



# INSTALLATION OVERVIEW

## HOME WATER TREATMENT PLANT

### The Safety Zone Home Water Treatment Plant

This water quality improvement system is ideal for problem well water when disinfection is required. The system includes:

1. Chemical feed pump
2. Contact tank
3. Solution tank
4. Carbon filter
5. Water softener & brine tank
6. Hydrogen Peroxide



### Component placement:

1. Chemical injection (install fitting in water line, prior to contact tank)
2. Contact tank
3. Hose bib (to test for chemical residual)
4. Carbon filter (to remove chemical)
5. Water softener

### Other components

1. Chemical feed pump
2. Solution tank
3. Chemical
4. Optional Iron filter, acid neutralizer

Be sure to install weather covers on electric valves!

### Chemical feed

The chemical pump we use is a 110 volt peristaltic pump so it will not lose its prime. Mount this pump to a wall or post near the system.



**Peristaltic Chemical Feed Pump**



**Safety Zone Electronic Control Valve**

### Safety Zone Control Valve

Our electronic control valve has a relay built-in, which is used to regulate the chemical feed pump based on water flow. This eliminates the need for a flow switch.



Relay connection on valve's PC board

### Solution tank

The solution tank is provided for the Hydrogen Peroxide or Chlorine. Do not dilute the Hydrogen Peroxide. Chlorine is typically diluted based on the water quality report. (Typically, 10 parts water to one part Chlorine.)



Install a hose bib after the contact tank to test the chemical residue for proper disinfection.

Also, install a hose bib after the complete system to take water samples for water quality testing.



**Contact tank for Hydrogen Peroxide. (No bottom drain)**



**Chemical injection fitting. Install directly before the contact tank.**

### Models

Model Number	Softener	Filter
HWTP-150-1354	WC-150	WHF-150-A
HWTP-150-80	WC-150	WHF-150-A

### Optional:

Iron filter		ISF-150-AD
Neutralizer		AN-150-DH

For technical support call: 352-492-9516.



**Automatic Carbon Filter**



**Water softener with brine tank**

# INSTALLATION PROCEDURES

To start the installation process, proceed as follows:

## Receive the merchandise and identify the various components:



*A lot equipment for the money!*

- Chemical feed pump
- Solution tank
- Contact tank
- Chemical - Hydrogen Peroxide - 5 gallon pail (s)
- Water softener
- Brine tank
- Whole house filter
- Weather covers
- Test strip (providing Hydrogen Peroxide was included)

### Optional (if required)

- Iron filter
- Acid neutralizer (always installed first if needed)

## First, complete a comprehensive water test

1. Water hardness
2. Iron
3. Hydrogen Sulfide (smell for "rotten egg" odors or test)
4. pH
5. Bacteria (check for slime in the clean water tank of a toilet or test)

Be sure to check for slime in toilets as a sign bacteria may be present.



**Deluxe Field Test Kit**  
(P/N: DFTK)

## Progress as follows:

1. Install shut-off valve in the main water line before all equipment.
2. Install chemical injection fitting in main water line after the shut off valve, before all equipment.
3. Install the chemical pump, nearby (often the pump is installed on a post – see below)
4. Connect pump to 110v weather protected electrical outlet.
5. Place the solution tank near the chemical pump.
6. Install the contact tank on the main water line after the chemical injection point.
7. Directly after the contact tank, install a hose bib to test the water for chemical residual . (Must monitor to determine if the chemical residual is too high or not sufficient).
8. Install the carbon filter (used to remove the chemical).
9. Build your drain for the filter (drain water must be free flowing)
10. Install the water softener.
11. Build the drain for the softener (drain water must be free flowing)
12. Set-up the brine tank and make tube connections.  
(Be sure 3/8" brine line tubing is pushed into both fittings securely!)
13. Add 6" of potable water to the brine tank (do not add salt at this time).
14. Test for water hardness and program the hardness into the softener valve.
15. Connect filter and softener to a weather protected electrical outlet.
16. Connect the chemical pump to the relay in the softener valve.
17. Program the valve for relay settings (see directions below).
18. Program the chemical feed pump (see directions)
19. Add Hydrogen Peroxide to the solution tank.
20. Make tube connection for chemical feed pump.
21. Bleed pump (see directions below).
22. Install shut-off valve after the system.



**Chemical Injection**  
Install prior to the contact tank.



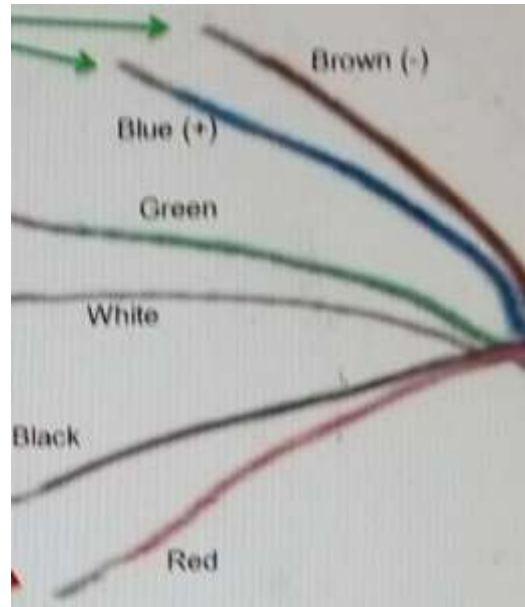
**Chemical pump on post.**  
Typical for outdoor installations.

## HOME WATER TREATMENT PLANT

How to connect the flow actuated chemical pump to the relay in the softener valve.  
(No flow switch needed.)

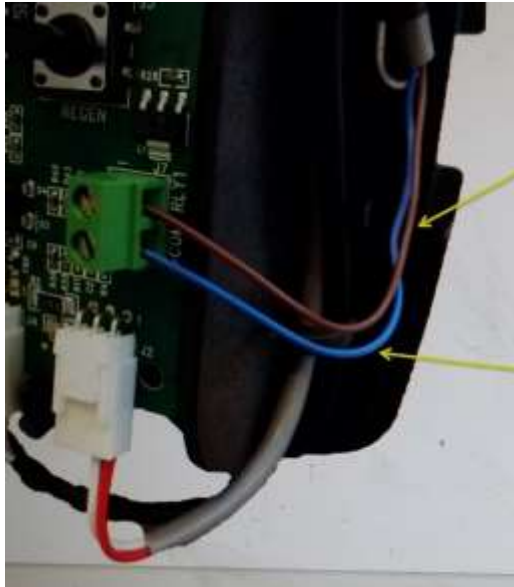
### Pump wiring:

Use only the BROWN and BLUE wires from the chemical pump to connect to the valve. Brown wire is plus (+) and the blue wire is minus (-).



### Wiring to valve

It is necessary to snake the wires through the valve's back plate next to the existing power cord. (See right.)



## PROGRAM THE RELAY SETTINGS IN THE SAFETY ZONE SOFTENER VALVE (NO FLOW SWITCH NEEDED)

1. Press and hold **Next** and **Arrow Down** buttons together for five seconds
2. Press **Next** continuously and cycle through the cycles until you see **Relay**
1. Press **Up** until Relay is Set to **Softening Gal**
2. Press **Next** to get to **Amount of Gallons**
3. Set **Number of Gallons** to **1**
4. Press **Next** to get to **Amount of time**
5. Set **Amount of time** to **10 Sec**
6. Press **Next** and the relay set up will be complete (back at the clock)

## SET UP FOR FLOW ACTUATED CHEMICAL PUMP

1. Hold "Mode" and "%" to unlock screen.
2. Hold "Mode" and press "Up" to get to "Auxiliary".
3. Hold "%" and press "UP" to raise percentage.  
(Percentage changes level of chlorine/hydrogen peroxide injected into the system.)
4. Prime Pump (See Instructions Below)
5. Hold "Mode" and "Standby" to get out of standby state and pump be available to work on Relay
6. Need to Install Chemical Pump's cord to Clack Valve, Brown wire going to Relay1 on and Blue wire going to Com+ . (See above.)

## PRIME THE FLOW ACTUATED CHEMICAL PUMP

1. Remove connection to the injector tee
2. Hold "Mode" and "Prime" to start the prime of the pump (May need to screen unlock see above)
3. Pump will turn on
4. Continue until chemical comes from the connection removed from injector tee
5. Keeping as much chemical in the supply tubing as possible connect back to injector tee

## OTHER INSTRUCTIONS

See individual instructions for WATER SOFTENER and WATER FILTER installation and start-up procedures. These instructions should be followed closely.



HWTP-150-1354 with 13x54 contact tank.



HWTP-150-80 with contact tank with bottom drain, typically used with very high Iron content.

### For technical support:

Call Safety Zone Water at 352-492-9516. Find valve manuals at [www.safetyzonewater.com](http://www.safetyzonewater.com).

