

Technical Details OF 3-Stage Ethix Water Conditioner:

Problems Caused by Hard Water:

Calcite, the main cause of scale, is the most common form of calcium carbonate and occurs naturally as a natural ingredient of chalk, limestone and marble. Water passing over and permeating through such rocks dissolves calcite when this water subsequently flows through a water system the calcite precipitates out to form a very hard scale on surfaces.

When hard water is heated, or evaporation takes place, the problems are exacerbated. Calcite forms ever growing layers of rock-like deposits until eventually pipes, jets and equipment become totally blocked.

The problem increases as the water gets hotter. Water containing 145 ppm of calcite, flowing at 3.5 litres per minute, produces in one year 4.8 kilograms of scale at 60°C. At 80°C this rises dramatically to a massive 29.9 kilograms!

Scale wastes both energy and financial resources just one eighth of an inch of scale reduce heating efficiency by 25%. It is also very expensive to remove de-scaling pipes and boilers.

The Benefits of Natural Hard Water

Natural hard water contains minerals and salts which in the main have positive health benefits. Medical evidence suggests that there are lower incidences of heart-related diseases in hard water areas.

***Process of Ethix Water conditioner (3-Stage-Elecrolysis , Electronics with Electromagnetic) ***

“Ethix” is a unique, efficient, energy-saving device designed to eliminate the problems of hard water, whilst retaining the natural benefits. This is achieved by changing the size of the particles of precipitated compounds, by aiding the ability of crystals to form their shape, and by altering the solubility of compounds within liquid.

“Ethix” takes the process of induced ionization to its ultimate stage of Cathode and Anod. The principles of Magnetohydrodynamics (MHD) are applied by passing Ethix patented signal through a coil wrapped around the pipe to be treated. The signal consists of a frequency modulated (FM) waveform within the audio frequency (AF) bandwidth. This inaudible sonic frequency signal sets up a dynamic field around and through the coil, pipe and water, and modifies the calcium carbonate crystal nuclei

The nuclei upon which the crystals start growing are minute in size and have charged surfaces in their natural condition within the water. When they pass through the field, these naturally charged nuclei encounter considerable forces as the field interacts with them. The field acts at the surfaces of the nuclei and modifies the nature of the electrical charges and this ionization effect thus alters the growth rate and pattern of the crystals in general and on specific planes.

Scale Reduction:

It is this changed size, modified charge and crystalline shape that has the first two beneficial properties for the reduction of scale. The 2-4 micron sized crystals become non-sticky and will not coagulate or precipitate and form scale in the same way as untreated calcium carbonate nuclei would. This process is so effective that the water has been found to feel and behave like chemically softened water.

The presence of the large crystalline shapes disrupts the equilibrium between the fluid and any existing scale. Smaller particles in general, dissolve more easily, so the larger particles will have reduced the levels of calcite in solution. Hence, existing scale deposited by precipitation will soften and gradually be absorbed into solution and flow out of the system. In areas of still water, e.g. tanks etc., the soft scale would settle to the bottom and could then be removed simply by flushing.

It has been established that the physiochemical process already described is more efficient because the signal energy is dynamically changing. By changing the signal field at high audio frequencies, unique to Baron, the energy imparted to the nuclei is considerably accelerated. The crystal intra molecular structure is rapidly broken down and the occurrence causes a fast dissolution of any existing scale forming molecules.

An important property of “Ethix” processed water is that the charged crystalline shape growth will remain in that state for up to 7 days. Thus in stored water systems the effect is much longer lasting than other ionizations methods, retarding the reversion back to the smaller nuclei structures that are readily precipitated.

Portability and Water Quality

The calcium carbonate remains in the water as soft crystals, not as hard scale therefore water treated with “Ethix” will reduce the risk of Gallstones. Minerals, which have now been taken out of solution and crystallized to a size greater than 1 micron, could, if desirable, be reduced using a good quality on micron ceramic or stainless steel filter.

The generation of hydrogen peroxide is in minute quantities and readily converts back to water and oxygen. It is widely used as an antiseptic mouth wash, therefore presents no hazard to health. The sodium content and degree of acidity (PH) remain unchanged. The generation of carbon dioxide invigorates the water but is not enough to cause bubbles .

If calcium sulphate, which causes scum as opposed to scale, is present it will also undergo a change. This increases the effectiveness of soap/detergents..

