

# HardnessMaster™ Installation Instructions

## COMPONENTS

- HardnessMaster™ control box
- AC/DC switching power supply
- One core signal cable of sufficient length
- Four cable ties
- Two screws with wall plugs.
- Instruction manual

## INSTALLATION

### Installation site:

Locate the incoming water supply and if possible find a straight length of pipe after the water meter (if any) of at least 4" (10 cm). The pipe can be horizontal, vertical or diagonal. If no electrical outlet is present near the installation site, council a qualified electrician. In case the water supply is from a roof tank, install the coil after the tank. The signal coil should not be closer than six inch (15 cm) from any major steel/iron objects, motors and appliances.

### Mounting the control box:

Use the two screws and if necessary the wall plugs to mount the control box to the wall. A screwdriver and a drill are needed. You can mount the unit horizontal or vertical or just put in on a shelf.

### Installing the coil:

Unroll the cable and secure the middle of the cable to the pipe with a cable tie. Make at least 18 windings with one half of the cable but not so many that the cable cannot be connected to the control box. Secure the last winding with a cable tie. The second half of the cable should be wound on top of the first layer in such a way that when done both cable ends are on opposite sides of the pipe and on one side of the coil. See Image 1 below. Secure again with a cable tie. Remove 0.2" (0.5 cm) of the insulation of both cable ends after having cut the cable to length. Insert the cable ends in the spring connector, polarity is not important.



Image 1.

### Putting the HardnessMaster™ into operation:

Insert the 12VDC plug of the adaptor into the power jacket at the bottom of the HardnessMaster™ and connect the adaptor to either 110V or 230 V AC. The Red light and the Green light should show. The Red light indicates "Power present", the Green light indicates "Coil connected and signal being generated".

### The Performance Guide

HardnessMaster™ treats all incoming water as it passes the coil. Your HardnessMaster™ will:

1. Prevent any further build up of hard scale.
2. Remove any existing scale within your water system.
3. Soften hard scale around taps, basins and toilets, etc.
4. Make the water feel silkier and kinder to the skin and clothing.
5. Reduce scum and improve lathering of soap.

### How to check if your HardnessMaster™ is working for you:

The time scales vary according to water hardness and water consumption, but generally signs of de-scaling are seen within 4-6 weeks and often much earlier. Please note that the HardnessMaster™ may appear to become less effective after several weeks. This is because existing scale in the system is being removed so scale prevention is less effective during this period. Once the scale has been removed from the system full effectiveness will then return.

### External scale

This is the best indication, because if the HardnessMaster™ is working on external scale it will certainly be working inside your water system. Scale around taps, sinks, etc. will begin to soften providing that newly treated water is in regular contact with it. Once softened, these deposits can be removed using a stiff brush or scouring pad. Large deposits on tap ends diffusers may have to be gently broken or scraped away. Surfaces in contact or splashed with water will become easier to clean. Scale on showerheads softens and can be removed. During de-scaling some deposits may collect inside the nozzle, these can easily be rinsed away. This particularly applies to electric shower units.

### Soap, Scum, and Skin effects

As the calcium is non-sticky you will usually notice:

1. Reduction of around 25% in soap and detergents.
2. Less scum formed on the bath and an improvement in soap lathering.
3. Great improvement in skin condition for anyone suffering from dry skin or eczema.
4. Even those with normal skin can expect improvements and reduction in the use of hand cream.

### Internal scale

As your hot water system is de-scaled water heating will become progressively more efficient. Water heats more quickly and generally to a higher temperature. You can therefore save considerable energy by reducing thermostat settings. If the system was severely scaled an improvement in water flow may also occur.

### Dishwasher

Add a handful of salt and "rinse aid" in dishwasher in accordance with the manufacturer's instructions otherwise soft calcium deposits may be evident where water has dried onto horizontal surfaces.

### Kettles

Do not expect your kettle to stay totally clean, as there is no water flow. Some calcium will remain. To minimize scale, pour away-unused water after each usage and refill with fresh water. Hard scale will then be eliminated and only soft scale will be present. This can be easily brushed and rinsed away. Soft calcium in contact with the element will usually harden and break off from it. If a totally clean kettle is required this can be achieved with some water filters. Contact your HardnessMaster™ supplier for advice, as some filters are not effective on calcium.

### IMPORTANT NOTES

For some time after installation the unit will be de-scaling your water system. This often results in the water appearing to be harder and the calcium deposits increase in places like the shower rose. Once de-scaled inside, your water system will stay scale-free and calcium marks outside the system should be easy to wipe away. The faster the flow of water, the sooner your system will be scale free. Water Softeners often leave deposits inside a water system, therefore if a softener is in use it is better to allow HardnessMaster™ to remove them before the softener is switched off. Leave the Hardness Master™ and the softener on together for at least a month. Install the unit before the water softener. Only dismantle the water softener when you are fully satisfied.

## SPECIFICATIONS

|                               |                                 |
|-------------------------------|---------------------------------|
| Supply voltage                | 110-240 V + 20 %, 50/60 Hz      |
| Power Consumption             | 6 Watt                          |
| Application Voltage           | 12 V DC                         |
| Coil Cable                    | One core, Blue                  |
| Maximum Coil Temperature      | 176 °F (80 °C)                  |
| Capable of Driving            | 2 coils double stacked          |
| Enclosure Material:           | Polysterol (Grey)               |
| Maximum Enclosure Temperature | 149 °F (60 °C)                  |
| Minimum enclosure Temperature | 14 °F (-10 °C)                  |
| Protection Rate               | NEMA2 (IP54)                    |
| Weight                        | 1.76 lbs ( 0.8 kg)              |
| Dimension (W x H x D)         | 3.2x3.1x2.4 inches; 82x80x60 mm |

**Warning:** Do not immerse in water. Removing the back plate will void the Warranty and Performance Guarantee.

## WARRANTY INFORMATION

### The Hardness Master™ 2 Year Warranty

In the unlikely event of HardnessMaster™ becoming unserviceable, i.e. the green light fails to illuminate, send the unit back for replacement, quoting date of purchase and serial number. This guarantee does not extend to any other electrical or water appliance or device that may be in use by the user of HardnessMaster™ and we accept no liability for the malfunction of any device other than Hardness Master™, which has, either directly or indirectly been sold to the user. Hardness Master™ does not affect the potability or the natural mineral content of the water, as there is nothing in contact with the water. Therefore, we accept no responsibility for water quality.

### Performance guarantee – Six months

All HardnessMaster™ purchases come with an industry-leading, 100% satisfaction guarantee of 6 months since we're so confident about its high-quality materials, workmanship, and performance. In fact, if you're not completely satisfied after properly installing and using your HardnessMaster™ system, call us within 6 months of delivery, and we'll give you a 100% refund plus pay for return shipping.

If you believe the unit is not operating correctly, take the following action:

**Check** green lamp is illuminated, (when signal leads are connected).

**Check** signal coil is correctly fitted (see installation instructions for detail).

**Check** that the signal coil is not closer than 6 inches (15 cm) from any major steel/iron objects, motors and appliances.

This guarantee does not include the total elimination of scale in non-free flowing water systems, e.g. steam generators and kettles, because the calcium (still present in the water) will obviously harden if left to settle on extremely hot heater elements. If you are still not satisfied, contact technical support who may be able to advise on an alternative method of installation. Should technical be unable to assist in resolving the problem by system modification then you will be offered a refund of the unit price on return of the unit, in good condition within 6 months of purchase date.

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