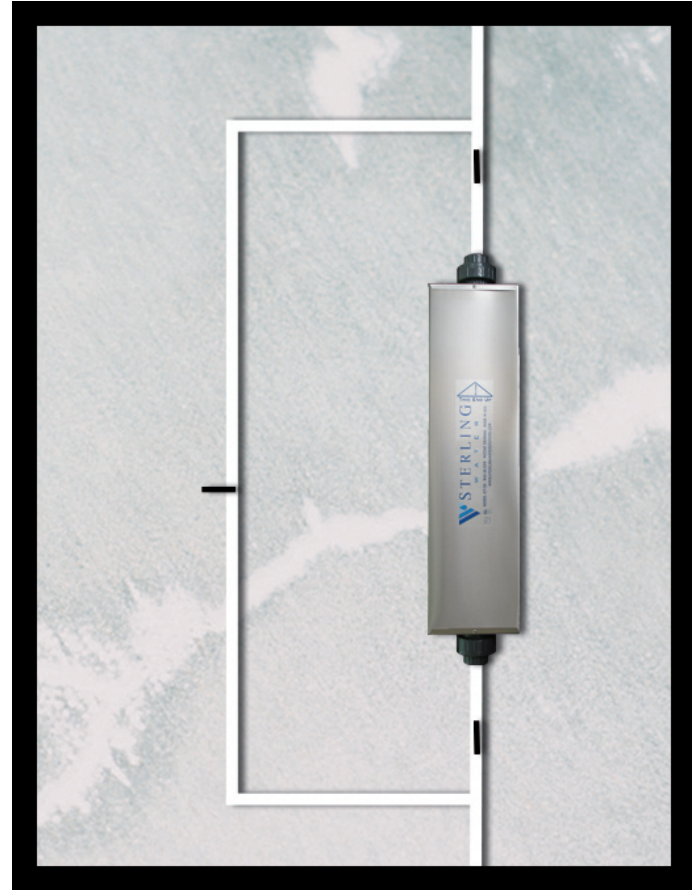
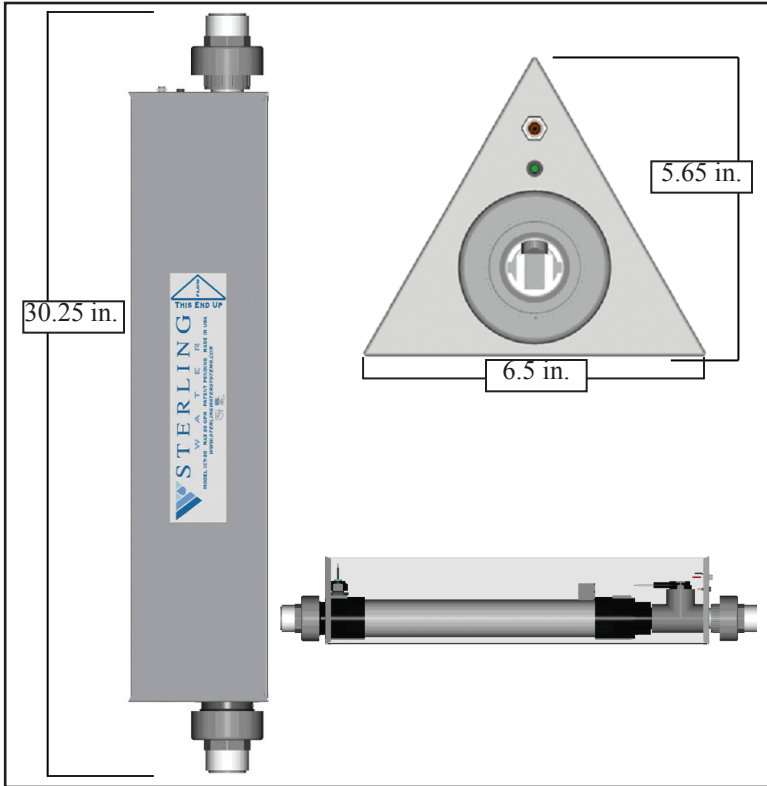


## Model ICT-20



### Specifications:

<b>Max. Flow Rate:</b>	20 gpm
<b>Activation Rate:</b>	1-2 gpm
<b>Connections:</b>	1" PVC Sch 80 metal, PVC threaded female NPT or PVC slip union fittings

### Power

<b>Input:</b>	90 VAC to 264 VAC, <1 A RMS at 9 VAC input, 47HZ-63HZ
<b>Output:</b>	+12 VDC at 0-5 A, no minimum load required, 60 watts max.

### Dimension

<b>Length:</b>	30.25 inches
<b>Width:</b>	6.5 inches
<b>Height:</b>	5.65 inches

**Approx. Ship Weight:** 14 lbs.

**Position:** Install vertically

**Product Listings:** UPC and ETL Listed  
NSF and UL compliant

### Application:

The Sterling Water Conditioner utilizing patent pending electro-kinetic technology is the first water treatment appliance to pass the anti-scale performance tests contained in IAPMO's IGC 91 to treat minerals found in hard water. The Sterling Water Conditioner is effective in hard water environments (water with 10 grains per gallon and above) to stop scale build up in pipes and drastically reduce scale build up in tubs, showers and sinks. The Sterling Water Conditioner technology uses no chemicals, so water can be used to water household and garden plants and in irrigation applications treated water will reduce hardpan conditions in soil. The Sterling Water Conditioner is not a filter, nor does it add or remove impurities – it simply inhibits mineral crystallization and scale formation.



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# STERLING

## WATER

Congratulations! You have purchased a Sterling Water Conditioner, the latest technology in hard water treatment. Now, discover the greatest hard water solution since salt.

The Sterling Water Conditioner is the first water treatment appliance to pass the anti-scale performance tests contained in IAPMO's IGC 91 to treat minerals found in hard water. The Sterling Water Conditioner is effective in hard water environments (water with 10 grains per gallon and above) to stop scale build up in pipes and drastically reduce scale build up in tubs, showers and sinks. The Sterling Water Conditioner technology uses no chemicals, so water can be used to water household and garden plants and in irrigation applications treated water will reduce hardpan conditions in soil. **To learn more about the Sterling Water Conditioner, its maintenance and its listings and certifications, go to [www.sterling-water.com](http://www.sterling-water.com) or contact us at [what@sterlingwatersystems.com](mailto:what@sterlingwatersystems.com).**

**PLEASE READ THE ENTIRETY OF THE FOLLOWING INSTRUCTIONS  
BEFORE PROCEEDING WITH INSTALLATION**

### INSTALLATION INSTRUCTIONS

#### LOCATION:

For water supplied from a public treatment facility, install the Sterling Water Conditioner inside the building, as soon as it is convenient past the water meter. The Sterling Water Conditioner can be installed outside, but only with the use of a vault or other protection to insulate the Sterling Water Conditioner and power supply from the weather and direct contact with the ground.

For water well installations: **Before any water treatment equipment is installed, a complete well water analysis should be performed.** Install the Sterling Water Conditioner between the well and pressure tank. If there is inadequate space available, install the Sterling Water Conditioner just past the pressure tank. We recommend use of a pre-treatment filter to protect the Sterling Water Conditioner from sand and sediment.

**The Sterling Water Conditioner must be installed on a  
COLD water line in a VERTICAL position  
with the directional arrow facing upward  
and in the direction of the water flow.**

**DO NOT USE UNION NUTS TO DRAW TOGETHER ANY GAPS OR  
CORRECT SUPPLY LINE OR SYSTEM MISALIGNMENT.**

## **INSTALLATION:**

Typical installations should take approximately 2-3 hours to complete. We recommend building a by-pass line for use should the Sterling Conditioner require servicing (see **MAINTENANCE INFORMATION** below.) See Illustration for a design of a by-pass line.

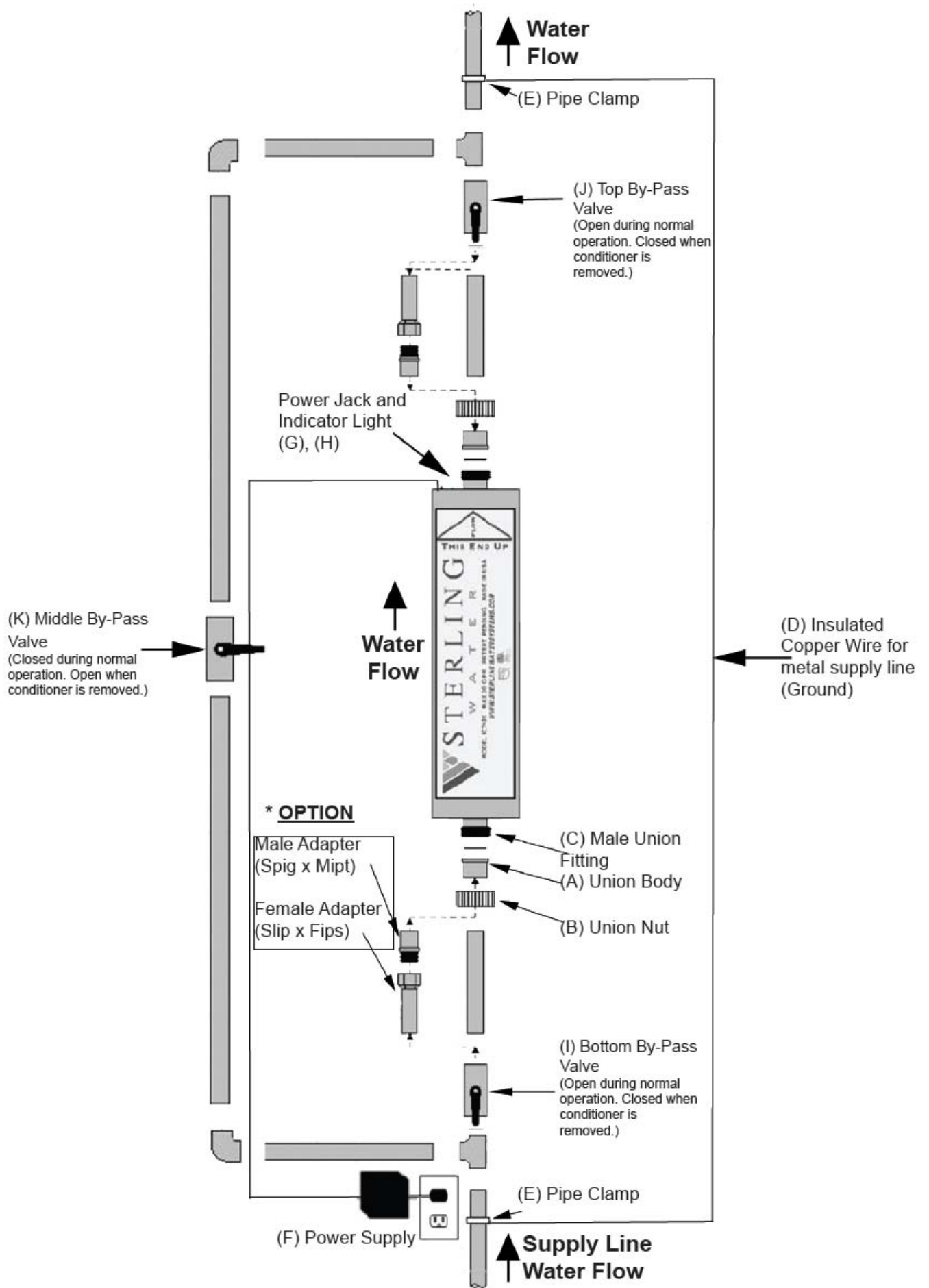
1. Cut the vertical cold water supply line to an appropriate length to accommodate the Sterling Conditioner with the unions assembled (and the by-pass line, if utilized).
2. Loosely fit slip end of the male NPT or slip fittings (A) to the inlet and outlet ends of the cut supply line.
3. Loosen the union nuts (B) on the Sterling Conditioner to separate each union and set the Conditioner to the side.
4. Position Union Body (A) inside Union nut (B). For PVC plumbing, temporarily position Union Body Slip Fitting (A) to PVC piping, keeping in mind union nut (B) cannot be inserted after joining.  
For metallic plumbing. Additional adapters may be required, an option is illustrated. Temporarily position Union Body (A) inside union nut (B) and position Union Body Slip fitting (A) over inlet and outlet lines, keeping in mind union nut (B) cannot be added after joining.
5. Place the Sterling Conditioner in place and hand tighten the union nuts (B) on each end of the Conditioner.
6. Mark the location of the male NPT or slip fitting on each end of the supply line to ensure proper seating onto the supply line.
7. Loosen the union nuts (B) on each end of the Sterling Conditioner and remove the Conditioner.
8. Connect the slip end of the male NPT or slip fittings (A) to each end of the cut supply line where marked. For PVC plumbing systems, use primer and PVC solvent cement to attach the male fittings to each end of the cut pipe. For copper or metal plumbing, sweat or thread metal male NPT fittings (A) to each end of the cut supply line.
9. Once the male NPT or slip fittings have been properly connected to the supply line, place the Sterling Conditioner back into the vertical operational position.
10. Make sure the face of the metal threaded side of the union fitting (C) is squarely aligned with the union face on the Sterling Water Conditioner and flush against the O-ring. Hand tighten the union nuts (B) on each end. **THE UNIONS ARE DESIGNED TO BE HAND TIGHTENED ONLY. DO NOT UTILIZE A PIPE WRENCH TO TIGHTEN THE UNION NUTS (B).**
11. If metal plumbing is used as the electrical ground for appliances or other electrical equipment in the building, an insulated copper wire (D) (not supplied) should be connected to the metal plumbing lines on each side of the Sterling Conditioner with pipe clamps (not supplied) (E), unless an all metal by-pass line is installed, which would serve as a continuous ground.

## **START UP AND OPERATION:**

After the Sterling Conditioner has been installed, open 2-3 **COLD** faucets in the building and then turn the water supply valve (and installed by-pass valves (I & J)) on 1/4 of the way for one minute to bleed off any air in the system before the water supply valve is turned all the way on. After the water supply is turned all the way back on, fully open by-pass valves (I & J) and close the middle by-pass valve (K), if installed, connect the power supply output cord to the jack (G) on the Sterling Conditioner and plug the power supply input cord (F) into a standard 110V grounded electrical wall outlet. (A Velcro strip is included with the power supply, for easy mounting.) After the power supply has been plugged in, the green power light on the power supply box will turn on, indicating that power is available to the Sterling Conditioner. When water is flowing through the Sterling Conditioner, a green operating light on the unit (H) will turn on, indicating the Sterling Conditioner is operating. If the Sterling Conditioner is installed backward, it will not operate and the operating light on the Sterling Conditioner will not turn on. If power is lost, check the electric wall outlet, then the power connection to the Sterling Conditioner.

Once the installation has been completed, turn on as many **COLD**-water faucets as possible and let run for 4 to 5 minutes to flush the lines. After flushing the lines, you may want to drain the hot water tank and flush it out in order to more quickly replace untreated water in your lines. Once the lines have been flushed, you may notice small, whitish or rust colored particles coming from the faucet. This is scale build up sloughing off the inside of the plumbing and is normal after installation. You may need to remove the faucet aerators and clean the scale particles from the screens. Over a period of time, the Sterling Conditioner will remove most of the scale build up from the interior of the plumbing.

Under normal operating conditions, the Sterling Conditioner will begin operating at flow rates between 1 and 2 gallons per minute.



## **MAINTENANCE INFORMATION:**

When utilizing a Sterling Water Conditioner in areas where water has high levels of total dissolved solids you may notice that over time the Sterling Water Conditioner loses some of its effectiveness. To ensure the Sterling Water Conditioner operates at its best efficiency, every six months the following steps should be followed to de-mineralize the metal components inside the Sterling Water Conditioner:

1. Turn off the water supply or, if installed, close the top and bottom by-pass valves (*I, J*) and open the middle by-pass valve (*K*).
2. Unplug the power supply from the electrical wall outlet (*F*) and unplug the power cord from the power jack (*G*).
3. Hand loosen the union nuts (*B*) on each end of the Sterling Water Conditioner, remove it and place it into a sink or shower.
4. With the Sterling Water Conditioner in a vertical position, plug the bottom end and fill the Sterling Water Conditioner from the top with vinegar (or an acidic solution with a pH of 2.5-3) and let it soak overnight.
5. Remove the plug and drain the Sterling Water Conditioner.
6. Thoroughly flush the Sterling Water Conditioner with tap water.
7. Return the Sterling Water Conditioner back to its vertical operational position with the flow arrow pointing up and hand tighten the union nuts (*B*) on each end of the Sterling Water Conditioner. **DO NOT UTILIZE A PIPE WRENCH TO TIGHTEN THE UNION NUTS (*B*).**
8. Follow **Start up and Operation Instructions** above.

## **PRECAUTIONS:**

- **DO NOT install a Sterling Water Conditioner in water systems carrying more than 100 (PSI).**
- **DO NOT DISABLE THE FLOW SWITCH INSIDE THE STERLING HOUSING.**
- **IF GREEN OPERATING LIGHT (*H*) REMAINS ON WHEN NO WATER IS FLOWING, UNPLUG THE STERLING WATER CONDITIONER AND CONTACT YOUR INSTALLER.**
- **DO NOT OPEN the Sterling Water Conditioner or power supply housing (the warranty will be void if either is opened).**
- **DO NOT APPLY HEAT directly to the Sterling Water Conditioner or to PVC fittings.**
- **DO NOT USE on water systems carrying water containing more than 0.3mg/L iron, 0.05mg/L manganese, 250mg/L chloride or a pH of 7.2 or less.**
- **DO NOT use with incoming water temperature in excess of 90 degrees Fahrenheit.**
- **DO NOT USE UNION NUTS TO DRAW TOGETHER ANY GAPS OR CORRECT SUPPLY LINE OR SYSTEMS MISALIGNMENT.**

**Limited Warranty.** Sterling Water Systems, LLC (hereinafter referred to as "The Company") expressly warrants that the product you purchased (hereinafter "the Product") will perform its intended use to retard the growth of scale forming minerals in water meeting the EPA National Primary Drinking Water Regulations under normal use and service and will be free of defects in materials and workmanship from the end user's date of purchase for a period of one (1) year as to all materials and workmanship. To the extent permitted by applicable law, there are no implied warranties in connection with the Product. The Product is intended to be used to treat incoming water with temperatures of ninety (90) degrees Fahrenheit or less, containing a pH of 7.0 or less and complying with EPA secondary drinking water standards <http://www.epa.gov/safewater/contaminants/index.html#sec>. The Company shall not be liable for any special or consequential damages or incidental expenses arising from the manufacture, sale or use of its Products. **Remedies.** To the maximum extent permitted under applicable law, the Company and its supplier's entire liability under this expressed warranty is at Company's option to repair or replace the Products which do not meet the warranty with a similar model. **Either remedy is conditioned upon** (a) the return of the defective Product to the Company, (b) a photograph of the Product's installation clearly showing the Company's label, (c) a copy of the Product's proof of purchase, and (d) return of complete Product Registration information. **To claim your warranty, a product registration must be completed either online at [www.sterling-water.com](http://www.sterling-water.com) or by filling out the warranty card included with this Product.** The warranty is void if failure of a Product has resulted from accident, abuse or misapplication or if the Product has not been installed, operated or maintained according to the Company's written instructions. Any replacement of a Product will be warranted for the remainder of the Product's original warranty period.

**DISCLAIMER:** "Copper tube (Alloy C12200) has been evaluated by IAPMO T&S to ANSI/NSF61 for use in drinking water supplies of pH 6.5 and above. Drinking water supplies that are less than pH 6.5 may require corrosion control to limit leaching of copper into the drinking water."