

Learn more about how Genie works

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.

Calcium carbonate naturally exists in two forms limestone and marble. Limestone has a number of impurities which are predominantly Silica, Alumina, and calcium sulphate which act as bonding agents. CaCO_3 is only very slightly soluble in water, yet large amounts of calcium become dissolved in most water supplies. This is because as rain water falls to earth it encounters carbon dioxide and reacts with it to form a mild acid (Carbonic Acid). Thus as rain water comes into contact with limestone in the earth, the limestone dissolves and goes into solution with the water. Surface waters also encounter carbon dioxide from the decay of organic materials. As these waters contact limestone, the limestone gradually dissolves and goes into solution. Under close investigation of industrial systems where scale is formed, the scale is mainly Calcium Carbonate or Magnesium Carbonate but also Silica, Alumina or Calcium Sulphate are required as binders to make the scale form.

The Genie Computerized Water Conditioner waveform changes the Ionic state of the molecules in the solution being treated. This physical ionic change repels Silica, Alumina and Iron which normally act as binders and make scale form. Free electrons are generated which allow Ca (Calcium) and Mg (Magnesium) to dissociate from CO_3 (Carbonate), SO_4 (Sulphate) and HCO_3 (Hydrocarbonate) and assume their neutral atomic states, thus stopping scale forming and removing scale deposits. On evaporation only neutral minerals form and any Calcium Carbonate left will form as neutral Aragonite instead of Calcite.