

# Installation and Maintenance Instructions



# **SUPERIOR WATER CONDITIONER® INSTALLATION AND MAINTENANCE INSTRUCTIONS**

## **C Models**

### **SECTION 1. INSTALLATION\***

The Superior Water Conditioner® must be installed in a vertical position as close as possible to the piece of equipment to be treated.

**STEP 1:** Close water valve and cut tubing within 12" of equipment inlet (if possible).

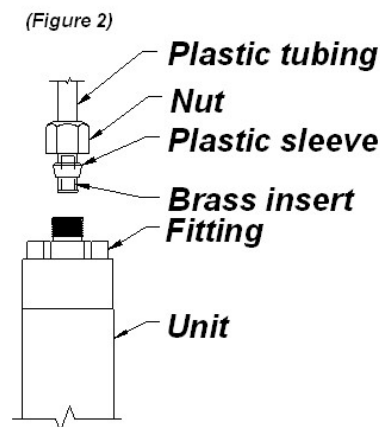
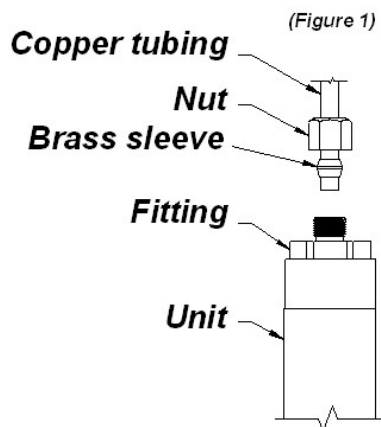
**STEP 2:** a) FOR COPPER TUBING: [Refer to figure 1]. Slip nut, then brass sleeve over cut tubing.

b) FOR PLASTIC TUBING: [Refer to figure 2]. Slip nut, then plastic sleeve (large end first) over cut tubing. Place brass insert into the end of the tube.

**STEP 3:** Seat tubing end into fitting as far up as it will go. Finger tighten nut to fitting.

**STEP 4:** Place one wrench on fitting and a second wrench on nut, then tighten the nut securely while holding tubing firmly seated into the fitting.

**STEP 5:** Repeat Steps 1 through 4 for the opposite end. Once both ends have been completed, open the valve and check for leaks.



*\*If you have any questions regarding the installation or maintenance of your Superior Water Conditioner®, please contact our technical department via e-mail at [info@superiorwaterconditioners.com](mailto:info@superiorwaterconditioners.com)*

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## **SECTION 2. MAINTENANCE OF THE TREATED SYSTEM**

Although the Superior Water Conditioner® controls the formation of lime scale build-up, it does not actually remove the minerals from the water. This results in the formation of a mud-like substance instead of the hard brittle scale. This sludge may settle at various low points of the system if the velocity of the water is not sufficient to wash it out. Therefore, the equipment should be bled-off or flushed out periodically to prevent any accumulation of the sludge and maintain maximum efficiency of the system.

If there is not a drain at the lowest point of the equipment upon which the Superior Water Conditioner® is to be installed, it may be necessary to remove the sludge manually at established periods. Since the mineral deposits of the Superior® system will be soft and purgable, this procedure can be done with very little effort and without the use of harsh chemicals. The frequency of bleed-offs or manual removal will depend upon the hardness of the water and the amount of water used. We recommend that the equipment be checked within 30 days after the installation of the Superior Water Conditioner®.

**FOLLOW INSTRUCTIONS PROVIDED AT TIME OF PURCHASE.** If you have any questions, please do not hesitate to contact your Superior® representative or the manufacturer.

**CAUTION:** If any welding is required, **do not ground welder** to the pipe upon which the water conditioner is being installed.

**IMPORTANT: Do not disassemble the water conditioner.** If it should need servicing, contact the factory at (260) 456-3596 or (800) 348-0999. We will issue you a RMA number for you to return the unit to us for refurbishing at a nominal charge, plus freight.

**NOTE:** The Superior Water Conditioner® will also break down and loosen existing lime scale deposits in the piping and water using equipment. As a result, at first you may notice cloudiness and a change of taste in the water. This cloudiness is a result of the hard water minerals that had previously deposited out as scale in the system, dissolving back into solution and will eventually clear up when the equipment and plumbing are clean and free of old scale accumulation.

### **Superior Manufacturing Corporation**

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Fort Wayne, Indiana 46868-3343

Phone: 260-456-3596 • Toll free: 800-348-0999 • Fax: 260-456-3598

# **SUPERIOR WATER CONDITIONER®**

## **R, RX, RES, & RT MODELS**

### INSTALLATION INSTRUCTIONS FOR RESIDENTIAL APPLICATION

The Superior Water Conditioner® should be installed in a vertical (up and down) position in the main domestic water supply line to the home **after** the pressure tank in private well water applications; or, **after** the meter in municipal water applications. Please note the flow direction arrow. If iron is present in the water, an iron filter should be installed ahead of the conditioner; otherwise, the unit may require cleaning or refurbishing and therefore should be installed with union type fittings for easy removal.

### MAINTENANCE

The Superior Water Conditioner® controls the formation of lime/scale build-up, but does not actually remove dissolved minerals from water. As water passes through Superior's® treatment chamber, the calcium, magnesium, and other dissolved components are exposed to a series of multiple reversing permanent magnetic fields which alters their natural ability to bond together with one another as they precipitate out of solution and form a hard calcite scale build up on the inside of water-using equipment and the plumbing system in general. Instead, they will precipitate out of solution into a suspended state known as aragonite, which is a soft, mud-like substance or sediment, and will either flow right on through the plumbing and down the drain, or might possibly settle at a low point in the system.

Therefore, thirty (30) days after the Superior Water Conditioner® is initially installed, and every 90 days thereafter, the bottom drain valve on tank-type water heaters should be opened fully for 5 to 10 seconds while under full operating pressure in order to purge out any sediment lying on the bottom. This process will assist in maintaining maximum efficiency and extend the life of the water heater. A short garden hose should be connected to the drain fitting and directed to a floor drain or bucket. Care should be taken, as the water may be hot.

When the Superior Water Conditioner® is installed in an older home, small pieces of scale, discoloration and/or cloudiness may be observed in the service water for some time. This is caused by the Superiorized® water's ability to gradually soften any existing mineral buildup and/or corrosion present in the system and will eventually dissipate once this process is finished.

**phone: 260-456-3596 • toll-free phone: 800-348-0999 • fax: 260-456-3598**

**email: [info@superiorwaterconditioners.com](mailto:info@superiorwaterconditioners.com)**

**website: [www.superiorwaterconditioners.com](http://www.superiorwaterconditioners.com)**

# *Superior Water Conditioner®*

## Installation and Maintenance Procedures for Commercial/Industrial Application ~ R and RT Models ~

### **Section 1 ~ Installation\***

The Superior Water Conditioner® must be installed in a vertical position on the equipment. Further, the directional arrow located on the label of the conditioner must correspond with the flow of water through the equipment. Union type fittings should be installed on the inlet and outlet of the unit for easy removal during future inspection and cleaning intervals.

### **Section 2 ~ Maintenance of the Superior Water Conditioner® and Treated System**

When the Superior Water Conditioner® is installed on a circulating system, in which water will pass multiple times through it, it will be necessary to remove the unit periodically for inspection and possible flushing with a pressure washer.

The Superior Water Conditioner® controls the formation of lime scale build-up, but does not actually remove the minerals from the water. The Superior treatment of the water results in a mud-like sludge when the minerals precipitate out of solution as opposed to the usual hard brittle scale. This sludge may settle in the low points of the system if the water velocity is not sufficient to wash it out.

If this is the case, the system should be bled-off or flushed out periodically to maintain maximum efficiency. If the unit is installed on a boiler, proper blow-down procedures must be followed. If there is no drain at the lowest point of the system, it may be necessary to remove the sludge manually. This process can be accomplished with very little effort and without the use of harsh chemicals. The frequency of the blow-downs or manual removal will depend upon the hardness of the water and water usage rate. We recommend that the equipment be checked 30 days after the unit has been installed. This inspection should help determine a proper maintenance schedule for your particular equipment.

### ***\*Follow Instructions Provided at Time of Purchase***

*If you have any questions about the installation or maintenance of your unit, please contact our technical department via e-mail at [info@SuperiorWaterConditioners.com](mailto:info@SuperiorWaterConditioners.com), or by phone at (260) 456-3596 or (800) 348-0999.*

**Caution:** If welding is required, **do not ground welder** to the pipe upon which the unit is being installed. **Do not store or install** this equipment within 48" of any 3-phase high voltage power influence, including wiring inside of conduit.

**Important:** **Do not disassemble the water conditioner.** If it should need servicing, contact the factory at **(260)456-3596** or **1-800-348-0999**. We will issue you a RMA number for you to return the unit to us for refurbishing for a nominal charge, plus freight.

**Note:** The Superior Water Conditioner® will also break down and loosen existing lime scale deposits in the piping and water-using equipment. As a result, at first you may notice cloudiness and a change of taste in the water. This cloudiness is a result of the hard water minerals that had previously deposited out as scale in the system, dissolving back into solution and will eventually clear up when the equipment and plumbing are clean and free of old scale accumulation.

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## **SUPERIOR WATER CONDITIONER® INSTALLATION & MAINTENANCE PROCEDURES**

### MODELS

SF-1250 thru SF-4000 & ACV-1.5 thru ACV-4

### SECTION 1. INSTALLATION\*

The Superior Water Conditioner® must be installed in a vertical position as close to the equipment as possible with the flow corresponding to the directional arrow on the label. **All Superior Water Conditioners® should be installed at least (48) inches away from high voltage lines or equipment, especially 3-Phase.**

In cases where the equipment cannot be shut down, in order to remove the Superior Water Conditioner® for cleaning, the unit can be put in-line with a bypass around it with shut-off valves.

*\*Please contact our technical department via e-mail [info@superiorwaterconditioners.com](mailto:info@superiorwaterconditioners.com) for any questions regarding installation or maintenance.*

### SECTION 2. CLEANING THE SF & ACV MODEL

On every type of installation, the Superior® unit should be dismantled periodically and the Permacore® cleaned and inspected. Some applications, such as return systems wherein a significant amount of iron oxides and metallic substances exist in pipelines and equipment, require a more frequent cleaning of the Superior® unit. In these instances, the unit should be cleaned at least one time per month until the system has been cleaned of existing scale and corrosion deposits and such deposits are not found on the Permacore®. Once the system is cleaned, the frequency of cleaning and inspection periods can be decreased to an annual basis.

**STEP 1:** (Refer to Figure 1) Remove the Superior® unit from the system and place on a level floor for dismantling. **DO NOT** take the large flange off of the unit until it is in an upright position with the large flange being on the top (inlet end).

**STEP 2:** (Refer to Figure 2) Remove the alignment chamber by removing the bolts from the large flange. Separate the flanges by pulling the alignment chamber away from the shell of the unit. **DO NOT SLIDE FLANGE SIDWAYS.**

**STEP 3:** (Refer to Figures 3 & 4) Remove the Permacore® assembly and flush any accumulation of deposits with a high pressure hose. Care must be taken to not drop the Permacore® assembly or let it come in contact with any metal, high voltage or electric equipment

**STEP 4:** Any gaskets, which are broken or worn, should be replaced. Re-insert the clean Permacore® into the unit's shell and tighten the nuts and bolts. Install the unit into the line according to the flow of the water. (The alignment chamber end is always the inlet end.)

### **SECTION 3. MAINTENANCE OF THE TREATED SYSTEM**

The Superior Water Conditioner® controls the formation of lime scale build-up but does not actually remove the minerals from the water. The Superior treatment of the water results in a mud-like substance as opposed to the hard, brittle scale. This sludge may settle in the low point of the system if the water velocity is not sufficient to wash it out.

If this is the case, either the system should be bled-off or the sludge flushed out of the equipment periodically to maintain maximum efficiency. If the unit is installed on a boiler, proper blow-down procedures must be followed.

When the Superior® unit is installed in an older system, you may notice possible cloudiness in the water. This is caused by the Superiorized™ water gradually dissolving the existing scale and corrosion in the system. This will eventually dissipate once the equipment and system have been cleaned.

#### ***FOLLOW INSTRUCTIONS PROVIDED AT TIME OF PURCHASE***

If additional servicing of our unit is required, or if you have any questions about the maintenance of our unit, please contact the manufacturer at 260-456-3596 or 800-348-0999.

**CAUTION:** If welding is required for the installation of the unit, DO NOT GROUND WELDER to pipe on which the unit is being installed.

Figure 1

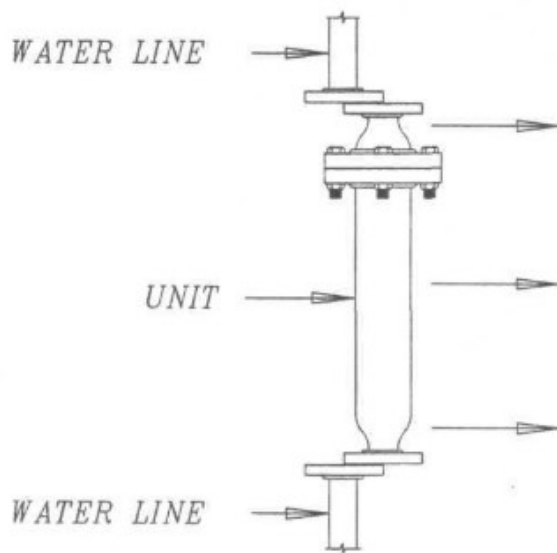


Figure 2

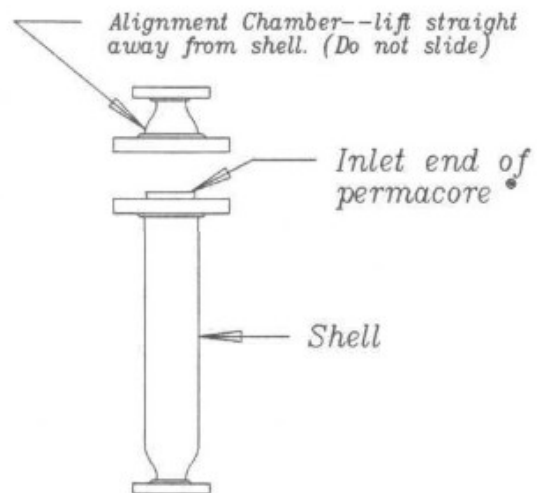


Figure 3

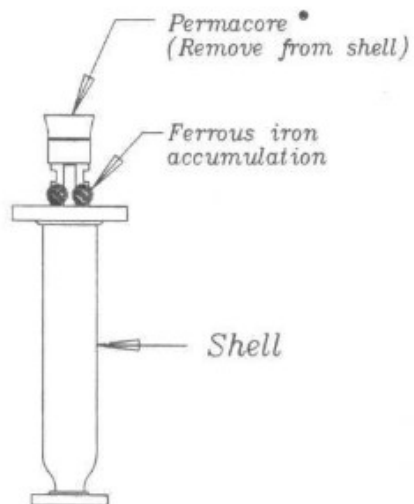
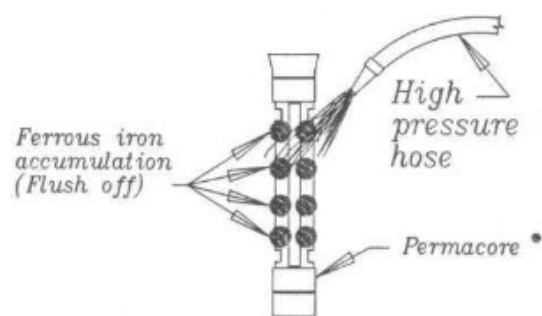


Figure 4







**Pure. Proven. Results.™**

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## **SUPERIOR WATER CONDITIONER® INSTALLATION & MAINTENANCE PROCEDURES**

### MODELS

SF-5000 thru SF-60000 and ACV-5 thru ACV-60

### SECTION 1. INSTALLATION\*

The Superior Water Conditioner® must be installed in a vertical position as close to the equipment as possible with the flow corresponding to the directional arrow on the label. **All Superior Water Conditioners® should be installed at least (48) inches away from high voltage lines or equipment, especially 3-Phase.**

In cases where the equipment cannot be shut down, in order to remove the Superior Water Conditioner® for cleaning, the unit can be put in-line with a bypass around it with shut-off valves.

*\*Please contact our technical department via e-mail [info@superiorwaterconditioners.com](mailto:info@superiorwaterconditioners.com) for any questions regarding installation or maintenance.*

### SECTION 2. CLEANING THE ACV & SF MODEL

On every type of installation, the Superior® unit should be dismantled periodically and the Permacore® cleaned and inspected. Some applications, such as return systems wherein a significant amount of iron oxides and metallic substances exist in pipelines and equipment, require a more frequent cleaning of the Superior® unit. In these instances, the unit should be cleaned at least one time per month until the system has been cleaned of existing scale and corrosion deposits and such deposits are not found on the Permacore®. Once the system is cleaned, the frequency of cleaning and inspection periods can be decreased to an annual basis.

**STEP 1:** (Refer to Figure 1) Remove the Superior® unit from the system and place on a level floor for dismantling. DO NOT take the large flange off of the unit until it is in an upright position with the large flange being on the top (inlet end).

**STEP 2:** (Refer to Figure 2) Remove the alignment chamber by removing the bolts from the large flange. Separate the flanges by pulling the alignment chamber away from the shell of the unit. DO NOT SLIDE FLANGE SIDEWAYS.

**STEP 3:** (Refer to Figure 3) Remove the Permacore® assembly and flush any accumulation of deposits with a high pressure hose. Care must be taken to not drop the Permacore® assembly or let it come in contact with any metal, high voltage or electric equipment

STEP 4: (Refer to Figure 4) Remove the nuts from the 3/8" rods and lift the top plate from the assembly. Remove each shell that has a Permacore® and pull the copper clad magnet from the shell. Again, care must be given to not drop the Permacore® or let it come in contact with any metal, high voltage or electrical equipment.

STEP 5: (Refer to Figure 5) Flush away any debris that has collected on the Permacore®, making sure the bullet nose of the copper housing is up toward the inlet.

STEP 6: Any gaskets, which are broken or worn, should be replaced. Re-insert the clean Permacore® into the unit's shell and tighten the nuts and bolts. Install the unit into the line according to the flow of the water. (The alignment chamber end is always the inlet end.)

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If this is the case, either the system should be bled-off or the sludge flushed out of the equipment periodically to maintain maximum efficiency. If the unit is installed on a boiler, proper blow-down procedures must be followed.

When the Superior® unit is installed in an older system, you may notice possible cloudiness in the water. This is caused by the Superiorized™ water gradually dissolving the existing scale and corrosion in the system. This will eventually dissipate once the equipment and system have been cleaned.

#### *FOLLOW INSTRUCTIONS PROVIDED AT TIME OF PURCHASE*

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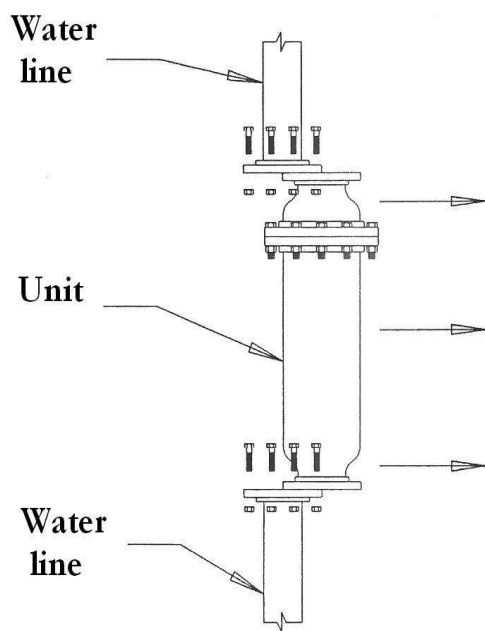


Figure 2

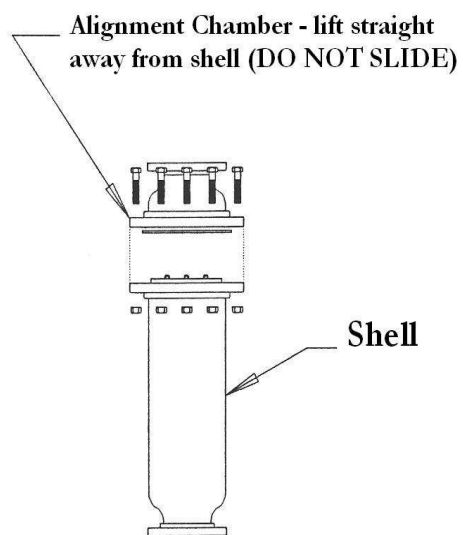


Figure 3

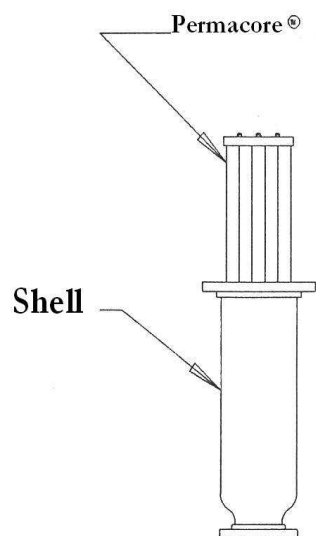


Figure 4

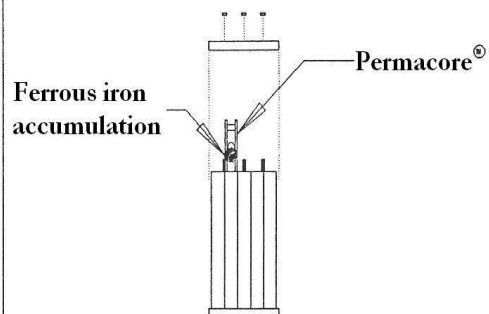


Figure 5

