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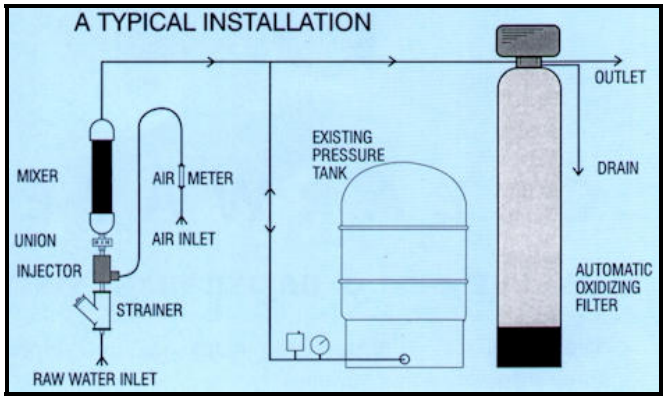
Clearwater Non-Chemical Oxidizing Filter Systems

Clearwater One removes iron, manganese and sulphur gas smell the natural way from water! Our patented system uses the air around us to oxidize dissolved contaminants into particles for filtration. Fully automatic, maintenance free and chemical free.

Clearwater One



Clearwater One Information

The idea of using air injection to oxidize iron, manganese and sulphides is not new. The patented Clearwater One system utilizes this concept in a unique way in having the oxidizing process start prior to the air-water mix entering the filter media. The air injection portion is adjustable to accommodate variations in well flows from 3 to 10 gpm (on 050 standard flow) or 8 to 18 gpm (on 075 high flow). An air flow meter is provided to allow the user to monitor the actual air draw.

The oxidation power of the Clearwater One system is largely due to the utilization of the mixer valve, which is installed immediately following the air injector. A rotating acceleration of the fluid causes a centrifugal force to be applied by the water against the inside of the pipe. This increase of internal pressure allows for an increased amount of gas (oxygen) which can be dissolved in the liquid. The result is a very effective oxygen contact with only small amounts of air injected. The injected air remains dissolved until the water is discharged from the pressurized system. This condition is much like a carbonated beverage in which the gas is not released until the cap is removed.

The second portion of this unique system is the filter. The most common media used is birm. This media acts as an insoluble catalyst to promote the reaction between dissolved oxygen and iron compounds. In groundwater, the dissolved iron is usually in the ferrous bicarbonate state due to the excess of free carbon dioxide, and is not filterable. Birm, acting as a catalyst between the oxygen and the soluble iron compounds enhances the oxidation reaction of ferrous bicarbonate and produces ferric hydroxide, which precipitates and is easily filtered. Birm is not consumed in the iron removal process and is easily cleaned by regular backwash.

The use of Clearwater One systems is not applicable in certain circumstances. Analytical determination of your water by a certified laboratory should form the basis of all equipment recommendations.