

Installation / Operation Manual

Fully Automatic Water Filter

Signature Series Control Valve

For Model Numbers :

- WF10
- WF15
- WF20
- WF25
- WF30
- WF40

CSI Inc.

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General Specifications	Series					
	WF10	WF15	WF20	WF25	WF30	WF40
Filtration (See "Filter Media" section for application)	Less Filter Media and Gravel					
Filter Media Capacity (cu. ft.)	1.00	1.50	2.00	2.50	3.00	4.00
Underbed "D" Gravel Required (pounds)	20	20	50	50	50	70
Mineral Tank (Polyglass)	9 x 48	10 x 54	13 x 48	13 x 54	14 x 65	16 x 65
Service Flow Rate - Continuous (gpm)	4	5	6	8	9	11
Service Flow Rate - Intermittent (gpm)	6	7	8	10	11	13
Backwash Flow Rate (gpm)	5.0	5.0	7.0	7.0	10.0	15.0
Gallons Used / Backwash	130	130	156	182	260	390
Space Required	9x9x56	10x10x62	13x13x56	13x13x62	14x14x74	16x16x74
Approximate Shipping Weight	27	32	35	40	49	54

Filter Media Selection Guide

Media	Description	Handles
Neutralizer	Granular / White / Sacrificial to water with pH < 7.0 / Max pH correction to 7.2 / Lowest pH application 5.8 / Must be replenished about every 3 - 6 months	Sediment pH Correction
Corosex II™	Semi-round / Off-White / Magnesium Oxide / Extremely reactive to pH dissolving rapidly adding alkalinity / 30% Corosex II - 70% Neutralizer is best blend for correcting low pH / Will raise pH from lows around 5.0 to as high as 9.0+ / Must be replenished frequently / Consult factory with specific application questions	Sediment (downflow) pH Correction
Granular Activated Carbon	Granular / Black / Wide application for removal of organic and some inorganic / Must be replenished on a regular basis / Life expectancy varies based on use	Sediment Taste / Odor / Color Chlorine / Iodine
Birm™	Granular / Gray / Must not be used on waters with a pH < 6.8 / Must have dissolved oxygen present at a level of at least 15% of Iron & Manganese ppm / Max Iron & Manganese level 10 ppm / Estimated life about 8 - 10 years	Sediment Iron (clear & red) Manganese (clear & red)
Filter Ag™	Granular / Off-White / Wide application for removal of sediment / Life expectancy is unlimited	Sediment
Multi-Layered Depth Filter Media	A combination of five (5) distinct medias designed to form layers & filter the entire depth of the filter bed / Comprised of # 8 Garnet Sand, 8 x 12 Garnet Sand, 30 x 40 Garnet Sand, Filter Sand and Anthracite Carbon / Removes sediment down to 10 microns in size / Life expectancy is unlimited	Fine Sediment (down to 10 microns)
"D" Gravel	Semi-round / Brown / # 20 Flint / Used as underbed for all media in all filters providing for excellent flow distribution in both service and backwash modes / Permanent unless fouled, but can be cleaned and reused	Underbed

Installation Requirements

A level floor position ahead of piping into water heater

Unit must be installed at least 10 feet ahead of the inlet to a water heater to prevent damage due to back-up hot water.

DO NOT install the unit in an area of direct sunlight or where freezing temperatures may occur!

Locate the unit near an unswitched, 120 volt / 60 Hz grounded electrical outlet.

Check for distance and proper drain installation (e.g. floor drain, washing machine standpipe).

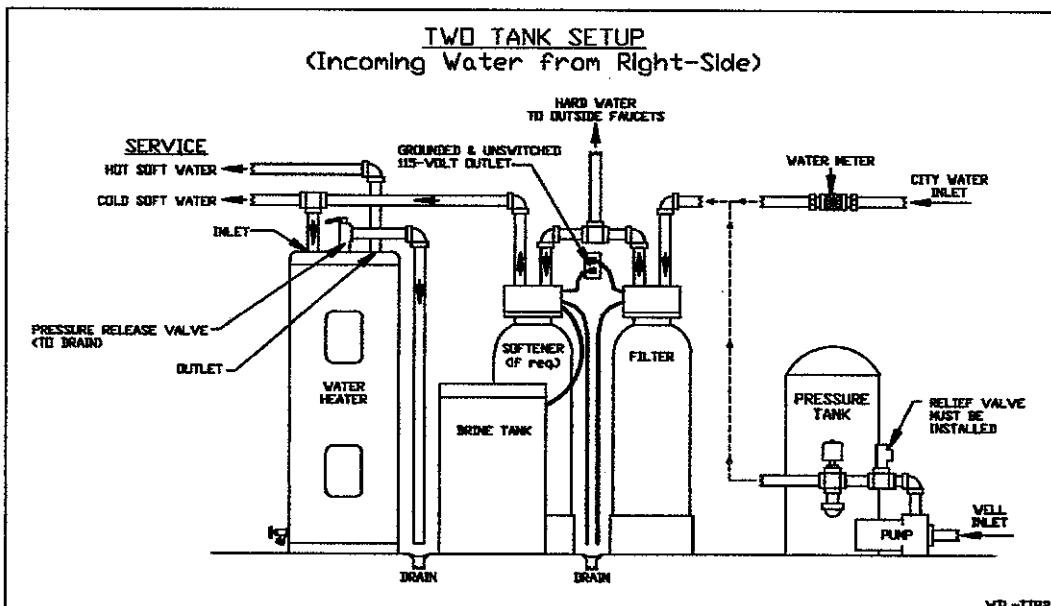
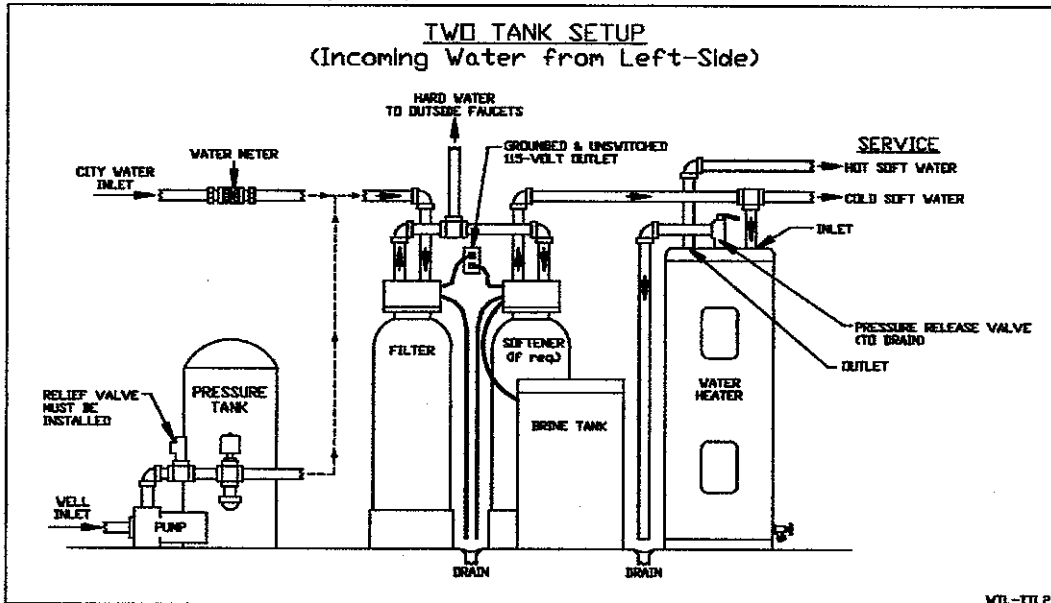
Determine type and size of piping required for filter connection (e.g. copper, galvanized, PVC plastic).

Note : If household plumbing is galvanized and you intend to make the installation with copper (or vice versa), obtain di-electric unions to prevent dissimilar metal corrosion.

Note : Where the drain line is elevated above the control valve or exceeds 20 feet in length to reach the drain, use 3/4" I.D. drain line tubing instead of 1/2" I.D. Drain line tubing is not included.

Caution : If sweat soldering copper pipe (remember to always use lead free solder and flux), cover yoke and bypass valve with wet rags to prevent heat damage to connections and control valve. If using PVC or plastic pipe, primers and solvent cements specifically recommended for use with potable water are required.

Note : All plumbing lines not requiring "soft" water should be connected "upstream" of the softener, if installed. (See Typical Installation Diagrams.)



Installation Procedure

- Water Supply Connection and Bypass Valve -

To allow for filter servicing, swimming pool filling or lawn sprinkling, a manual Bypass Valve has been installed at the factory. The Bypass allows raw water to be manually routed around the filter.

1. Position filter at desired location for installation. If a water softener is to be installed, the filter should be positioned first and then the softener. (See Installation Diagrams.)
2. The filter material is shipped separately from the mineral tank. The tank must be loaded with material after tank has been placed at the desired location.
 - A. Remove the control valve by unscrewing from the tank.
 - B. Remove and inspect distributor tube and bottom basket.
 - C. Replace distributor tube and use a cork or tape to place over top of distributor tube to prevent material from entering tube while filling.
 - D. Place media funnel in hole on top of tank.
 - E. Pour several gallons of water in the tank. (Fill tank about 1/3 full.)
Caution : *Not following this procedure can cause damage to distributor tube or basket when loading material!!*
 - F. First pour in the "D" gravel underbedding and then the filter media.
Note : The required quantity of gravel and media is listed in the filter specifications.
 - G. After filling the tank with material, use a garden hose or several buckets to fill the tank with water.
Note : This will permit the filtering media to become soaked while preparing the installation and will prevent the control valve from being plugged with floating material on initial backwash.
 - H. Remove funnel and clean filter media from tank threads.
 - I. Remove cork or tape from distributor tube.
 - J. Replace control valve on mineral tank.
Caution : *Be extremely careful to position distributor tube into control valve distributor tube pilot hole.*
3. Turn **OFF** main water supply and **OPEN** nearest faucet to relieve pressure.
4. Cut main line and install appropriate elbows and extensions. Inlet and outlet connections on the control valve are 3/4" FNPT. (1" FNPT for WF30 and WF40.)

Note : An optional 1" FNPT yoke is available.

Caution : *Raised arrows located on the sides of control valve body and bypass valve indicate proper direction of water flow. Install inlet and outlet piping in direction of arrows.*

- Drain Line Connection -

1. Pull out clip and remove drain line assembly located on the left side of control valve. Remove drain line hose barb and wrap threads with Teflon tape. Reinstall drain line hose barb. Replace drain line assembly and reinstall clip.

Caution : *Hand tighten only!*

2. Install 1/2" I.D. drain line tubing (not included) from hose barb to an open drain. A 4" gap between end of the drain line and the open drain is required to prevent waste water backflow. Keep the drain line as short as possible. An overhead drain line can be used if necessary, but should discharge below the control valve. A syphon trap (taped loop) at the outlet of the drain line is advisable to keep the drain line full and assure correct flow during backwash. Elbows or other fittings must be kept at a bare minimum.

Note : Where the drain line is elevated above the control valve or exceeds 20 feet in length, 3/4" I.D. drain line tubing should be used.

- Electrical Connection -

1. Connect the power supply to the control valve and plug into a 115 volt / 60 Hz receptacle.

Note : Do not plug into an outlet controlled by a wall switch or pull chain that could inadvertently be turned off.

- Installing Battery Back-Up -

1. Remove the rear cover.
2. Install a 9 volt battery. Refer to page 2, item 3 of the Signature Series Service Manual.
3. Reinstall rear cover.

- Pressurizing The System -

1. Slowly rotate inlet knob of the bypass valve to the **SERVICE** position. Slowly rotate outlet knob to the **SERVICE** position. (Position of bypass knobs are parallel to inlet / outlet piping.)
2. Open the nearest faucet to evacuate air from plumbing lines.
3. Check for leaks!

- Programming The Control Valve -

Refer to page 2 of the Signature Series Service Manual for main menu programming and instruction.

1. Set time of day.
2. Set a.m. or p.m.
3. Set number of days between backwash. (This generally will be every 4 or 6 days.)

Refer to page 7 of the Signature Series Service Manual for master programming and instruction.

1. Set regeneration time if other than 12:00 a.m. is desired.

- Pressurizing The System and Control Valve Operation -

Refer to page 4, item 2 of the Signature Series Service Manual Instructions.

1. Manually index control valve to **BACKWASH** (cycle 1) position and allow water to run to drain for 3 to 4 minutes.

Warning : Close *inlet* valve on bypass prior to selecting the backwash position. After backwash position has been established, *slightly* open inlet valve on bypass to evacuate air from the media tank. Fully open inlet valve when all air is depleted. This procedure will prevent media from being uplifted into control valve.

2. Manually index control valve to **RAPID RINSE** (cycle 3) position and allow water to run to drain for 3 to 4 minutes.
3. Manually index control valve to **SERVICE** (cycle 0) position.

Operation, Care and Cleaning

When the inlet / outlet knobs of the bypass valve are in **SERVICE** position (position of bypass knobs are parallel to the inlet / outlet piping), water is directed through the water filter. Water may be bypassed by turning the inlet / outlet knobs to the **BYPASS** position (position of bypass knobs are at right angles to inlet / outlet piping). Water to the home will bypass the filter and be *untreated*.

You should manually bypass the filter if :

1. The outside lines do not bypass the water filter and water is to be used for lawn sprinkling or other similar uses.
2. Servicing the water filter.
3. A water leak from the water filter is evident.
4. "Shock treating" water well and piping with chlorine or other disinfectant.

- Extra Backwash -

If water demands are unusually heavy, an extra backwash can be initiated manually. Refer to page 4, item 2 of the Signature Service Manual.

- To Skip A Backwash -

1. For vacations or extended periods of absence, the power supply can be pulled from the receptacle.
2. Upon return, plug in the cord and reset the time of day, if 9 volt battery was not installed. If battery was installed, replace battery.

- General Care and Cleaning -

1. Do not place heavy or sharp objects on water filter.
2. Use only mild soap and warm water to clean exterior of the unit. Never use harsh, abrasive cleaners.
3. Protect the water filter and drain line from freezing.
4. Reset time for daylight savings time periods.
5. Replace 9 volt battery once a year.