CSI
WATER TREATMENT SYSTEMS

Installation / Operation Manual

Fully Automatic Water Filter

with *Signature Series* Control Valve

CSI Water Treatment
Ashland, Ohio

General Specifications	Series					
	WF10	WF15	WF20	WF25	WF30	WF40
Filtration (See “Filter Media” section for application)	Less Filter Media					
Filter Media Capacity (cu. ft.)	1.00	1.50	2.00	2.50	3.00	4.00
Mineral Tank (Polyglass)	9 x 48	10 x 54	12 x 52	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	6.0	7.0	10.0	15.0
Gallons Used / Backwash	100	100	120	140	200	300
Space Required	9x9x56	10x10x62	12x12x60	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 ™	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
Neu-Cor™	70% neutralizer / 30% Corosex™ mix / Sacrificial to water with any pH / Max pH correction determined by contact time used for correction of extremely low pH down to 5.0 / Must be replenished every 3 - 6 months	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
Filter Ag Plus	Light tan to near white in color / Mesh size 14 x 40 / 55 lb/ft^3 / The Filter Ag Plus filter beds operate at less than half the hydraulic loading rate vs. 20 x 40 mesh sand and 50% of sand / anthracite or multi-media	Enhanced Particle Removal (down to 5 microns)

WARNING

Lubricants

Do NOT use Vaseline, oils, hydrocarbon lubricants or spray silicone anywhere! Petroleum base lubricants will cause swelling of o-rings and seals. The use of other lubricants may attack plastic Noryl®. It is recommended that Dow Corning® silicone grease be used as a lubricant for all control valves. Dow Corning® 7 Release Compound is used in the manufacture of Chandler Systems control valves. (Part # LT-150)

Sealants

Pipe dope and liquid thread sealers may contain a carrier that attacks some plastic materials. It is recommended that Teflon® tape be used to seal plastic Noryl® threaded fittings.

Installation Requirements

A level floor position ahead of piping into water heater

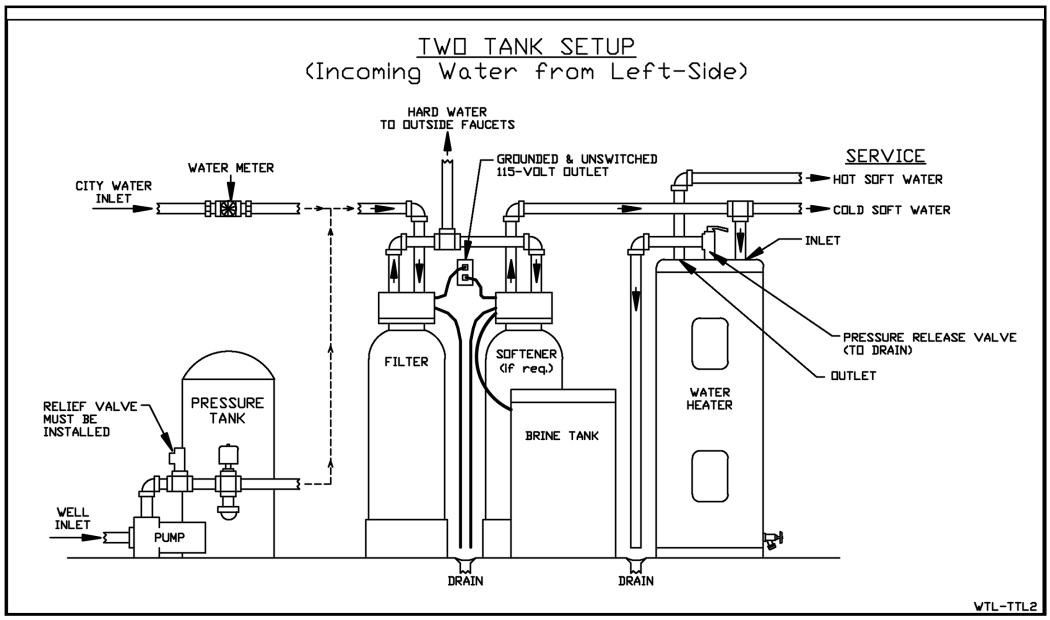
Unit must be installed at least 10 feet ahead of the inlet to a water heater to prevent damage due to back-up hot water.

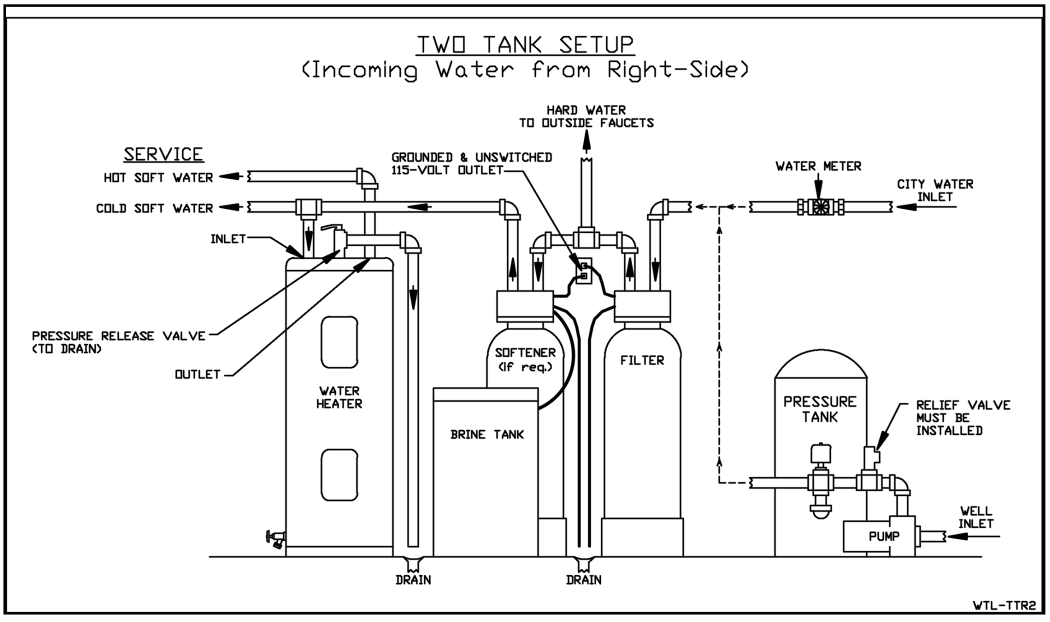
DO NOT install the unit in an area of direct sunlight or where freezing temperatures may occur!

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. (Do not fill through dome hole, if installed.)
   B. Use a cork or tape to place over top of distributor tube to prevent material from entering tube while filling.
   C. Place media funnel (part # U-1006) in hole on top of tank.
   D. Pour several gallons of water in the tank. (Fill tank about 1/3 full.)
   E. Pour in the required filter media. **No gravel is required.** The required quantity of media is listed in the filter specifications.

      Note: If rebedding an existing unit and the system utilizes a standard tube & basket style distributor, a "D" gravel underbedding will be required.

   F. 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.

   G. Remove funnel and clean filter media from tank threads.
   H. Remove cork or tape from distributor tube.
   I. Replace control valve on mineral tank. Do not use Teflon tape or paste on valve threads, as the valve to tank o-ring seals this joint.

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. ***Caution:*** *Hand tighten* ***only****!* Replace drain line assembly and reinstall clip.
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 3, item 3 of the Signature Series Service Manual.
3. Reinstall rear cover.

- Pressurizing The System -

1. Make certain Signature Series Control Valve is in **SERVICE** position.
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! If water is observed leaking from bottom of bypass knobs, close and open bypass knobs several times to seat o-rings.
5. After air is evacuated from plumbing lines, close inlet knob (position of bypass knob is perpendicular to direction of inlet pipe) on bypass valve.

- 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 to 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. Advance **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 form being uplifted into control valve.*

2. Advance **control valve** to **RAPID RINSE** (cycle 3) position and allow water to run to drain for 3 to 4 minutes.
3. Advance **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. It is recommended that the 9 volt battery be removed.
2. Upon return, plug in the cord and reset the time of day. Replace 9 volt 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.

CHANDLER SYSTEMS

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"LIMITED" WARRANTY
Water Treatment Equipment

During the time periods and subject to the conditions hereinafter set forth, CSI Water Treatment, will repair or replace to the original user or consumer, any portion of your new CSI Water Treatment product which proves defective due to defective materials or workmanship of CSI Water Treatment. Contact your nearest authorized CSI Water Treatment dealer for warranty service. At all times CSI Water Treatment shall have and possess the sole right and option to determine whether to repair or replace defective equipment, parts, or components. Damage due to conditions beyond the control of CSI Water Treatment is **NOT COVERED BY THIS WARRANTY**. (Contact parcel or Freight Company for claims on freight damage in transit.)

WARRANTY PERIODS:

ITEM	*10 YRS	*7 YRS	*5 YRS	*1 YRS
Residential Mineral Tanks	●			
Commercial Mineral Tanks			●	
Proprietary Control Valves		●		
Other Softener/Filter Control Valves			●	
Brine Tank (30" or smaller)			●	
Brine Tank (39" or larger)				●

ITEM	*5 YRS	*1 YRS
Brine Tank Components		●
Microcline™ Reverse Osmosis Systems	●	
Other Residential RO Systems		●
Other Accessories & Parts		●
Commercial Reverse Osmosis – 1 year from ship date		
- Pumps & membranes are pro-rated per month		

*** From Date of Installation**

LABOR, ETC., COSTS : CSI Water Treatment shall **IN NO EVENT** be responsible or liable for the cost of field labor or other charges incurred by any customer removing and/or reaffixing any CSI Water Treatment product, part or component thereof.

THIS WARRANTY WILL NOT APPLY : (a) To defects or malfunctions resulting from failure to properly install, operate or maintain the unit in accordance with printed instructions provided; (b) to failures as a direct result of the incoming water quality, (c) to failures resulting from abuse, accident or negligence; (d) to normal maintenance services and parts used in connection with such service; (e) to units which are not installed in accordance with applicable local codes, ordinances and good trade practices; (f) if the unit is moved from its original installation location; (g) unit is used for purposes other than for what it was designed and manufactured, and (h) filter media and exchange resins.

RETURN OF REPLACED COMPONENTS: Any item to be replaced or repaired under this Warranty must be returned to CSI Water Treatment in Ashland, Ohio, or such other place as CSI Water Treatment may designate, freight prepaid.

PRODUCT IMPROVEMENTS: CSI Water Treatment reserves the right to change or improve its products or any portions thereof without being obliged to provide such change or improvement of units sold and/or shipped prior to such change or improvement.

WARRANTY EXCLUSIONS : As to any specific CSI Water Treatment product, after the expiration of the time period of the warranty applicable thereto as set forth under the heading "Warranty Periods" above, **THERE WILL BE NO WARRANTIES, INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE.**

Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you. No warranties or representations at any time made by any representative of CSI Water Treatment shall vary or expand the provisions hereof.

LIABILITY LIMITATION: IN NO EVENT SHALL CSI WATER TREATMENT BE LIABLE OR RESPONSIBLE FOR CONSEQUENTIAL, INCIDENTAL OR SPECIAL DAMAGES RESULTING FROM OR RELATED IN ANY MANNER TO ANY CSI WATER TREATMENT PRODUCT OR PARTS THEREOF.

Some states do not allow the exclusion of limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

The Warranty gives you specific legal rights and you may also have other rights which vary from state to state.

In the absence of suitable proof of installation date, the effective date of this warranty will be based upon the date of manufacture plus thirty (30) days.

Direct all notices, etc. To : Service Department, CSI Water Treatment, 710 Orange Street, Ashland, Ohio 44805 Date : October, 2011