

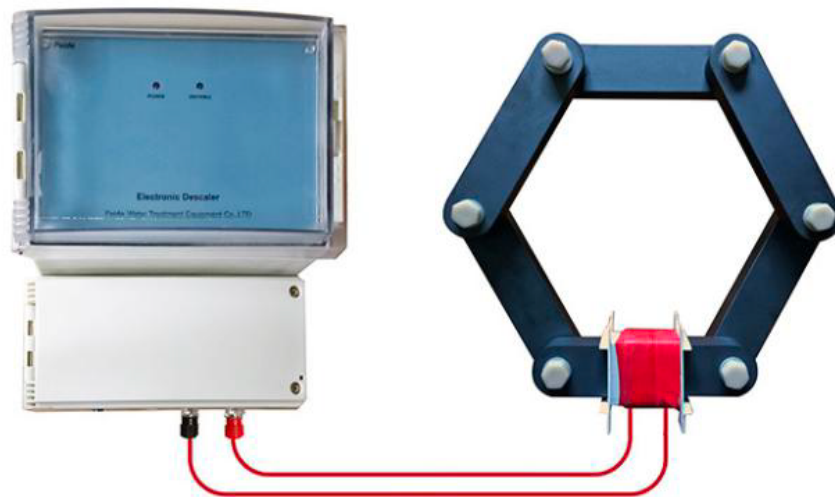


*Because Water Matters*

### HydroCor's Electronic Descaler

#### **Descaling and Scale Prevention.**

The electromagnetic wave action creates a large number of suspension and condensation in the water. When the water is heated, or the pressure (psi) decreases, the calcium (Ca) and magnesium (Mg) plasma in the hard water is absorbed. This action is crystal nucleation creating a process that occurs in forming a crystal from the solution. This process begins with another form of calcium carbonate that has a very distinct characteristic to calcite. When the calcium carbonate precipitates as aragonite, it forms a non-adhering harmless insoluble crystal that is either consumed or carried through the system to the drain. This process prevents scaling by not adhering to the surface of plumbing, heaters, industrial coolers, equipment, amongst many other scenarios. The existing scale will gradually dissolve in the water.



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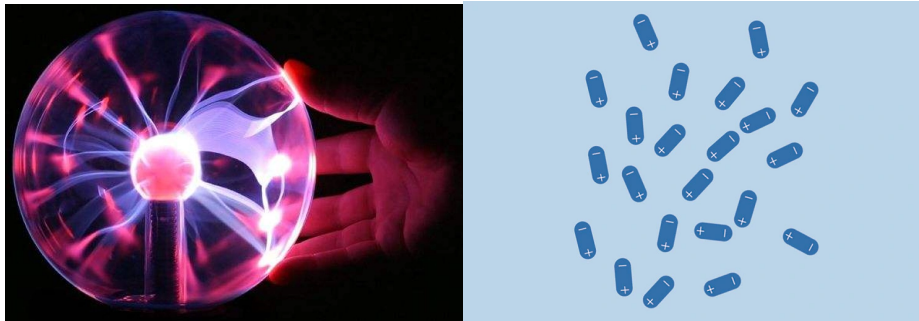
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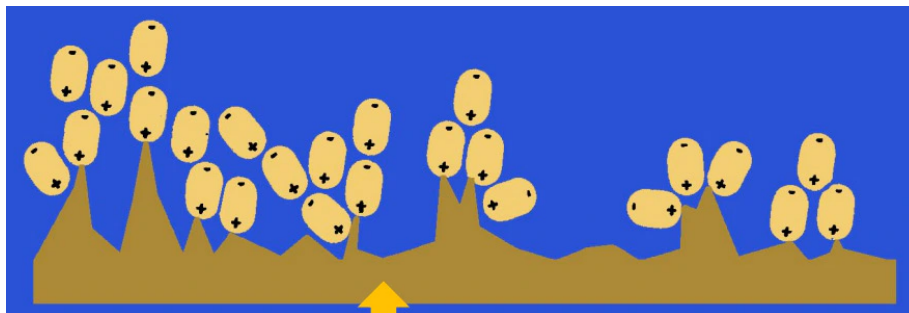


### Why does water scale happen?

Contributors to scale are calcium ion, magnesium ion, carbonate, and sulfate ions in the water.



When the temperature goes up in the water, the pressure (psi) goes down, the calcium carbonate now forms into a crystal, sticking to the plumbing or surface and forming a scale. Microscopically attaching to any uneven surface, it finds.



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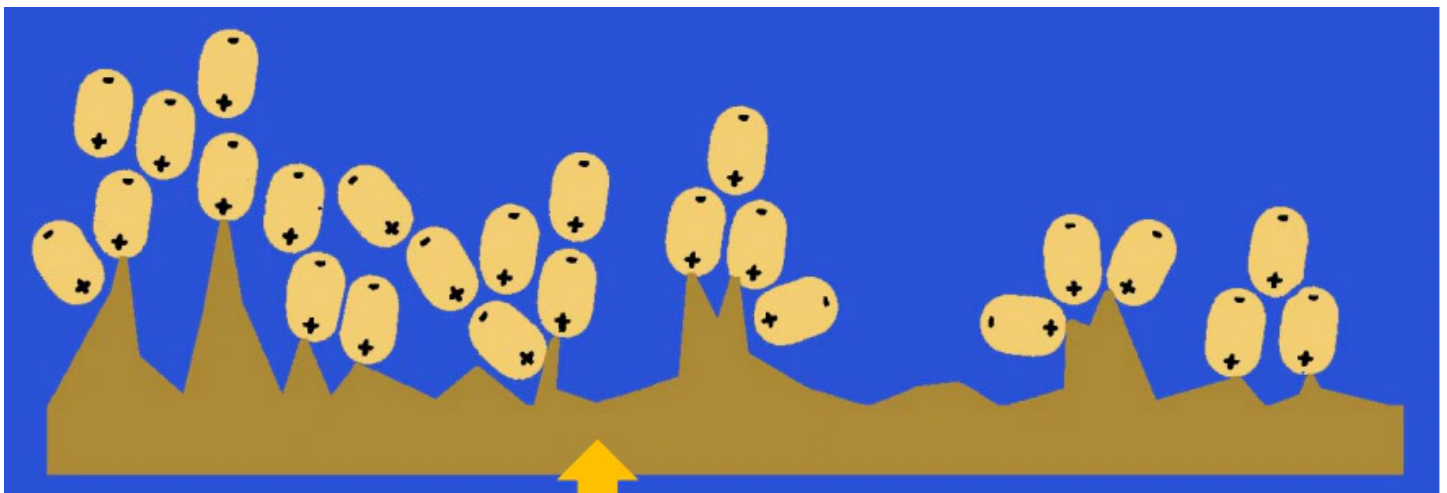
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Water scale is an ongoing problem for many industries and homes. Plumbing is circular and is an ideal surface for it to attach itself too. When the temperature rises as the water travel through the pipes, the pressure (psi) decreases.



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# HYDR COR

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For water scale

The circle concentration times quickly to happen when the temperature goes up; the pressure goes down.



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### Scale Analysis of Heat-exchange efficiency

Condenser scale	Pyro conductivity
Calcium Carbonate	2.93
Microorganism Membrane	0.63
calcium phosphate	2.60
phosphate	2.16
magnetic iron oxide	2.88

Scale Thickness	Heat-exchange rate	Heat loss percentage	Electricity Consumption percentage
0	92.77	0	0%
0.3mm	73.68	21%	10%
0.6mm	61.12	34%	20%
0.9mm	52.20	44%	31%
1.2mm	45.60	56%	42%
1.6mm	39.52	57%	53%

The HydroCor Electronic Descaler system effectively deals with scale problems physically and with no chemicals needed.

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Blocked plumbing + scale and corrosion is equal to low energy exchange, low production output, actual energy consumptions and potential hazards.

#### **Have you had the headache of water scale problems?**

- Water scale gets thicker as it blocks your plumbing.
- Chemical cleaning of scale is not environmentally friendly and can be expensive.
- Your heat-exchange efficiency gets lower and lower.

#### **Eco-environmental scale removal solutions**

- The most common solution for years has been the water softener.
- If you install a softener, you have to buy salt; salt can be expensive over time and is not suitable for the environment.
- We have plumbing diameters between 1/8" -80" (4-2000mm) – Dust-proof IP65 level shell to resist a challenging installation process.
- There is no need to cut plumbing
- Installation of various material plumbing like iron, copper, stainless steel, galvanized iron, PVC, pe-x, and any composite material plumbing.

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### HydroCor's Electronic Descaler has three specific functions

Remove scale, kills bacteria and algae and a physical flocculation

#### How does it remove the scale?

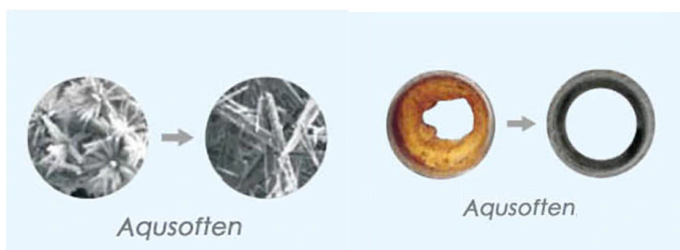
The alternating electric field constantly controls positive and negative ions in the water, alternating and moving to electrolyze and prevent scale.

#### How does it kill bacteria?

Through osmosis for the water, the benefit of bacterial reduction creates a lower cost for you.

#### How does it flocculate?

HydroCor's Electronic Descaler delivers a positive and negative charge to water particles, and this creates flocculation.



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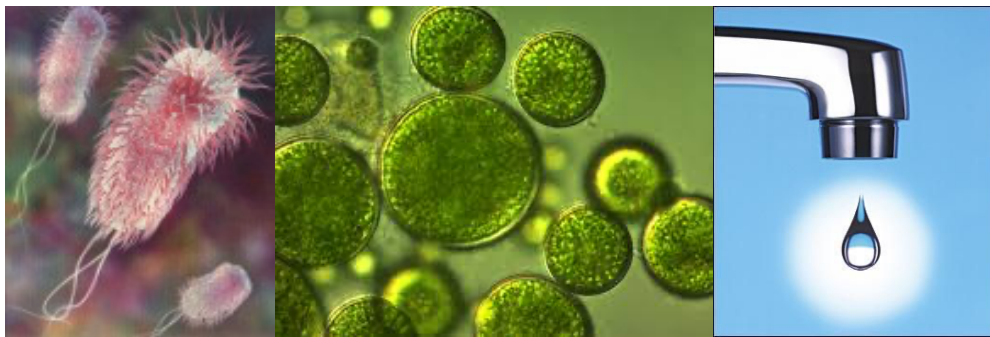
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### **Prevent plumbing, equipment and surface scaling**

The HydroCor Electronic Descaler releases an electromagnetic field to analyze scale, the loose scale drain with water flow.

### **Clean your plumbing, equipment and surfaces gently**

The HydroCor Electronic Descaler analyses the formed scale while preventing scaling, ensuring better efficiency of scale removal. The carbonic acid content helps to analyses the old scale. Gradually, the plumbing becomes clean.



### **Kill bacteria and algae and create fewer problems purifying your water**

HydroCor Electronic Descaler can refine the water molecule, making the water molecule smaller in size than a cell membrane. Under these circumstances, the bacteria and algae cells, water molecule goes through an osmosis's process. It breaks down the eco-balance, which kills the cells and making them inactive.



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The working principle of HydroCor's Electronic Descaler Flocculation is that it generates an electromagnetic field. The alternating electric field constantly moves the positive and negative water ions to electrolyze and prevent scale.

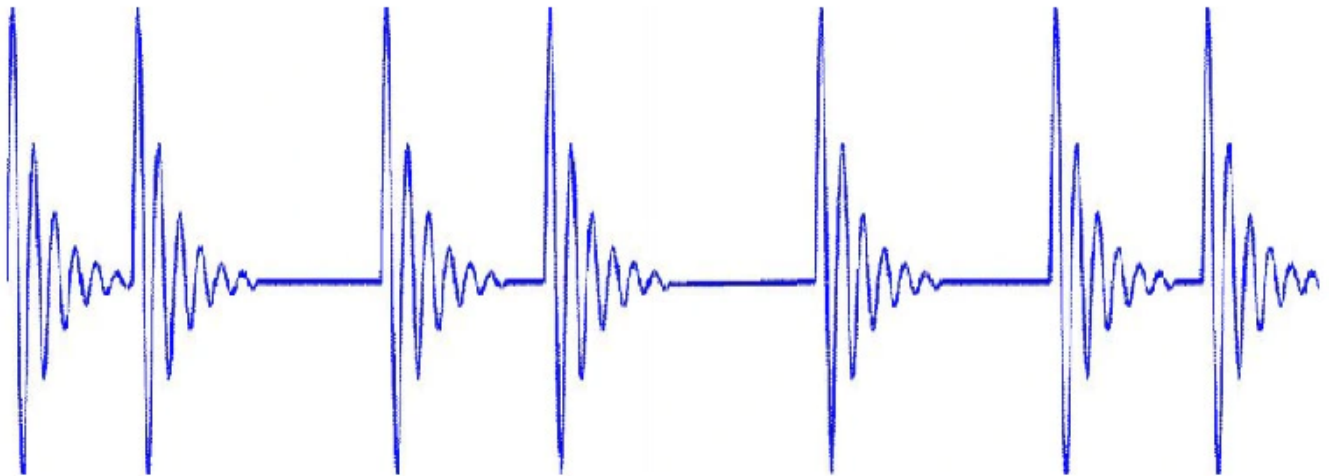
As pressure (psi) raises and drops in the plumbing water, the soft scale will form into the crystal and drain out with the water flow.

The HydroCor Electronic Descaler creates electromagnetic fields that form a suspended flocculant.

These flocculate's turn into tiny crystals, the size is around 10um, which is easier to drain out of the water flow.

The HydroCor Electronic Descaler System also generates an electromagnetic wave

The signal's frequency ranges between 50-200KHZ, similar to a wireless radio. It requires a low power supply of only 1.2W. It doesn't interfere with other equipment.



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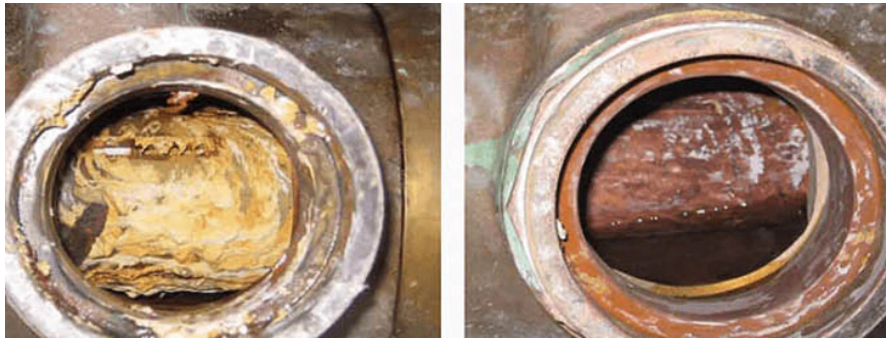
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#### **A Boiler (Before and after use)**

The HydroCor Electronic Descaler reduced a substantial amount of water scales to ensure this heat-exchanger was clean. Additionally, the HydroCor Electronic Descaler released an electromagnetic field which prevented corrosion as it protected the metal carbonates.



#### **A Heater (before and after)**

Hard water usually forms a thick scale when the temperature goes higher, which will sharply reduce heat exchange efficiency. HydroCor Electronic Descaler helps to solve this problem, reducing scale and increasing the heat exchange efficiency.



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#### **A Condenser (before and after)**

The HydroCor Electronic Descaler cleared the copper tubing scale in this condenser. It increased the cooling water flow, reduced the pump energy consumption, and improved heat exchange efficiency. Besides, clients won't need to shut down the condenser's operation to clean the tubes consistently.



#### **A Cooling Tower (before and after)**

It seems that scale still happens in a cooling tower's water flow, even during the evaporation process. Sedimentation stays in the cooling tower; this can block the system. The expense to fix it can be extreme. HydroCor Electronic Descaler reduces the scale effectively while it kills the bacterial buildup. Also, the HydroCor Electronic Descaler increases the cycle while saving the water you need for the cooling process.

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This picture below shows pipes that are almost clear after only three months of use.



Below are some examples of some of the insufficient inferior quality competitive products available today:

1. Usually, they cannot treat the whole system water, being limited to smaller area and plumbing.
2. The electromagnetic field's power is more minor and requires a lower speed.
3. They sometimes need higher energy support and can't work for longer hours.

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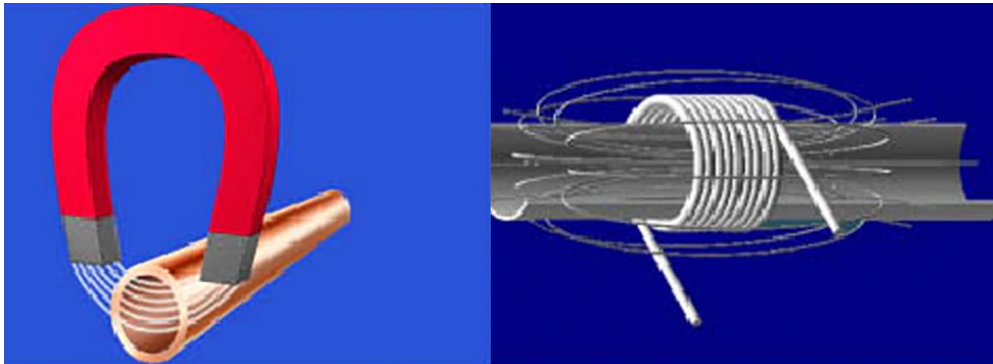
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Finally, why should I choose HydroCor's Electronic Descaler?

In comparison between HydroCor Electronic Descaler and other products, the HydroCor Electronic Descaler can be used on material and plumbing.

The HydroCor Electronic Descaler works at various frequency signals allowing for more effective and complete cleaning, and our frequency capabilities are 50HZ-200KHZ.

The HydroCor Electronic Descaler can automatically reset when a power failure happens.

The HydroCor Electronic Descaler has a low required electricity consumption, saving you energy cost. As a result, it is an environmentally friendly product. The working power ranges at 1.2W to 100W. With an operating cost of approximately 30USD per year.

The HydroCor Electronic Descaler supplies a reliable signal at all times, and it will not be affected by water flow and speed.

The HydroCor Electronic Descaler works automatically, with no need for human participation.

The HydroCor Electronic Descaler supplies a ten years warranty. The mainboard can work for longer than 30 years.

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The HydroCor Electronic Descaler does not require a plumber to install. It is effortless, just attach it around the plumbing and plug it in.

One of the most remarkable things about HydroCor Electronic Descaler is its sizing. The plumbing size options are as follows.

1. 1.5" plumbing
2. 2" to 2.5" plumbing
3. 3" to 4" plumbing
4. 5" plumbing
5. 6" plumbing
6. 10" plumbing
7. 12" plumbing
8. 14" plumbing
9. 16" plumbing
10. 18" plumbing

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