

# Resonating Electromagnetic Water Softener / Conditioner

## De-Scaling Solution for Industry



- ✓ Reduces operating costs
- ✓ Reduces maintenance cost
- ✓ Reduces downtime
- ✓ Reduction in energy use
- ✓ Increases equipment life span
- ✓ Remove existing scale
- ✓ Protect from corrosion
- ✓ Reduces Electricity by 18-20%
- ✓ Minimizes rust & bacterial growth

## Applications

- ✓ Air conditioners
- ✓ Boilers
- ✓ Bores wells
- ✓ Car washers
- ✓ Cooling towers
- ✓ Aquarium
- ✓ Restaurants
- ✓ Farms
- ✓ Filtration systems
- ✓ Hot water systems
- ✓ Hotels & Motels
- ✓ Hospitals
- ✓ Ice machines
- ✓ Irrigation systems
- ✓ Laundry
- ✓ Sugar Mills
- ✓ Poultry farms
- ✓ Chillers / Condensers
- ✓ Swimming pools
- ✓ Steam generators
- ✓ Municipality water systems
- ✓ Waste water treatment plants



## Benefits in Industrial and Commercial Applications

### Remove scaling of piping system.

Reduction of scale deposits in your piping system Tathastu water softener takes away the adhesive power of scale particles so that scale is simply washed away with your water as a fine powder. New scale-formation is stopped.

### Tathastu removes already existing scales.

Tathastu water softener carefully dissolves already existing deposits in the piping system. The scale build-up process is reversed and the pipes gradually become clean again. This take-out process will not block up your pipes or drain because the treated crystals are microscopic in size and wash away in the water.

### Save Money by reducing electric bills.

As your hot water system is descaled, water heating will become progressively more efficient. Water heats more quickly and generally to higher temperature. You can therefore save considerable energy by reducing thermostat settings.

### Corrosion protection.

Metal pipes often suffer from pitting corrosion. The electric Tathastu water softener impulses generate a metal-carbonate protective layer that prevents pitting corrosion.

### Increased water pressure

Water softener sanitizes the pipes from scale deposits and can even restore a pipe's full diameter. Water can flow freely again and you regain normal water pressure.



## Tathastu water softener

In most cases whenever there are scale deposits you will find rust shortly thereafter. The rust typically imbeds itself in the scale deposits. Because rust oxides are red, the scale deposits in metal pipes then often appear red in color, too. When the Tathastu water softener treatment reduces scale, it also takes away rust with it.

## Water softener minimizes bacterial growth in pipes

Thick scale deposits with their uneven surfaces are the perfect breeding ground for bacteria. Once the scale is gone, there are no more nesting areas where bacteria can grow.

## Heating Equipments:-

Reduces 12 to 15 % Electrical costs by reducing scaling on heating coil

## Water Heaters

Tathastu controls scale build-up water tank and reduces constant maintenance as heat exchanger get fewer deposits. Your water heater will work much more efficiently once again, and you can extend the time to your next service maintenance.

## Heating system regain full performance

When water is heated in a hot water tank the hard water always leads to thick deposits on the heating elements.

This layer inevitably causes a great reduction in the capability of the heat to transfer. With Tathastu water softener, deposits are minimized and your heating performs at a much higher capacity again. Service maintenance interval are extended. Typically, water heating bills will be substantially reduced.

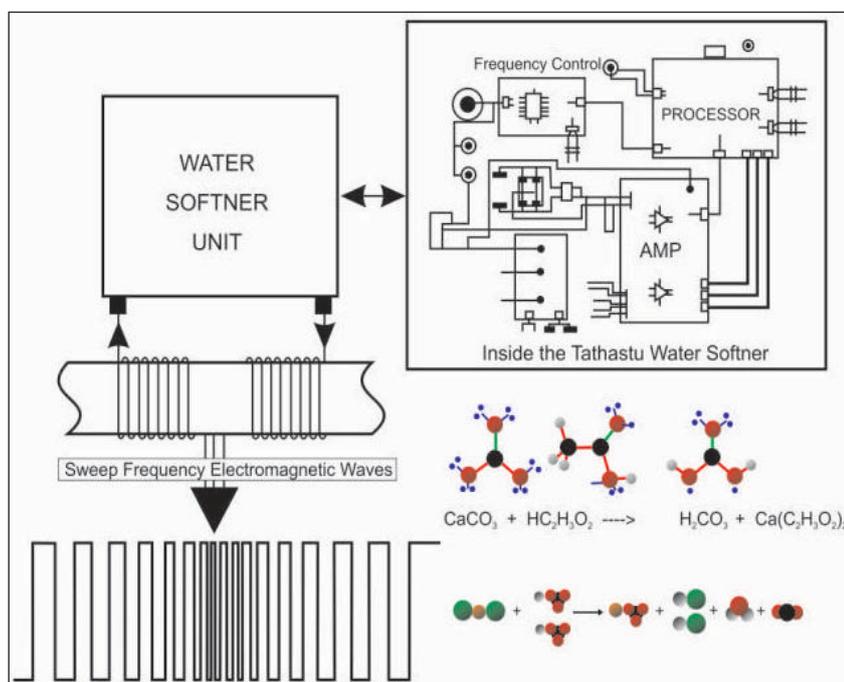
## Solar water heating

Tathastu water softener prevents scale build-up in the system. It keeps heat exchanger & distributor pipes clean. Furthermore, it reduces scale build-up in collectors; it protects hot water tanks and vacuum tubes, and keep the system from over-heating. There is no more need to circulate acids.



## Tathastu Water Softener:-

It works on resonating electromagnetic principal, a new innovation in water conditioner or softener. It is actually a “Resonating force converter”, which converts hard water elements (Cl) in the form of calcium, magnesium, sodium and boron into neutralizes nano-particles that passes through your irrigation system. The Tathastu Water Softener helps to neutralizes or convert it into pure form of the minerals, that control hard water elements from for stick on the interior of your irrigation line and soil.



## How does the Tathastu Water Softener Work?

It is the electronic device produces a series of controlled and complex modulation high resonating frequency. It induces an electromagnetic field around the pipe where the wire coil is wound. When water comes under the influence of such field the hard water ions are forced to precipitate. It alters the hard water ions in a suspended polarized form. It changes the property of the hardness of the water. It decomposes the molecules into a new form. It never forms hard scale at walls of piping and soil. It increases their solubility. The conditioned water absorb existing hard ions, which present on the surface of the soil. This way it helps to break down existing scale and improves soil profile.

## Industrial Application Ares

In Indian industry pay huge cost on hard water scale processing, It has been estimated at between 280 to 310 crore annually. The hard problem is very serious in Industry. As everyone knows, water hardness is due to various dissolved salts, mainly carbonates and sulfates such as those of calcium and magnesium, which when heated produces an insoluble precipitate of scale-forming. Scale formation affects performance. Just 1mm of scale adds 7.5 % to energy costs, 1.5mm adds 15%, and 12mm demands a staggering 70% cost increase. But the problem of energy costs is only part of the story. There are all the additional problems & maintenance costs of scale removal, anything from inconvenience to total plant shutdowns in severe cases. In industry, hard water contributes to scaling in boilers, cooling towers, coils, sprinklers, heat exchanger, washing machines and other industrial equipment. In these industrial settings, water hardness must be constantly monitored to avoid costly breakdowns. Hardness is control by addition of chemicals and zeolite resins. Most companies just build the extra maintenance required to clean the scale off into their schedules and deal with the added expense of the shortened life span of the equipment.



## Effective Applications

### Water Heater

Calcium normally builds on the bottom of the water heater tank or on the heating coil. It reduces efficiency of the coil. It takes more electric or gas energy to heat same quantity water. The Tathastu water softener unit will dissolve this scale. It works more efficiently resulting in huge energy saving. Scale control on heating coil and tank.



### Cooling Tower

Tathastu water softener save biocides chemicals, water usage, labor and maintenance. It reduces scale build-up. Biofilm, bacteria, corrosion and algae blooms. It will reduce make up water, resulting in huge water saving. Increase life of equipments and it will lower energy costs by about 17%. It will allow cooling towers to run at higher cycles of concentration. It extend the life of cooling tower.



### Chiller/Condenser/Air Handlers

Lime scale deposition in heat exchanger tube and surface of the tube reduce efficiency by almost 7-8%. As efficiency decreases, energy wastage increases. Tathastu water softener removes scale deposition on condenser and chiller tubes. It is direct effect on energy saving. It does not affect the galvanizes coating tubes.



### Water Boiler System

Hard water also contributes to inefficient and costly operation of water-using applications. Heated hard water forms a scale of calcium and magnesium minerals (lime scale deposits) that can contribute to the inefficient operation or failure of water-using applications. Pipes can become clogged with scale that reduces water flow and ultimately requires pipe replacement. Lime scale has been known to increase energy bills by up to 25%. Huge saving in chemicals and labor maintenance. Reduces scale, formation on boiler fire tubes, condensations tank, pumps, pipes and valves. Extends equipments life and lower energy cost.



## Product Features

- ✓ No maintenance required
- ✓ No Salt or Chemical needed
- ✓ Effective on all type of plastic pipe, PVC, HDEP, galvanizes and stainless steel pipe.
- ✓ Indications for Power ON
- ✓ Dust & weather proof

## Product Specifications

**Input Power :** 180 VAC to 440VAC, 50Hz/60Hz

**Open circuit Voltage :** 24 VDC

**Output Current :** 10A peak

### Circuit Protection

Mains EMI / EMC protection

Thermal overload protection thermal management

### Working Specification

**De-scaling Type :** Resonating Alternating Electromagnetic Field

**Principal Of working :** Circular copper wire inductor like Solenoid Coil

**Output Signal :** AC Square wave, 1 KHz to 24 Khz



**No Chemical**



**No Maintenance**



**No Salt**