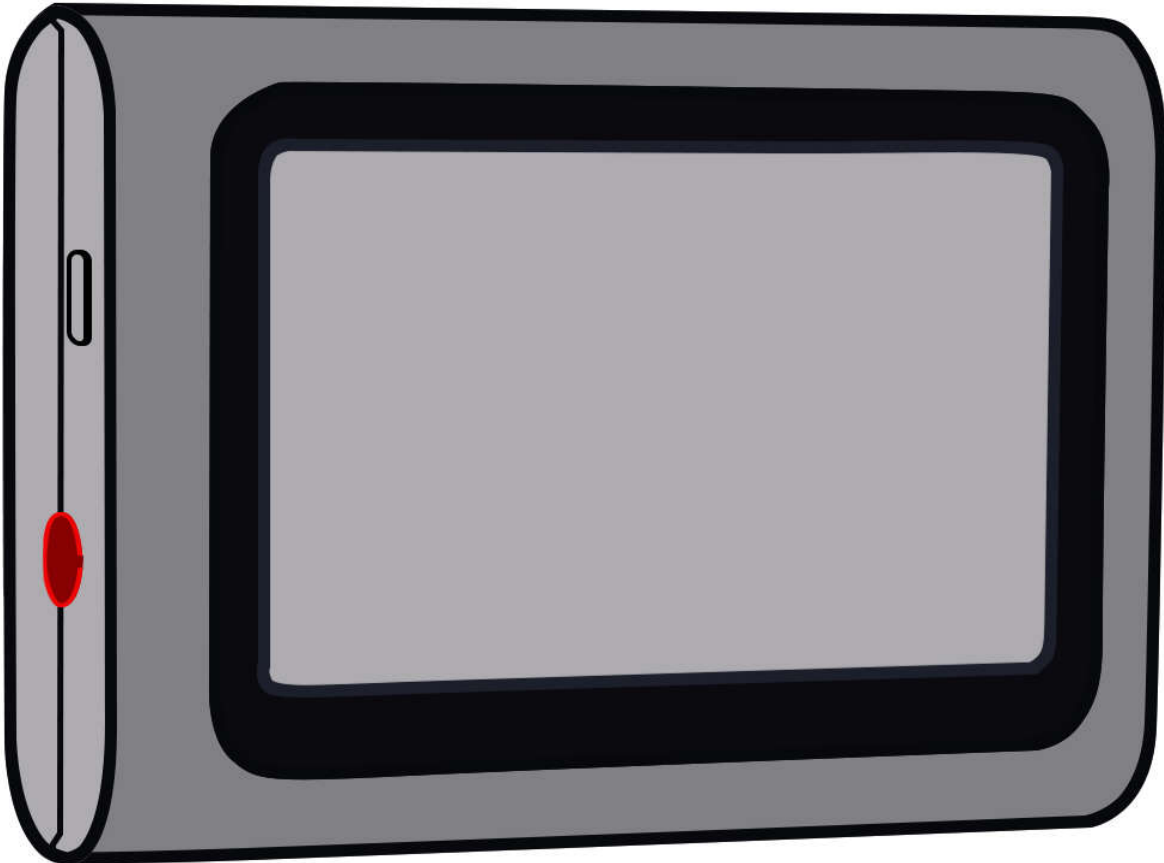

HQUA

INSTRUCTION MANUAL

Electronic Water Softener/Descaler

HQUA-S350



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Version No.20210101 By James

HQUA Technical Support Team At NY, US

Section 1 General Information

HQUA S350 is an electronic water softener/descaler with revolutionary new technology is adopted, against for your hard water problems without the need for salt, chemicals or even the any change in your plumbing system. Since it is a very new technology, we have to establish some basic concepts before we introduce its function in your mind.

1.1 What is hard water?

Hard water is the water that has plenty of minerals in (compare to "soft water"), which is formed when water percolates through deposits of limestone and chalk.

Hardness can be quantified by instrumental analysis. The total water hardness is the sum of calcium and magnesium ions.

Hard drinking water do have moderate health benefits, but it would pose critical problems in water appliances and pipe system, such as, limescale.

How hard is my water?

(Check your local regional health authority website or other municipal resources for local regulations, sampling procedures, water testing facilities (accredited testing labs), and any associated fees. The local authority would give you professional advice for tests and which company is verified to do that.)

1.2 How does the limescale deposit?

The main constituent of the lime scale is calcium and magnesium carbonates. Apparently, the harder your water is, the more limescale would be. These compounds form into hard deposits setting on the surface of sinks, faucets, pipes, shower heads, and inside appliances, creating restrictions and greatly reducing the efficiency of water heater and furnaces.

And when the first layer formed, the deposit will get easier to stay on its rough surface.

1.3 Traditional water softener

Traditional water softeners work by "Ion Exchange", this process will eliminate calcium and magnesium that dissolved in the water to prevent the reaction with carbonates.

Chemicals need to be added periodically to guarantee its function. It would need continually attention and money for the maintenance.

1.4 HQUA S350 Electronic Water Softener/Descaler

General Information

HQUA S350 functions by the complex, frequency modulated electromagnetic wave that transmitted through two cable bands wrapped around the main water pipe.

When the frequency meets the natural frequency of the calcium/magnesium carbonate which is dissolved in the water. A physical phenomenon called "resonance" occurs, and the dissolved calcium/magnesium carbonate would precipitate out in the water. The calcium/magnesium carbonate will stay in the water instead of stick to any surface of the fixture, since its crystal texture is not as sticky as the they are in the limescale.

Meanwhile, the carbon dioxide that released from the water will help to dissolve existing limescale deposits and drain from your plumbing system.

Unlike traditional water softeners, there won't be any change in the water hardness after the operation of HQUA S350.

S350 provides three different modes for different water situations(hardness)

Soft: <7 gpg/120 ppm

Normal: 7-14 gpg/120-140 ppm

Hard: 14-25 gpg/240-425 ppm

Click the button to check the mode and view look of the waves.

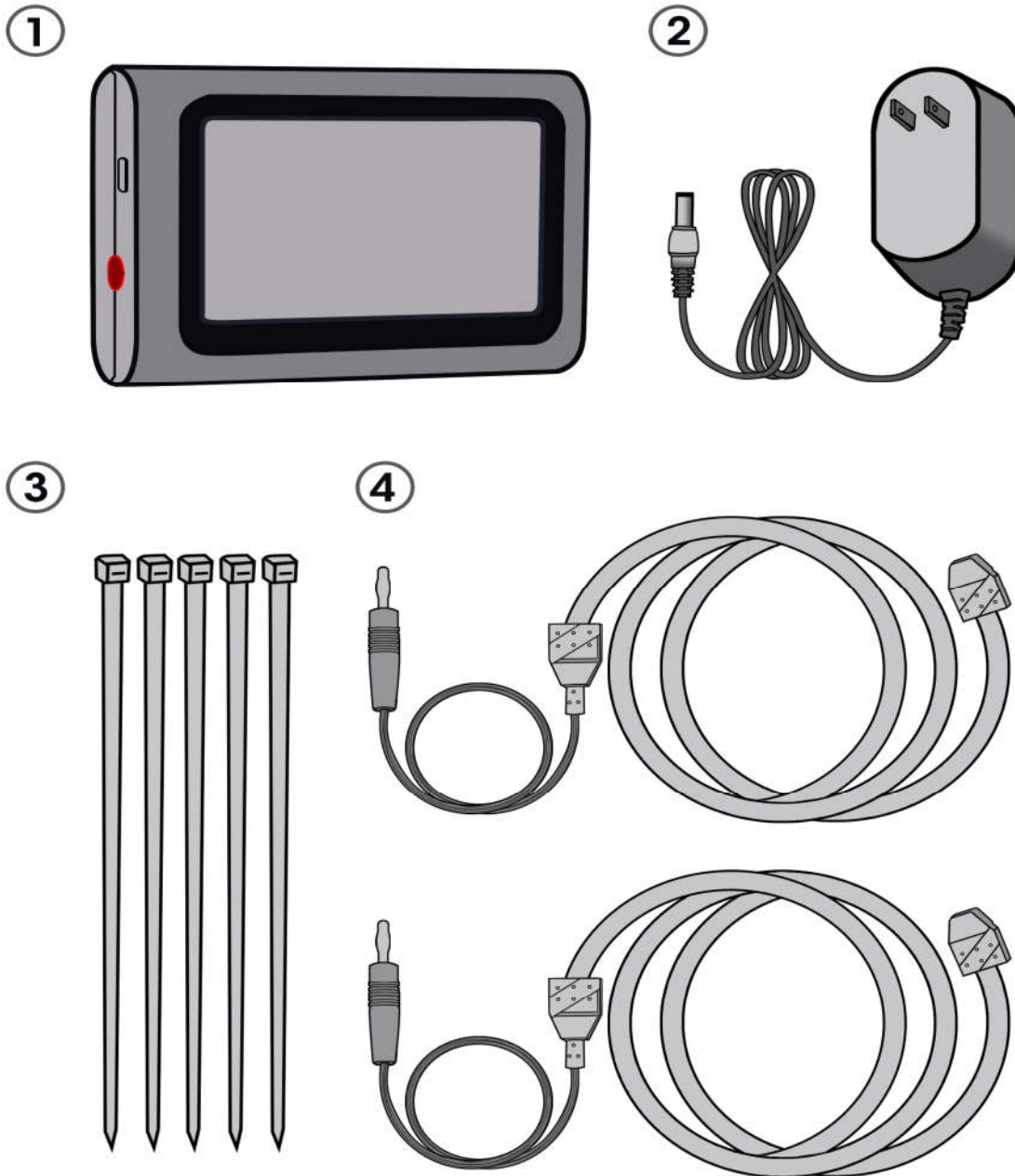
Notices:

1.4.1 We would suggest you combine the use of traditional water softener and S350 to achieve better performance if the water is very hard(≥ 25 gpg/425ppm). S350 should be installed after the water softener if that's so. And S350 would help you decrease the salt-use in the traditional water softener since it would produce less sticky crystal of calcium/magnesium carbonate.

1.4.2 Water condition changes from area to area, we could not guarantee S350 would get very good performance in every cases. It is a very new technology. We are still keep improving it. If you are not satisfied with the performance in 1-year. We would provide a full refund without asking for a return. Please share your original order number and contact us if you would like to take it.

Section 2 Operation Manual

2.1 Package list



1. The main unit of the HQUA S350.
2. UL listed power supply with 60 in/ 1.5 meters cord.
3. Some cable ties for installation of the cable bands.
4. Two cable bands to emit the electromagnetic wave in 40 in/ 1 meter.

2.2 Precautions

Mounting position

1. We recommend this unit should be applied at the entry of main water supply pipe. But it would work properly if you just install it on the inlet of the water heater since the lime scale happens in the hot water line most likely.
2. You could decide the relative position between two cable bands and the main unit. But make sure do not cover each other.
3. HQUA S350 could install horizontally, vertically or at any angle you want. The main unit also should be fixed on the wall or any steady surface.
4. **Make sure the wires are enough to connect the main unit when you pick the point to install the main unit.**
5. If the space is limited, is ok to wrap the cables in the branches as close as the main pipe.

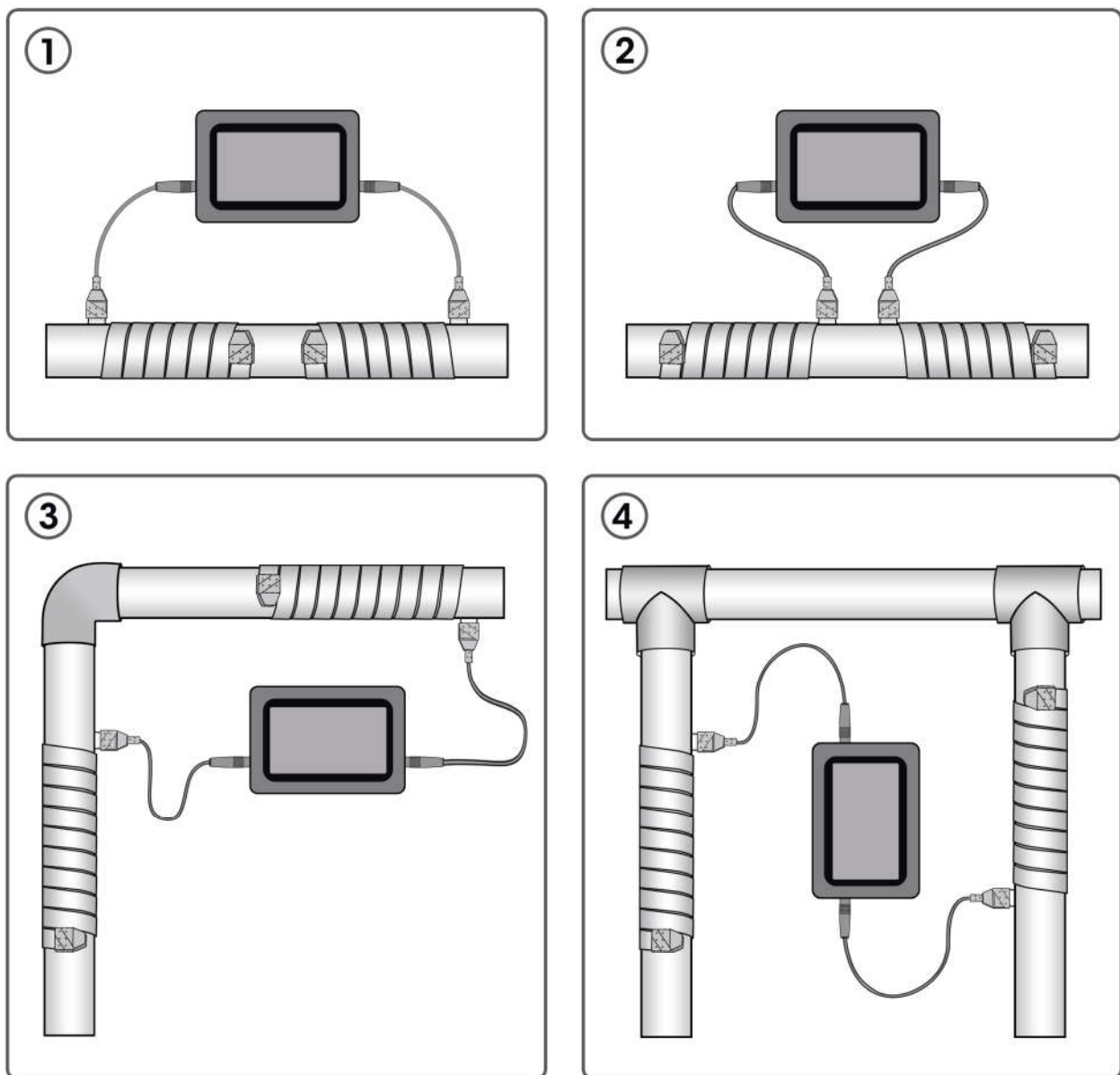


Figure 1 Different Installation Position

Notices:

Make sure at least five feet from any TV, radio or any other information transmission appliances to minimize the possible interference. A short distance with those devices might work too, test it on your own. And if you would like to install this device outdoor, please make sure you have a waterproof space without direct sunlight.

The cable band is not water proof also, splash is ok. But it is wise to keep the whole unit dry, away from the short circuit.

Pipe system requirement

HQUA S350 could work effectively for a whole house plumbing system. Or a pipe system which the longest flow distance less than 70/80 feet. Bigger house requires more HQUA S350 Softeners/Descalers.

The diameter of the main water pipe should not exceed 1.5 inch. HQUA S350 couldn't handle a larger pipe.

HQUA S350 could fit for any type of water pipe: galvanized, brass, cast iron, copper, stainless steel, pvc, pex. Metal pipe might need more time to observe the descaling and softening phenomenon compared to the plastic pipe system. Plastic pipe system owns the best performance.

2.3 Installation

It is very convenient to install HQUA S350 on your pipe system, no plumbing job needed. Make sure you got everything you need according to our package list before you start it. You are welcome to e-mail us if you have any question with installing this unit.

Step 1 Wrap the antenna (cable band) on the pipe

There are three parts of the cable band. Part 1 is the wire that connects to the main unit; Part 2 is the connection terminal; Part 3 is the antenna (cable band), and there is another connection terminal at the end.

The two cable bands are the same. It doesn't matter if the black on the left or right, same to the red wire.

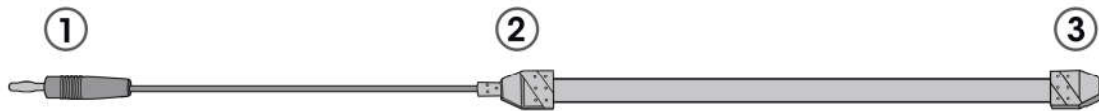


Figure 2 Output cable structure

Use the white plastic cable tie (work by looping round the pipe and inserting the free end into the oblong hole at the other end. A clicking sound would be heard as the tie is tightening) to fix Part 2 on the pipe at a certain tilt that try to fit the pipe tightly.

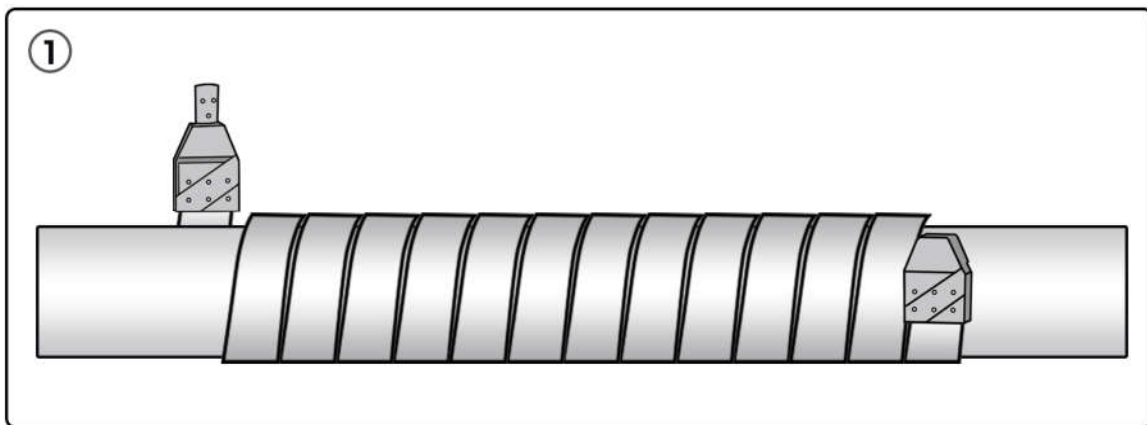


Figure 3 Wrap the cable on the pipe

We suggest you 'lock' the connection terminal part (Part 2) on the pipe to start it. And wrap the antenna helically to form a certain coil on the pipe. You should avoid the antenna to cover themselves to archive a better performance.

Please don't worry about the transparent tape that attached on the cable band, it works as an insulator, do not try to remove it from the band.

And tie the end connection terminal of the cable tightly. There should be at least 9 rounds on the 1" pipe, and 7 rounds on the 1 1/2" pipe. You have to make sure there is no gap between the cable bands and the pipe surface. As close as they are, it would work in a good condition.

Step 2 Wrap another antenna (cable band) on the pipe

Refer to **Figure 4**, wrap it with a different direction.

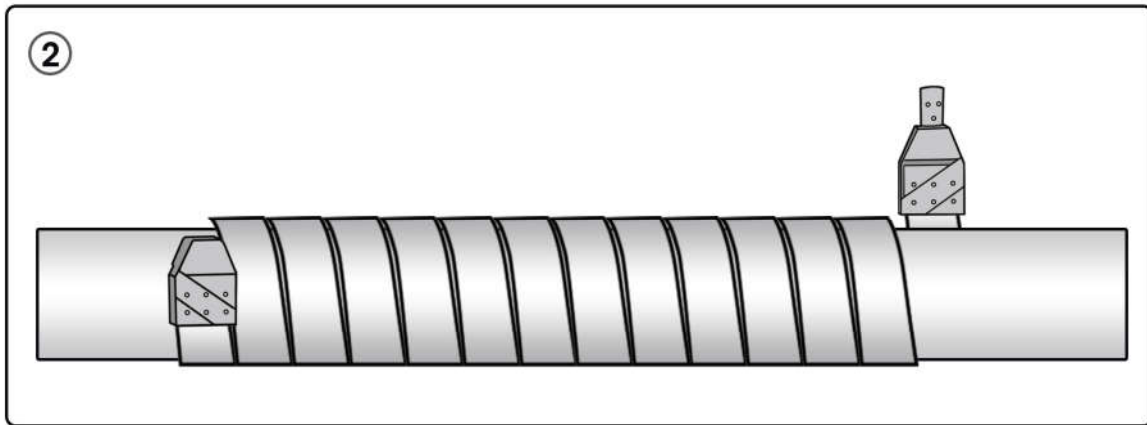


Figure 4 Wrap another cable on the pipe

Step 3 Mount the main unit on the wall

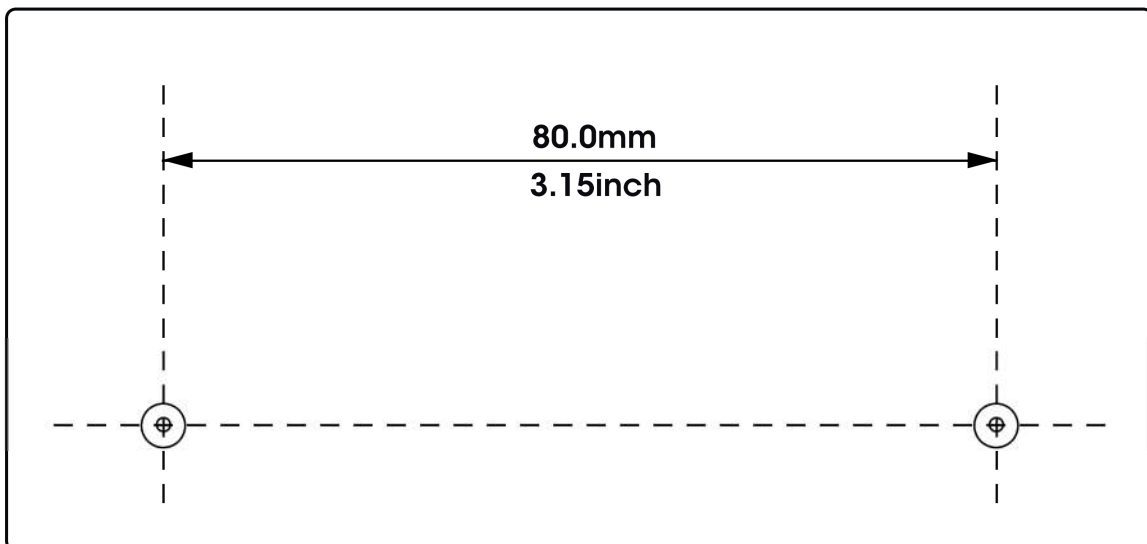


Figure 5 Engineering Drawing for Mounting

We provide an engineering drawing to help you locate the two mounting points/holes. Mark them on the wall and drill two with 15/64" or 1/4" bit. Insert the expand nails in and tighten the screws into it. You could also fasten the tapping screw directly on the points if it is a wooden wall.

Notice: Make sure the output wires which have already fixed could reach the main unit and connect it easily.

There are two female terminals below the main unit, insert the output cable into the main unit, and connect the power supply with the female terminal above the main unit.

Step 4 Connect to the power supply

Plug the power adapter to the outlet of your power supply. When the screen is working, that means the unit is working in a good condition.

2.4 Operation

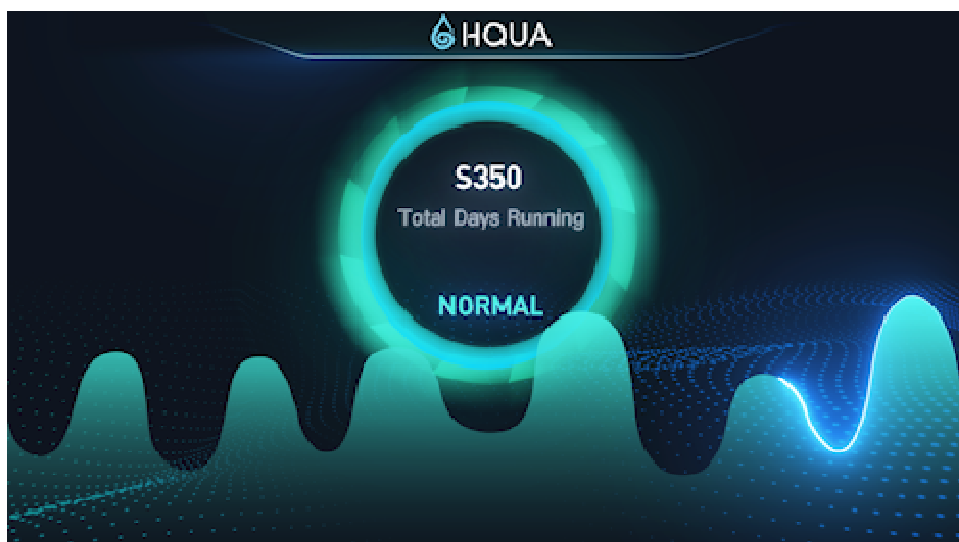
It is very easy to operate this unit. There are three modes on it and you could push the button on the left to decide which mode you would like it to run.

Click the button to change the mode. It has three modes: soft, normal, strong. They work for different water hardness, which we suggest you test yours first. But you could level up the modes gradually from soft to strong if you find there is no change in your water system. We would suggest you stay at each stage for at least 2 weeks.

And the screen would off when there is no other click in 60 seconds to save power.



Soft



Normal



Strong

Soft: <7 gpg/120 ppm

Normal: 7-14 gpg/120-140 ppm

Hard: 14-25 gpg/240-425 ppm

Section 3 Observation Timetable

HQUA S350 works differently from the traditional water softener, and the water hardness will not show any change. But something happen in the water system would let you know the system is working.

Day 3:

After 3-days running, you could find out that the soap lathers more easily. The changes also happen in the bathing, feels smoother and get silky hair, though it may not be obvious at the beginning, it would getting better day by day.

After 1 week:

The limescale in the pipe will not grow any more, and start to dissolve in the water, form some small particles in the water, although most of the break down particles will be microscopic and couldn't be observed by naked eye. New hard scale on the surface of the toilet, faucets, water sink would create less than before. Even the new spot occurs, it is easier to clean it with a washcloth and totally different from the previous limescale structurally.

After 1 month:

Loosening of scale on showerheads, faucets, kettles can be observed, wiping plastic, ceramic, metal and glass surface becomes much easier. If you have a rust problem before, the red water should be gone. Now the water should be transparent gradually once again. No more problems with the bathing and washing hair. Washed clothes are also flatter and softer, soap and detergent required for bathing, cleaning and laundering become effective now.

After 3 months:

With the help from HQUA S350 to the water heating system, it should take lesser time for heating the water and the power consumption will reduce too. The amount of limescale on pipes, faucets and showerheads should be significantly reduced. Descaling phenomenon also happen in kettle, coffee machine and other cooking utensil. The new sediment will be powder but not a hard scale, and is easy to clean it.

After 6 months:

Disappearance of the limescale from the shower head, faucets and other water fixtures could be observed. Scaly crust in toilets is significantly reduced.

The total time cost about descaling for your whole system will depend on how bad it is, sometimes it may take up to 12 months or more to dissolve all of it.

Section 4 Frequently Asked Questions

FAQs - Pipe system

Q: What is the suitable size of the pipe system?

A: The diameter of the main water pipe should not exceed 1.5 inch.

Q: Where to install HQUA 5000E?

A: At the entry of your pipe system, the main water supply should be the point. Please refer to **Section 2.2** to get more information.

Q: Does the pipe type matter?

A: HQUA S350 could fit for any type of water pipe: galvanized, brass, cast iron, copper, stainless steel, pvc, pex...

Q: Will the limescale stripped out block the pipes?

A: No, the scale would be slowly dissolved and then it would be washed away in the water as small particles.

FAQs - Operation

Q: Does the winding direction of coils matter?

A: No, it will not influence the performance. There is no difference between clockwise and counterclockwise winding. The angle of the winding only to make it fit the surface of the pipe more closely.

Q: How to judge the working condition of this unit?

A: click the button. If the screen is on and waves moving, that means the system is working in a good condition.

Q: How much it cost to maintain HQUA S350?

A: The power consumption is around 1 Watts. The cost of electric energy per year amounts to approx. 1-2 US\$, depending on electric charge of your living area.

FAQs – Function

Q: What's the maximum water hardness that HQUA 5000E can handle?

A: 25 gpg/425ppm.

Q: Will it change the water hardness? Will it soften the hard water?

A: No, the HQUA S350 is not a water softener, it works differently. It changes the crystal texture of the Carbonates, you will find the water just like it was softened. Easy lather up for the soap, better physical sensation, gradually disappearing of the limescale and more open and cleaner fixtures. You would feel all the benefits as a “soft” water when you operating that.

Q: How long will it take to remove the original limescale?

A: Well, it depends on different situation, normally after 3-6 months you will see the

limescale is reduced obviously. It might need a long time to clean your pipe system totally, just as the time that the scale formed or even more.

Q: What should I do if I find no changes on my plumbing system?

A: How is your water hardness right now? We cannot guarantee a good performance if the water hardness is larger than 25 gpg/425ppm, which is the limit. You should add a traditional water softener to help. It would need a combination work so you would get a better performance due to the very hard water. S350 should be installed after the water softener and it would help you save the money cost on the salt use.

Q: What should I do if I find my water hardness is below 25gpg but still no changes?

A: We do have a 1-year satisfaction guarantee for this kind of case. Water condition changes from area to area, we could not guarantee it would get a very good performance in every cases. It is a very new technology, we still try to improve it. We would provide a full refund without asking for a return. Please share your order number if you would like to take it.

Q: How long does the effect last?

A: The mono-crystals that formed by HQUA S350 have a better performance in warm water, life time is up to seven days and shorter in cold water (approx. two days).

Q: Will it remove the rust in the pipe?

A: Yes, but slowly. But you would get a clean water, since the hurt of the limescale stop and recovering.

Section 5 After-Sales Service

Should you need any support, or have questions about your system, please contact our Technical Support team with your order-id/address/phone number to hqua.tech@gmail.com and we will be happy to assist you. We sincerely hope you enjoy the benefits of 'soft' and clean water after the installation of your HQUA S350 system.

Commitment

One-Year Limited Warranty for HQUA S350

HQUA warrants the whole unit to be free from defects in material and workmanship for a period of One year from the date of purchase. During this time, HQUA will repair or replace, at its option, any defective HQUA S350. Please return the defective part to your dealer who will process your claim.

One-Year Satisfaction Guarantee

HQUA S350 want you to be completely satisfied with the operation of your unit. Accordingly, if our unit which had been purchased from an HQUA authorized seller fails to meet the needs or expectations of the original customer within the first 12 months after purchasing.

The original purchaser can return this unit and all associated parts and get a full, no quibble refund. If you receive this manual booklet, it means you are an Amazon buyer. 30 days return after purchasing, amazon might charge you a re-stocking fee. In order to save your money, please contact us, we will offer a better way to solve your problem.

Email:hqua.tech@gmail.com

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