stenner pump adjustment ring to 10, which means 100%.

Formulation for Understand Stenner Pump Sizing

For most residential soda ash applications, using the Stenner 85MPH40 will inject a proper amount of soda ash solution to raise the pH to the 7.0 to 8.0 pH range. The Stenner 85MPH40 pump has a maximum output of 40 gallons of solution pumped in a 24 hour period.

For the soda ash feeder, generally one has to inject about 100 to 400 ppm of a saturated soda ash solution into the water, to raise the pH to the 7.0 to 7.4 range.

So for instance, say it was set up to inject it into your pipe before the pressure tank, and your well water flowed at 15 gallons per minute.

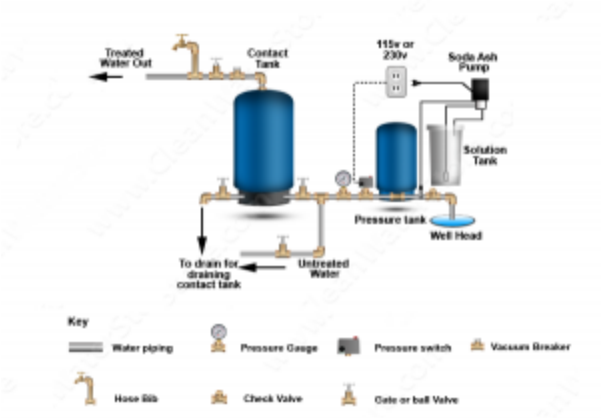
You can use 4 lbs of soda ash powder dissolved into 5 gallons of water. Water weighs 8.34 lbs, so 5 gallons of water weighs 41.7 or about 42 lbs. So that makes your solution a 10% solution, which is the same as saying 100,000 parts per million.

Say you had 10 gallons per minute and wanted to inject 150 ppm of soda ash.

150 ppm X 10 gpm X 1440 (minutes in a day) divided by the solution strength of 100,000 = 22 gallons per day. This means that you would be injecting 22 gallons of soda ash solution for every 24 hours the well pump has actually turned on and pumped.

NOTE: your well **pump likely only runs 30 minutes to an hour a day. So if your** well **pump ran 1 hour a day, you would be using about 1 gallon of solution each day.**

So therefore, if your well flow rate was 10 gallons per minute, you would need a metering pump that pumped 22 gallons in 24 hours or "22 gallons per day". The Stenner 85MPH40 will work fine, because you can set the Feed Rate Dial to 55%. 22 divided by 40 is 55%.



Note your water may not need 150 ppm of the 10% soda ash solution, it might only need 50 ppm to bring up the pH to the 7.0 – 8.0 range, but you will be able to know immediately after turning on the system by checking the pH.