

Installation / Operation Manual

Fully Automatic Water Filter (2510 Control Valve)

For Model Numbers :

- WF10-25**
- WF15-25**
- WF20-25**
- WF25-25**
- WF30-25**

CSI Inc.

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General Specifications	Series			
	WF10-25	WF15-25	WF25-25	WF30-25
Filtration (See "Filter Media" Section for application)	Less Filter Media			
Filter Media Capacity (cu. ft.)	1.00	1.50	2.50	3.00
Underbed "D" Gravel Required (pounds)	20	20	50	50
Mineral Tank (polyglass)	9 x 48	10 x 54	13 x 54	14 x 65
Service Flow Rate - Continuous (gpm)	4	5	8	9
Service Flow Rate - Intermittent (gpm)	6	7	10	11
Backwash Flow Rate (gpm) "WF" units only	5.0	5.0	7.0	10.0
Gallons Used / Backwash "WF" units only	100	100	140	200
Space Required (D x W x H inches)	9 x 11 x 56	10 x 12 x 62	13 x 13 x 62	14 x 14 x 74
Approximate Shipping Weight (pounds)	27	32	40	49

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
Granular Activated Carbon	Granular / Black / Wide application for removal of organic and some inorganics / 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
REACTR™ Blend	Granular / White-Black / Blend of Neutralizer, Filter Ag & Birm / Max life expectancy about 8 - 10 years, but is dependent upon pH	Sediment Iron (clear & red) Manganese (clear & red) Sulfur Particles
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
"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

Filter media and gravel is shipped in convenient reusable buckets.

Installation Requirements

- A level floor position ahead of piping into water heater.
- Unit must be installed at least 10' 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).

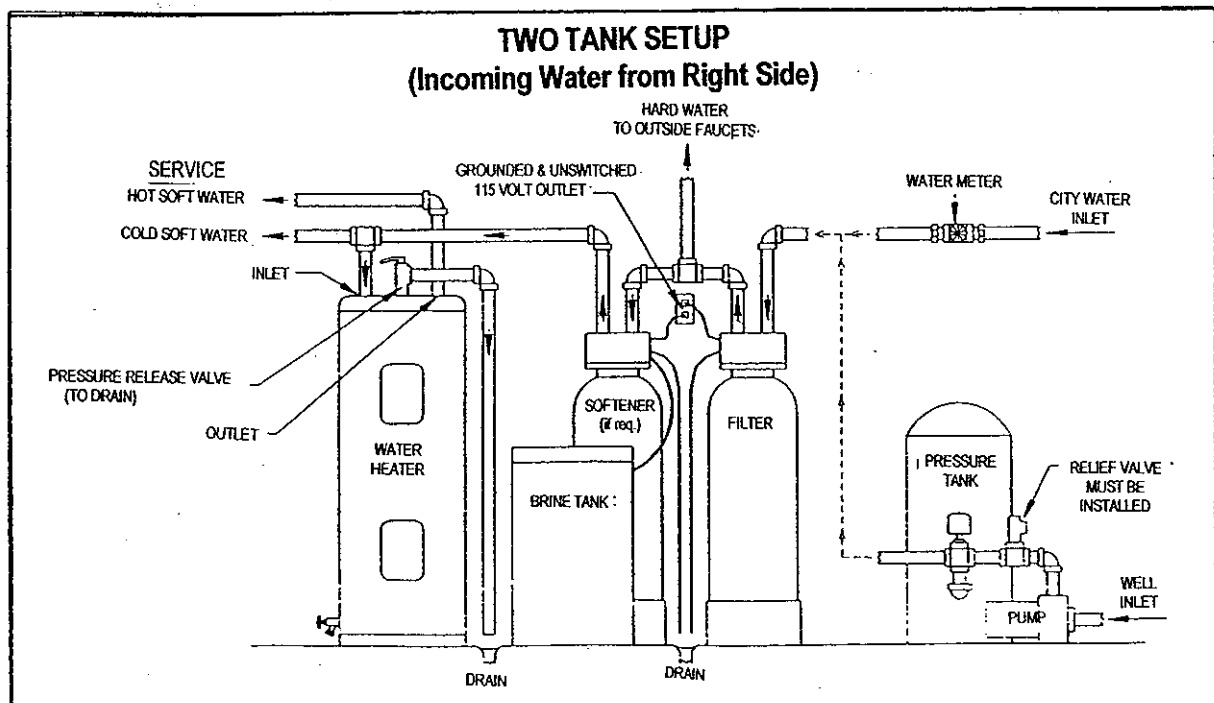
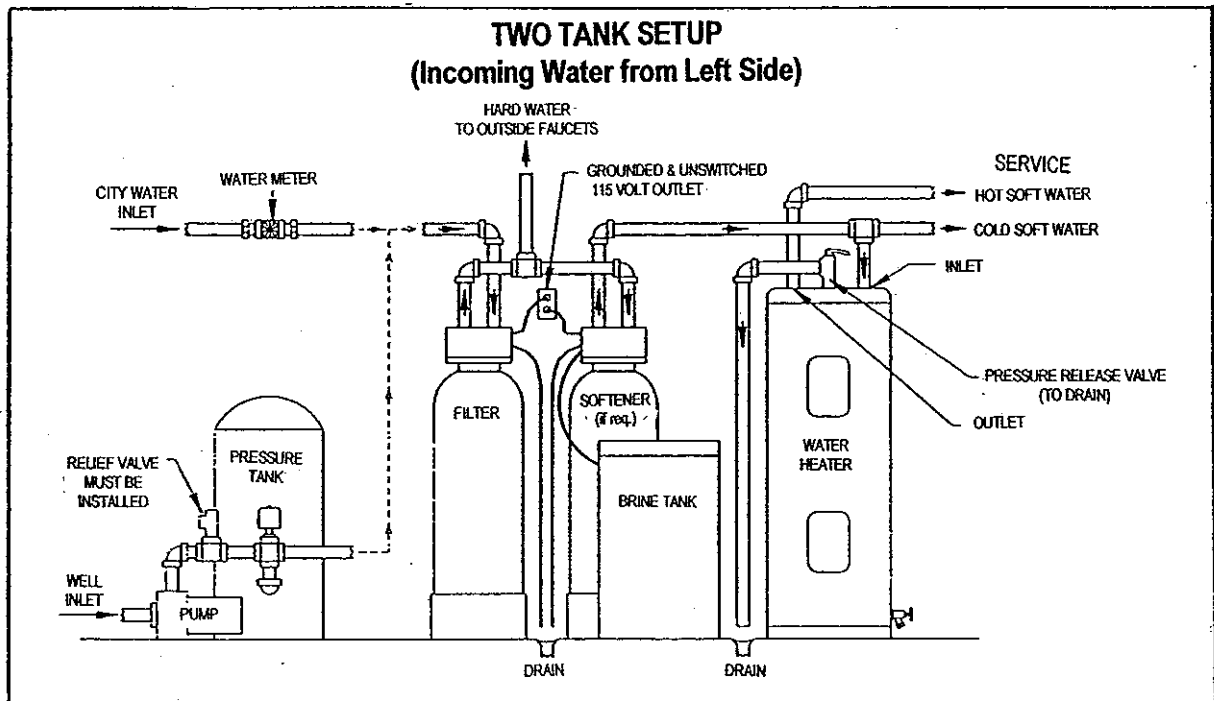
NOTE: If household plumbing is galvanized and you intend to make the installation with copper (or vice versa), obtain di-electric unions to prevent dissimilar metal corrosion.

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 "filtered" water should be connected "upstream" of the filter. (See Typical Installation Diagrams.)

Typical Installation



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 mineral from entering tube while filling.
 - d. Place mineral funnel in hole on top of tank.
 - e. Pour several gallons of water in the tank.

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 material.

NOTE: The required quantity of gravel and material 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 material 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 material 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. Loosen clips on each side of valve body, lubricate o-rings on adapters and firmly press bypass assembly (packed separately) onto valve body. Align clips and tighten. **NOTE :** It is normal to have **play** in the bypass valve after installation.
5. Cut main line and install appropriate elbows and extensions. Inlet and outlet connections on the control valve are 3/4" FNPT.

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 regeneration. 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' in length, 3/4" I.D. drain line tubing should be used.

- Electrical Connection -

1. The control valve **must be in the SERVICE position!** If needed, rotate manual regeneration knob on timer clockwise until white dot aligns with raised time of day arrow. (See Figure 1.)
2. Plug the cord from the control valve into a standard 115 volt / 60 Hz receptacle.

NOTE: Do not plug into an outlet controlled by wall switch or pull chain that could inadvertently be turned off.
3. For your protection, this unit is equipped with a 3-prong plug and should be plugged into a grounded receptacle. If the receptacle is designed only to accept 2-prong plugs, obtain a 3-prong adapter and secure the ground wire to the receptacle plate mounting screw.

WARNING: Do not remove grounding prong! An improperly grounded unit could cause injury from electric shock!

- Pressurizing The System -

1. The control valve **must be in the SERVICE position!** If needed, rotate manual regeneration knob on timer clockwise until white dot aligns with raised time of day. (See Figure 1.)
WARNING: NEVER turn the regeneration knob counter clockwise as this will cause damage to the control valve!
2. 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).
3. Open the nearest faucet to evacuate air from plumbing lines.
4. Check for leaks!

- Control Valve Operation -

Each control valve position can be manually selected by rotating the **manual regeneration knob** clockwise until first microswitch located on rear of timer door is aligned with each cycle position on the program wheel. (See Figure 2.)

NOTE: To expose the program wheel, grasp the upper left corner of the timer face and pull outward.

WARNING: When selecting cycle positions you **must wait** until position of the piston has stopped before advancing the timer further.

CAUTION : Do not rotate regeneration knob **counter-clockwise**, as this will cause damage to the control valve!

1. Manually index manual regeneration knob to **BACKWASH** position and allow water to run to drain for 3 to 4 minutes. (See Figure 2.)
2. Manually index manual regeneration knob to **RAPID RINSE** position and allow water to run to drain for 3 to 4 minutes. (See Figure 2.)
3. Manually index manual regeneration knob to **SERVICE** position. (See Figure 2.)
4. Snap timer door closed.

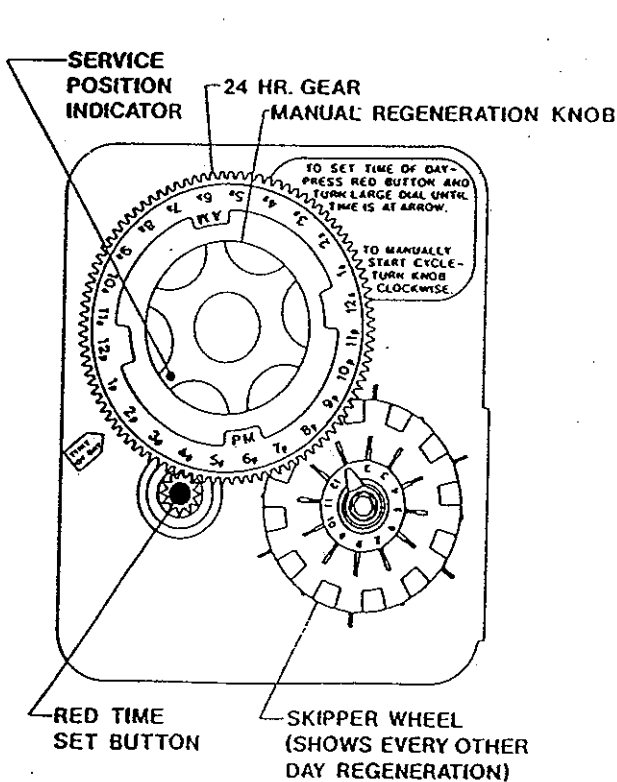


Figure 1

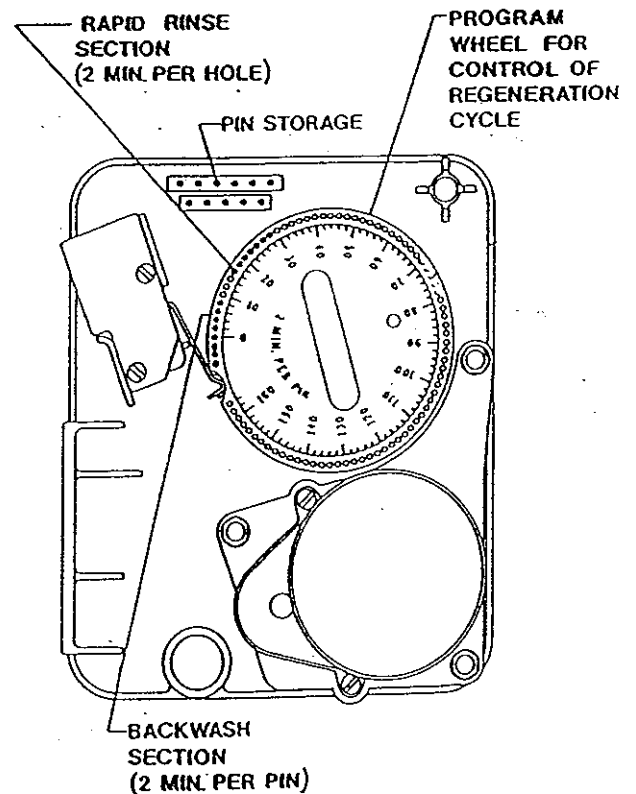


Figure 2

- Set The Backwash Schedule -

Under most circumstances a backwash schedule of every six (6) days should suffice. However, depending on water usage and local water conditions, the backwash cycle may need to be accomplished more frequently.

NOTE: A significant pressure drop in the home before the filter backwashes would be an indication that a more frequent backwash schedule is needed.

1. Locate the skipper wheel just to the right of the manual regeneration knob. (See Figure 1.)
2. Rotate skipper wheel until the red pointer covers the number "1".

NOTE: The red pointer represents "tonight" in the regeneration program. (See Figure 1.)

3. Refer to the regeneration frequency chart (Figure 3) and select the number of days between backwash desired.
4. Slide out the corresponding tab numbers(s) on the skipper wheel.

Figure 3

Regeneration Frequency Days Between Backwash	Slide Out TAB NUMBER											
	1	2	3	4	5	6	7	8	9	10	11	12
1	●	●	●	●	●	●	●	●	●	●	●	●
2		●		●		●		●		●		●
3			●			●			●			●
4				●				●				●
6						●						●
12												●

NOTE: Figure 1 shows the skipper wheel set for every two (2) days.

- Setting The Time Of Day -

1. Depress the red button on lower left side of timer door. (See Figure 1.)
2. Rotate the 24 hour gear on the manual regeneration knob until the time of day is aligned with time of day arrow. (Note a.m. & p.m.)
3. Check that red button has engaged in the 24 hour gear.
4. The starting time for regeneration is factory preset to occur at 1:00 a.m. on each day for which a skipper tab is extended.

NOTE: If a different regeneration time is desired, adjust the time plate per instructions on page of 5 of the 2510 Service Manual.

- Final Check -

1. Be certain the bypass is in the "SERVICE" position.
2. Make sure the electric cord is connected to an uninterrupted 115 volt outlet.
3. Check that the time of day is set.
4. Double check backwash schedule.
5. Make final check for leaks.
6. Fill-out and mail warranty card.
7. Leave this manual with the unit.

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 :

1. Remove the control valve face cover to access control panel.
2. Rotate manual regeneration knob **CLOCKWISE** one (1) click.

CAUTION : Do not rotate regeneration knob **COUNTER-CLOCKWISE** as this will cause damage to the control valve!

3. Backwash will begin immediately and the filter will automatically return to the **SERVICE** position.

NOTE: Water will not start flowing for several minutes.

4. Replace control valve face cover.

- To Skip A Backwash -

1. For vacations or extended periods of absence, the electric cord can be pulled from the receptacle.
2. Upon return, plug in the cord and reset the time of day.

- 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 the time of day on the control valve after any interruption of the electrical power occurs in order to keep the unit on the proper backwash schedule. Also reset time for daylight saving time periods.

How To Set The Regeneration Cycle Program :

The regeneration cycle program on your water conditioner has been factory preset, however, portions of the cycle or program may be lengthened or shortened in time to suit local conditions.

To expose cycle program wheel, grasp timer in upper left-hand corner and pull, releasing snap retainer and swinging timer to the right.

To change the regeneration cycle program, the program wheel must be removed. Grasp program wheel and squeeze protruding lugs towards center, lift program wheel off timer. (Switch arms may require movement to facilitate removal.)

How To Change The Length Of The Backwash Time:

The program wheel as shown in the drawing is in the service position. As you look at the numbered side of the program wheel, the group of pins starting at zero determines the length of time your unit will backwash.

FOR EXAMPLE : If there are six pins in this section, the time of backwash will be 12 min. (2 min. per pin). To change the length of backwash time, add or remove pins as required. The number of pins times two equals the backwash time in minutes. (Note : Do not add pins before "0" minutes designated.)

How To Change The Length Of Rapid Rinse :

The second group of pins on the program wheel determines the length of time that your water conditioner will rapid rinse. (2 min. per pin)

To change the length of rapid rinse, add or remove pins at the higher numbered end of this section as required. The number of pins times two equals the rapid rinse time in minutes.

