



Water Tec of Tucson Water Systems



Water Filter Owner's Manual

• Water Tec of Tucson • www.water-tec.com •
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MAIN COMPONENTS

Your water treatment system is a point of entry (POE) system composed of two components:

- A. The control valve assembly
- B. The fiberglass tank assembly including the water treatment media.

Each of these assemblies has a specific function as described below:

Control Valve Assembly...Automatically monitors water usage patterns, initiates regeneration and moves the valve through the steps of regeneration.

Media Tank Assembly... A fiberglass vessel, which contains the water filtration media, and the distributor assembly.

STEPS OF OPERATION

Backwash 1 ...During the cycle the water flows upward through the media bed and washes collected sediment or other foreign material to the drain.

Fast Rinse...Water flows downward through the media and to the drain carrying with it the remaining traces of sediment or other foreign material to the drain.

Total Regeneration Time (Backwash 1 through Fast Rinse) can be anywhere between 10 to 22 minutes depending on the setting made for certain water conditions.

NORMAL OPERATING DISPLAYS

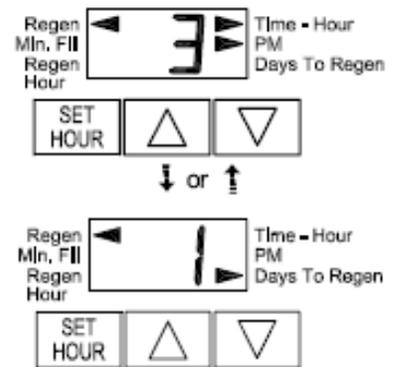
GENERAL OPERATION

When the system is operating one of two displays will be shown. Pressing “UP / DOWN” arrows will alternate between displays.

One of the displays is the current time of day, the second display is days remaining. The days remaining shows the number of days left before the system goes through a regeneration cycle.

The user can scroll between the displays using the “UP / DOWN” arrows.

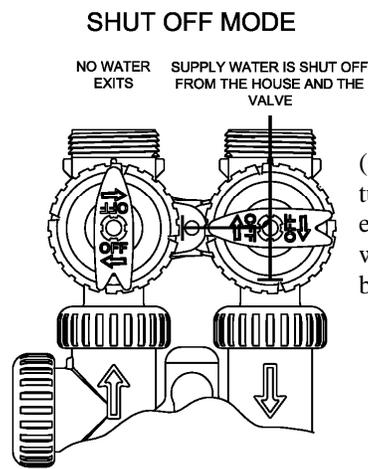
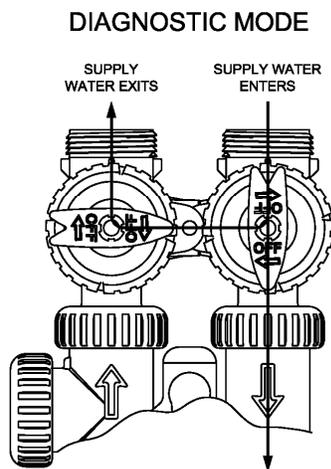
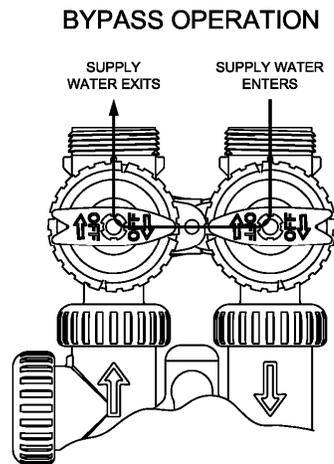
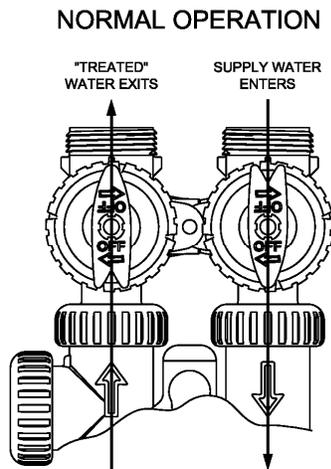
If the system has called for a regeneration cycle that day, regeneration will occur at the preset time for regeneration, an arrow on the display will appear pointing to “Regen”.



GENERAL CARE AND MAINTENANCE INFORMATION

The following guidelines are recommended for you to obtain maximum efficiency from your water treatment system:

1. **Control Valve...** Try to keep free of dirt and debris both on valve body and under cover. No lubrication is required.
2. **Vacations...** Your water filter system regenerates after a preset volume of water is used or after fourteen days have passed. Unless you are going on an extended trip, it's best to allow the regeneration to take place after fourteen days. If water will not be used for an extended period of time or if there is a concern about having the system regenerate in your absence, then place the handles of the bypass valve in the "BYPASS OPERATION" mode as shown below. Also use this mode **When Untreated Water is Desired**. It is not necessary to unplug water conditioner when water is turned off or on bypass.

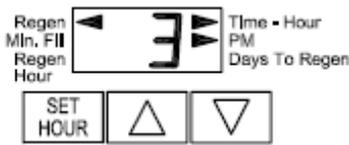


(Can be used as water turn off during extended periods when the home is not being occupied.)

3. **Protection from Weather...**Water inside your control valve, resin tank, or brine tank must not freeze. Like any other part of your plumbing system, these pipes, tubes or valves can burst and leak if allowed to freeze. Electronics should be protected from any sunlight with the optional cover, which should be provided, if necessary, by the installer.
4. **Power Failure...**If there is power failure or if the system is unplugged for less than two hours, all settings including the time of day will be retained in the system memory. If there is a power outage or the wall transformer is disrupted for greater than two hours, the time of day will flash and requires resetting. The nonvolatile EEPROM memory will retain all other factory, dealer and installer settings.

5. **Set Time of Day...**

TIME OF DAY



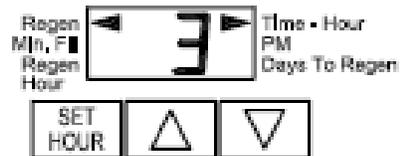
Time of day should only need to be set after extended power outages or when daylight saving times begins or ends. If an extended power outage occurs, the time of day will flash on and off indicating that the time should be reset.

STEP 1- Press SET HOUR

STEP 2- Current Time (hour): Set the hour of day using ∇ or Δ buttons. AM/PM toggles after 12. Press SET HOUR to exit.

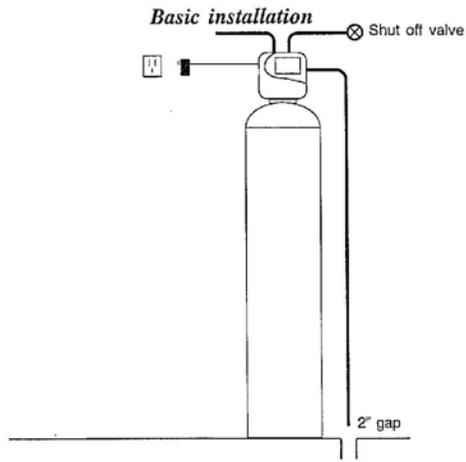
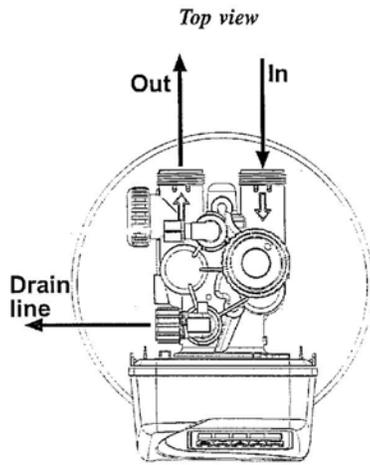
6. **Manual Regeneration...**Sometimes there is a need for regeneration before the control valve calls for it. This is usually referred to as “manual regeneration”. This is needed when a period of heavy water usage is anticipated.

- To initiate a manual regeneration at the present delayed regeneration time (usually around 2:00 a.m.), press and release “UP / DOWN” arrow buttons simultaneously.
- . Arrow will point to “REGEN” if a regeneration is expected “Tonight”
 - To initiate a manual regeneration immediately, press and hold the “UP / DOWN” arrow buttons simultaneously for 3 seconds. This command cannot be canceled.



7. **Error Display...**If the display show “E1,E2 or E3” this is an indication that the control valve is not able to function properly. Contact your dealer for service.

8. **Drain Line...**Any crimping, freezing, or blocking of this line will cause a malfunction of your water treatment system. Check occasionally.



GENERAL INSTALLATION & SERVICE CAUTIONS



The control valve, fittings, and/or bypass are designed to accommodate minor plumbing misalignments. They are not designed to support the weight of a system or the plumbing.



Do not use Vaseline, oils, other hydrocarbon lubricants, or silicone spray anywhere. **Do not use silicone on red or clear lip seals.**



Do not use pipe dope or other sealant on compression threads. Teflon tape must be used on the threads for the drain line connection. Teflon tape is not used on the nut connections or caps because o-ring seals are used. The nuts and caps are designed to be unscrewed or tightened by hand or with the special plastic Service Wrench, CVC-V3193. If necessary, pliers can be used to unscrew the nut or cap. **Do not use a pipe wrench** to tighten nuts or caps. **Do not place screwdriver in slots, on caps, and/or tap with a hammer.**

SITE REQUIREMENTS

- Water Pressure, 20-125 psi
- Water Temperature, 40°-110° F
- The tank should be on a firm level surface
- Electrical: Use a 115/120V, 60Hz uninterrupted outlet.

- Current draw is 0.25 amperes
- A 15 ft. power cord is furnished
- The plug-in transformer is for dry locations only.
- Batteries are not used.

**Check with your dealer for our Green solar option.

1. The distance between the drain and the water conditioner should be as short as possible.
2. Do not install any water conditioner with less than 10 feet of piping between its outlet and the inlet of a water heater.
3. Do not locate unit where it or its connections (including the drain and overflow lines) will be subjected to temperatures at or below 34°F.
4. Do not install equipment in locations that would receive rain run-off from roof.

5. **INLET/OUTLET PLUMBING:** Connect to a supply line downstream of outdoor spigots. Install an inlet shutoff valve and plumb to the units bypass valve inlet located at the right rear as you face the unit. When assembling the installation-fitting package (inlet and outlet), connect the fitting to the plumbing system first and then attach the nut, split ring and o-ring. Heat from soldering or solvent cements will damage the nut, split ring and o-ring. Solder joints should be cool and solvent cements should be set before installing the nut, split ring and o-ring. Avoid getting solder flux, primer, and solvent cement on any part of the o-rings, split rings, bypass valve, or control valve. If the building's electrical system is grounded to the plumbing, install a copper-grounding strap from the inlet to the outlet pipe. **Plumbing must be done in accordance with all applicable local codes.**
6. **DRAIN LINE:** First, be sure that the drain can handle the backwash flow of the system. Solder joints near the drain must be located prior to connecting the drain line flow control fitting. Leave at least 6" between the drain line flow control fitting and solder joints. Failure to do so could cause interior damage to the flow control. Install a 3/8"-1/2" I.D. flexible plastic tube to the Drain Line Assembly or discard the tubing nut and use the 3/4" NPT fitting for rigid pipe. If the backwash rate is greater than 7 gpm, use a 3/4" drain line. Run drain tube to its discharge point in accordance with plumbing codes. Pay special attention to codes for air gaps and antisiphon devices.

IMPORTANT:



Never insert a drain line directly into a drain, sewer line, or trap. Always allow an air gap between the drain line and the wastewater to prevent the possibility of sewage being back-siphoned into the water conditioner.

11. **SERIAL NUMBER:** Model and serial numbers are located on the control valve face. Record the serial number for your records. Mail manufacturer's warranty registration cards, or register on-line at www.water-tec.com/reg. This step is not necessary if installed by a Water Tec factory service center.

STARTUP

- 1) Start a manual regeneration. Press and hold the "REGEN" button.
- 2) Slowly open the inlet of the bypass. (air will in the lines and tank will exhaust from the drain line)
- 3) Allow unit to complete its regeneration, fines from the media will be rinsed out, check drain water to assure it is clear prior to opening the outlet of the filter, regenerate filter again if needed.

WHAT TO DO BEFORE CALLING FOR A REPAIR

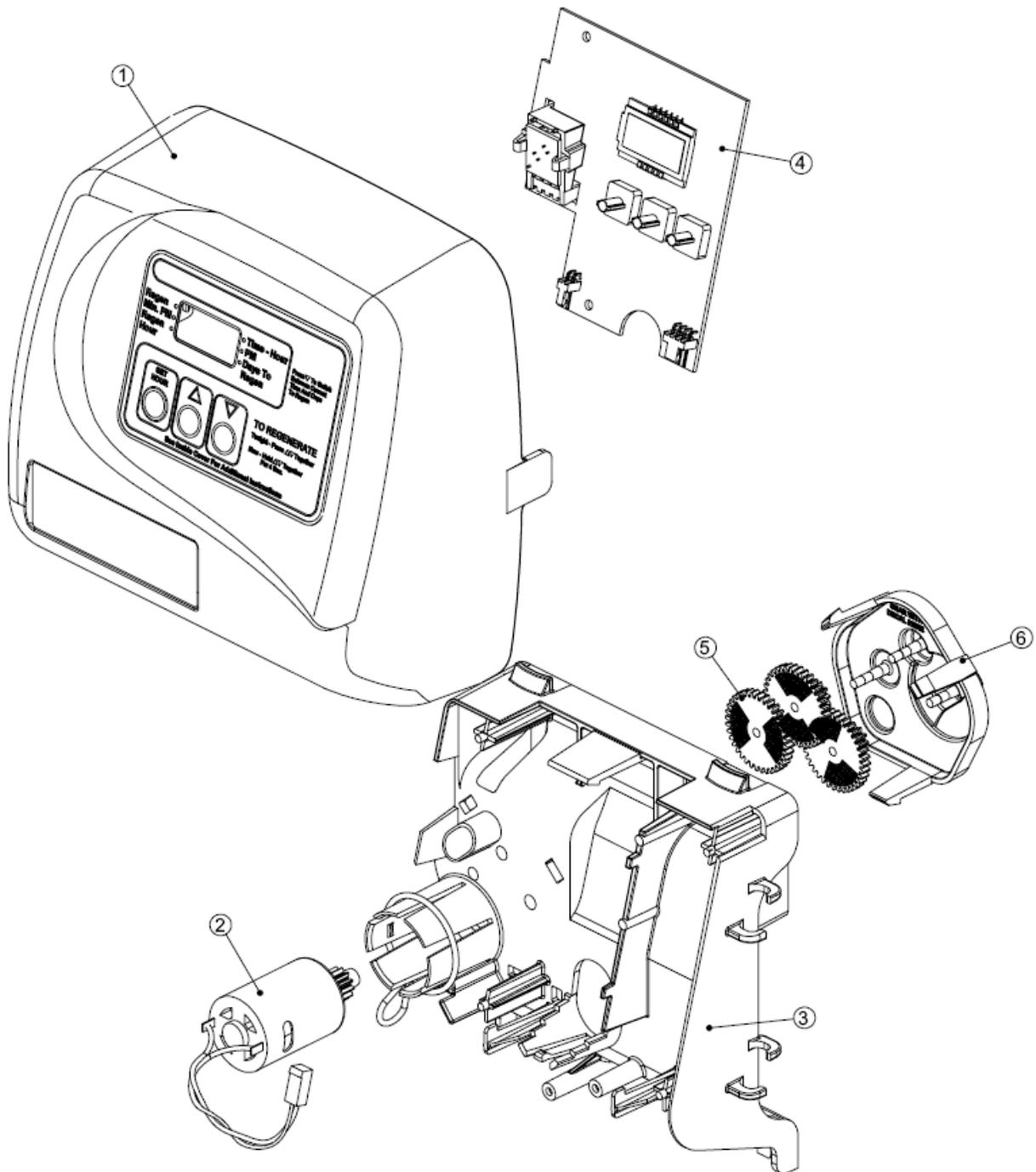
If you suspect that your water treatment system is not working properly, the following routine check should be made before calling for repair. This may save you time and possibly the cost of a service call.

1. **Electrical Connection...**Be sure that the plug-in wall transformer is securely plugged into a wall receptacle which is NOT controlled by a switch which may be turned off at times. If the display screen is blank, power is currently off. The system's computer retains information in memory for two hours during an outage and then redisplay the information when power is restored. Thus, you may not know the power was off during that short period. If time of day is flashing, power was out for more than two hours. Reset time. Check fuses, circuit breakers, plug-in transformer, etc. Since you may not know how long the power was out, start a manual regeneration at this time to restore capacity to the system and manually cycle once a day for 3 consecutive days.
2. **Bypass Valve...**See bypass valve diagrams under "**Vacation**" to be sure that the system is not being bypassed with untreated water. The valve handles should be in the **NORMAL OPERATION** position.
3. **Unit is in Regeneration...**If water is running to the drain the unit may be regenerating, in which case it will deliver untreated water to the building. If regeneration is underway, water flow should cease within 1 hour and treated water will be available. The above condition indicates that the time of day is set incorrectly. Reset time of day. If time of day is correct, then the time of regeneration may be set incorrectly. Call dealer to reset this setting. If water does not stop flowing to the drain within 2 hours, then there is an internal leak and a service technician must be called.
6. **Exhausted Capacity...**If none of the above system checks identify the problem, start a manual regeneration. Call for service if the manual regeneration does not produce or maintain treated water.

Front Cover and Drive Assembly

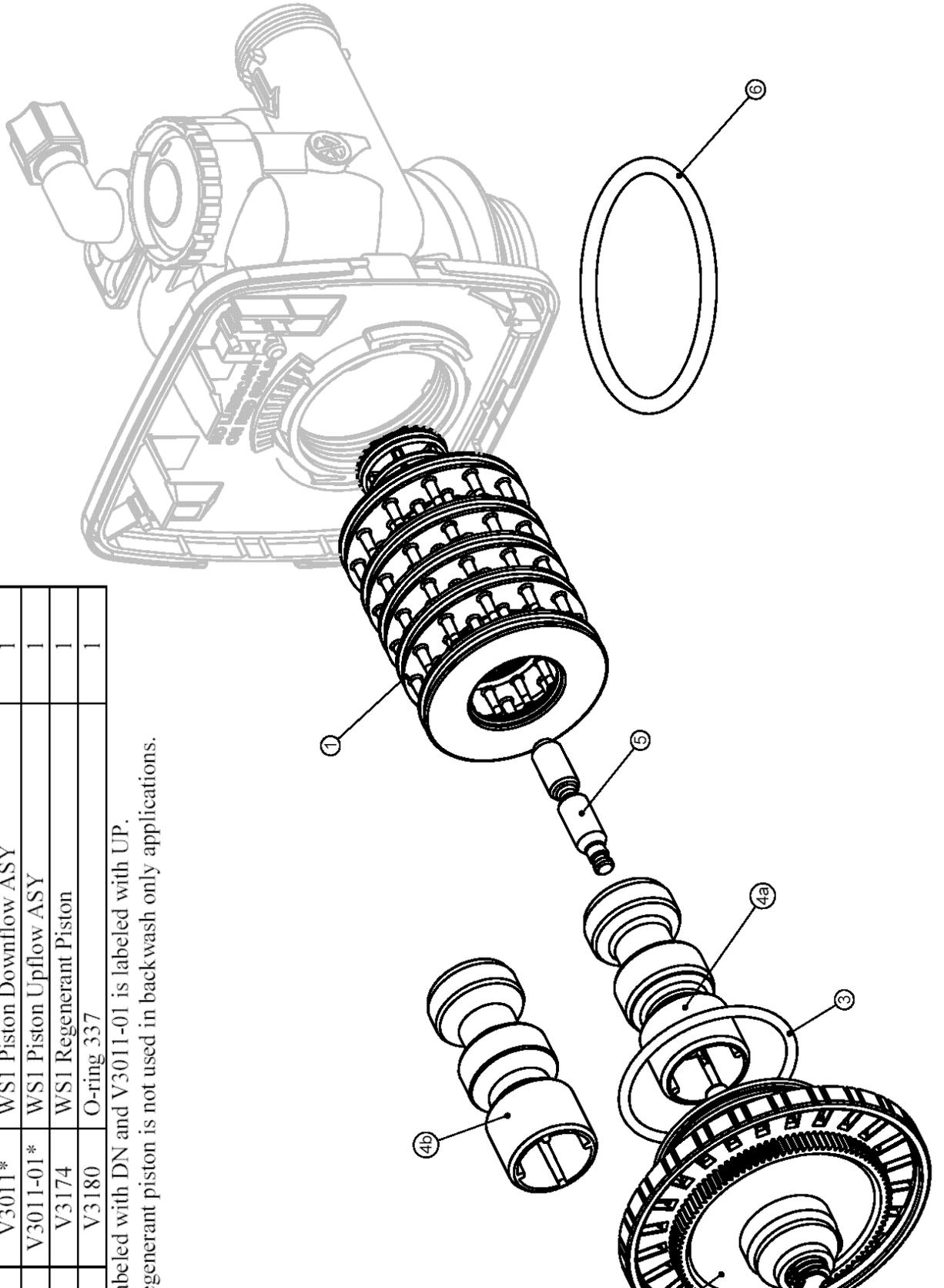
Drawing No.	Order No.	Description	Quantity
1	V3175TC-01	WS1TC Front Cover ASY	1
2	V3107-01	WS1 Motor	1
3	V3106-01	WS1 Drive Bracket&Spring Clip	1
4	V3108TC	WS1TC PC Board	1
5	V3110	WS1 Drive Gear 12x36	3
6	V3109	WS1 Drive Gear Cover	1
	V3002TC	WS1TC Drive ASY	*
Not Shown	V3186	WS1 Transformer 110V-12V	1

* Drawing number parts 2 through 6 may be purchased as a complete assembly, part V3002TC.

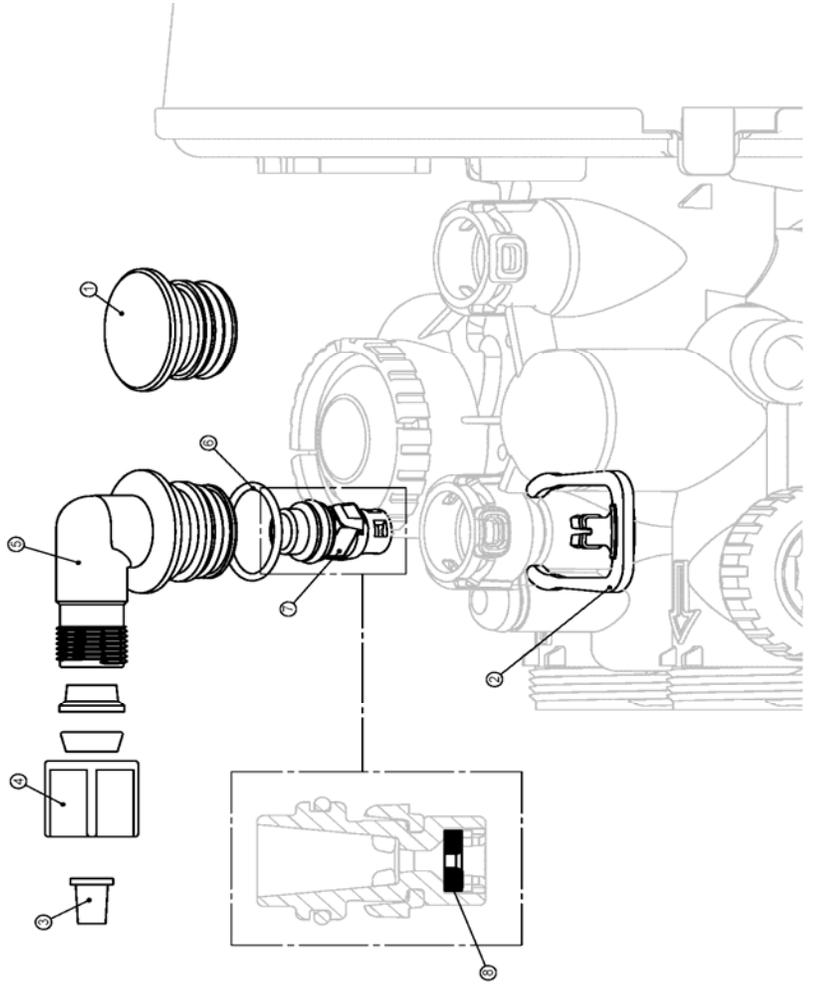


Order No.	Description	Quantity
V3005	WS1 Spacer Stack Assembly	1
V3004	Drive Cap ASY	1
V3135	O-ring 228	1
V3011*	WS1 Piston Downflow ASY	1
V3011-01*	WS1 Piston Upflow ASY	1
V3174	WS1 Regenerant Piston	1
V3180	O-ring 337	1

*labeled with DN and V3011-01 is labeled with UP.
 Regenerant piston is not used in backwash only applications.

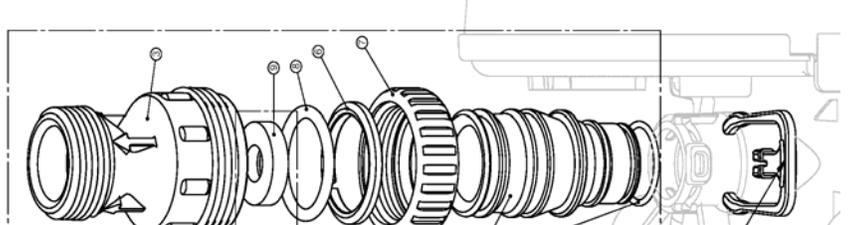


Description	Quantity
Refill Port Plug ASY	This part is required for backwash only systems
w/ Locking Clip	1
tube insert 3/8	1
8/8	1
w/ Cap 3/8	1
g 019	1
RFC Retainer ASY	1
RFC	1
w/ 1/2" w/ nut and insert	Option



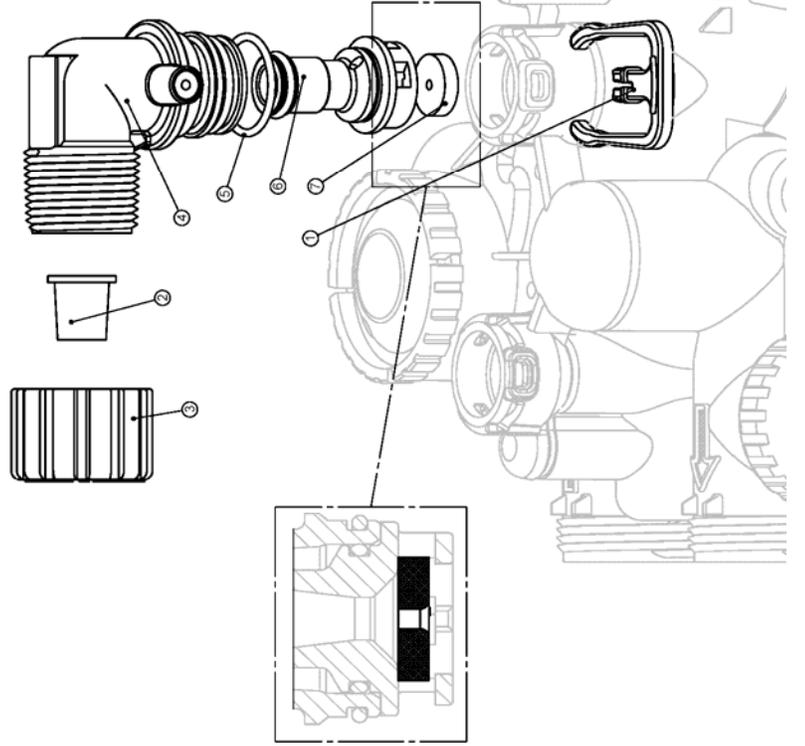
Drawing No.	Order No.	Description	Quantity
1	H4615	Elbow Locking Clip	1
2	PKP10TSS8-BULK	Polytube insert 5/8"	Option
3	V3192	WS1 Nut 3/4" Drain Elbow	Option
4	V3158-01	WS1 Drain Elbow 3/4" Male ASY	1
5	V3163	0-ring 019	1
6	V3159-01	WS1 DLFC Retainer ASY	1
	V3162-007	WS1 DLFC 0.7 gpm for 3/4"	One DLFC must be used if 3/4" fitting is used
	V3162-010	WS1 DLFC 1.0 gpm for 3/4"	
	V3162-013	WS1 DLFC 1.3 gpm for 3/4"	
	V3162-017	WS1 DLFC 1.7 gpm for 3/4"	
	V3162-022	WS1 DLFC 2.2 gpm for 3/4"	
	V3162-027	WS1 DLFC 2.7 gpm for 3/4"	
	V3162-032	WS1 DLFC 3.2 gpm for 3/4"	
	V3162-042	WS1 DLFC 4.2 gpm for 3/4"	
	V3162-053	WS1 DLFC 5.3 gpm for 3/4"	
	V3162-065	WS1 DLFC 6.5 gpm for 3/4"	
	V3162-075	WS1 DLFC 7.5 gpm for 3/4"	
	V3162-090	WS1 DLFC 9.0 gpm for 3/4"	
	V3162-100	WS1 DLFC 10.0 gpm for 3/4"	

install DLFC before using. Valves are shipped without 3/4" polytube insert (polytube installation only).



Drawing No.	Order No.	Description	Quantity
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	V3162-013	WS1 DLFC 1.3 gpm for 3/4"	
	V3162-017	WS1 DLFC 1.7 gpm for 3/4"	
	V3162-022	WS1 DLFC 2.2 gpm for 3/4"	
	V3162-027	WS1 DLFC 2.7 gpm for 3/4"	
	V3162-032	WS1 DLFC 3.2 gpm for 3/4"	
	V3162-042	WS1 DLFC 4.2 gpm for 3/4"	
	V3162-053	WS1 DLFC 5.3 gpm for 3/4"	
	V3162-065	WS1 DLFC 6.5 gpm for 3/4"	
	V3162-075	WS1 DLFC 7.5 gpm for 3/4"	
	V3162-090	WS1 DLFC 9.0 gpm for 3/4"	
	V3162-100	WS1 DLFC 10.0 gpm for 3/4"	

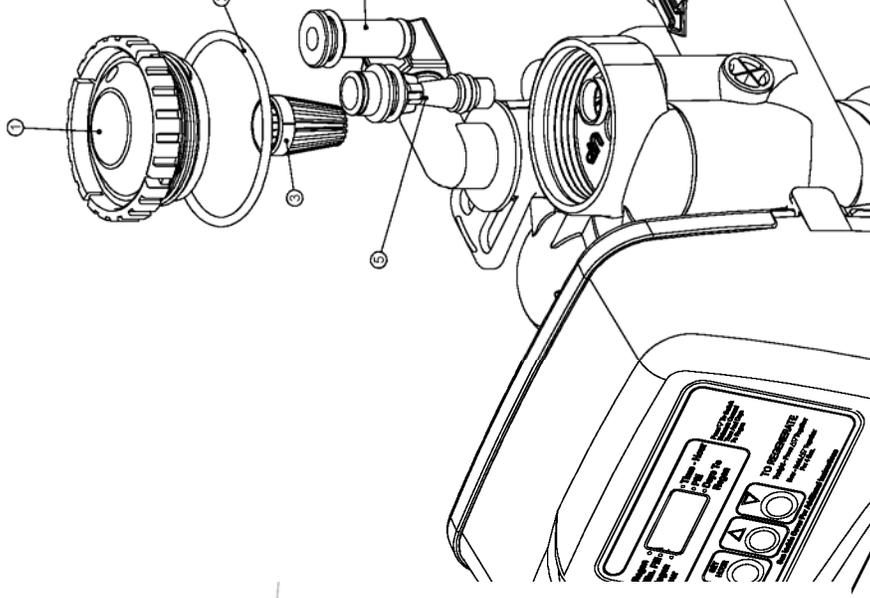
Valves are shipped without drain line flow control (DLFC) – install DLFC before using. Valves are shipped without 3/4" nut for drain elbow (polytube installation only) and 5/8" polytube insert (polytube installation only).

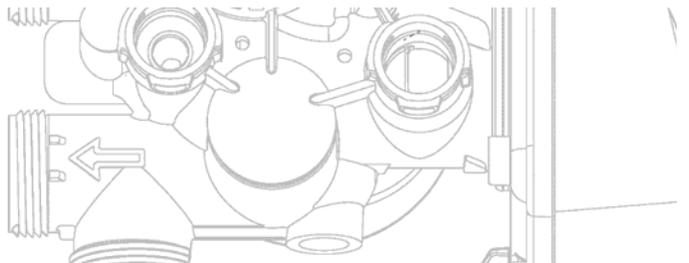


Drawing No.	Order No.	Description	Quantity
	V3176	Injector Cap	1
	V3152	O-ring 135	1
	V3177	Injector Screen	1
	V3010-1Z	WS1 Injector ASY Z Plug	1
	V3010-1A	WS1 INJECTOR ASY A BLACK	
	V3010-1B	WS1 INJECTOR ASY B BROWN	
	V3010-1C	WS1 INJECTOR ASY C VIOLET	
	V3010-1D	WS1 INJECTOR ASY D RED	
	V3010-1E	WS1 INJECTOR ASY E WHITE	
	V3010-1F	WS1 INJECTOR ASY F BLUE	
	V3010-1G	WS1 INJECTOR ASY G YELLOW	
	V3010-1H	WS1 INJECTOR ASY H GREEN	
	V3010-1I	WS1 INJECTOR ASY I ORANGE	
	V3010-1J	WS1 INJECTOR ASY J LIGHT BLUE	1
	V3010-1K	WS1 INJECTOR ASY K LIGHT GREEN	
town	V3170	O-ring 011	*
town	V3171	O-ring 013	*

injector plug and the injector each contain one 011 (lower) and 013 (upper) o-ring.

or downflow, injector is located in the down hole and injector plug in the up hole. O-rings are located in the down hole and injector plug in the up hole. O-rings are located in the down hole and injector plug in the up hole. O-rings are located in the down hole and injector plug in the up hole.





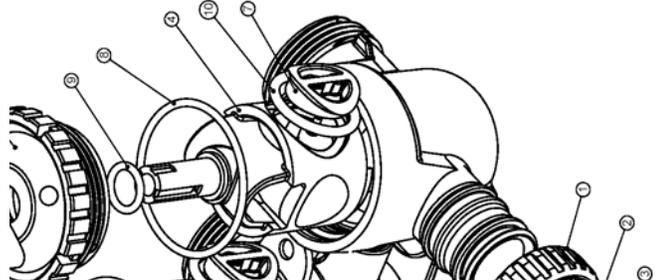
Drawing No.	Order No.	Description	Quantity
1	V3151	WS1 Nut 1" QC	1
2	V3003*	WS1 Meter ASY	1
3	V3118-01	WS1 Turbine ASY	1
4	V3105	O-ring 215	1
5	V3003-01	WS1 Meter Plug ASY	1

*Order number V3003 includes V3118-01 and V3105.

Description	Quantity
1" Quick Connect	2
WS1 Split Ring	2
WS1 O-Ring 215	2
WS1 Fitting 1" PVC Male NPT Elbow	2
WS1 Cap	2
WS1 Handle	2
WS1 Rotor Seal Retainer	2
WS1 Seal Retainer	2
WS1 Split Ring	2
WS1 O-Ring 215	2
WS1 Fitting 1" PVC Male NPT Elbow	2

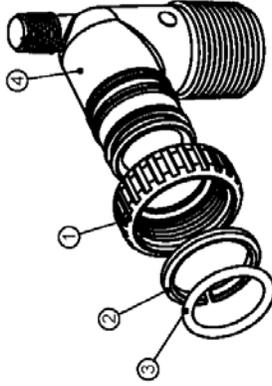
on: WS1 Bypass Vertical Adapter Assembly

Description	Quantity
1" Quick Connect	2
WS1 Split Ring	2
WS1 O-Ring 215	2
WS1 Fitting 1" Brass Sweat	2



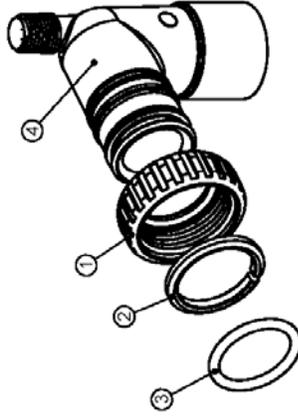
Order No: V3007
Description: WS1 Fitting 1" PVC Male NPT Elbow Assembly

Drawing No.	Order No.	Description	Quantity
1	V3151	WS1 Nut 1" Quick Connect	2
2	V3150	WS1 Split Ring	2
3	V3105	O-Ring 215	2
4	V3149	WS1 Fitting 1" PVC Male NPT Elbow	2



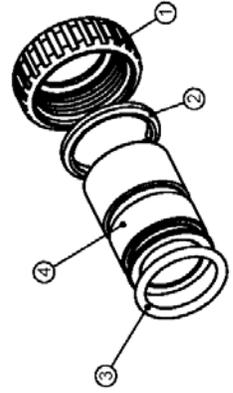
Order No: V3007-01
Description: WS1 Fitting 3/4" & 1" PVC Solvent 90° ASY

Drawing No.	Order No.	Description	Quantity
1	V3151	WS1 Nut 1" Quick Connect	2
2	V3150	WS1 Split Ring	2
3	V3105	O-Ring 215	2
4	V3189	WS1 Fitting 3/4" & 1" PVC Solvent 90°	2



Order No: V3007-02
Description: WS1 Fitting 1" Brass Sweat Assembly

Drawing No.	Order No.	Description	Quantity
1	V3151	WS1 Nut 1" Quick Connect	2
2	V3150	WS1 Split Ring	2
3	V3105	O-Ring 215	2
4	V3188	WS1 Fitting 1" Brass Sweat	2



Order No: V3007-03
Description: WS1 Fitting 3/4" Brass Sweat Assembly

Drawing No.	Order No.	Description	Quantity
1	V3151	WS1 Nut 1" Quick Connect	2
2	V3150	WS1 Split Ring	2
3	V3105	O-Ring 215	2
4	V3188-01	WS1 Fitting 3/4" Brass Sweat	2

