

# FLECK 2510 AIO CONTROL VALVE

## SERVICE MANUAL



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## Job Specification Sheet

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Job Number: \_\_\_\_\_  
Model Number: \_\_\_\_\_  
Iron (ppm): \_\_\_\_\_  
Tank Size: \_\_\_\_\_

### 1. Timer Program Settings:

Backwash: \_\_\_\_\_ Minutes  
Air Draw: \_\_\_\_\_ Minutes  
Rapid Rinse: \_\_\_\_\_ Minutes

## Important Please Read:

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- The information, specifications, and illustrations in this manual are based on the latest information available at the time of release. The manufacturer reserves the right to make changes at any time without notice.
- This manual is intended as a guide for service of the valve only. System installation requires information from a number of suppliers not known at the time of manufacture. This product should be installed by a plumbing professional.
- This unit is designed to be installed on potable water systems only.
- This product must be installed in compliance with all state and municipal plumbing and electrical codes. Permits may be required at the time of installation.
- It is established that when daytime water pressure exceeds 80 psi (5.5 bar), the maximum pressure rating of 125 psi (8.6 bar) can be exceeded. A pressure regulator must be installed on this system or warranty is voided.
- Do not install the unit where temperatures may drop below 32°F (0°C) or above 120°F (52°C).
- Do not place the unit in direct sunlight. Black units will absorb radiant heat, increasing internal temperatures.
- Do not strike the valve or any of the components.
- Warranty of this product extends to manufacturing defects. Misapplication of this product may result in failure to properly condition water, damage to product, or personal injury.
- A prefilter should be used on installations in which free solids are present.
- In some applications local municipalities treat water with chloramines. High chloramine levels may damage valve components.
- Correct and constant voltage must be supplied to the controller to maintain proper function.
- The system is intended to treat only potable quality water. It is not intended as the permanent primary treatment of water from a source that is contaminated, such as from radon, pesticides, insecticides, sewage, or wastewater.
- This system is not intended for use by persons (including children) with reduced physical, sensory, or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
- Children shall not play with the system.
- Cleaning shall not be made by children without supervision.

## Valve Specifications

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### Valve Material

Fiber-reinforced polymer

### Inlet/Outlet

3/4", 1", or 1-1/4" NPT/BSP/Sweat

### Cycles

3 or 5

## Flow Rates (50 psi inlet) Valve Only

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### Continuous 15 psi drop

19 GPM (4.3 m<sup>3</sup>/hr)

### Peak 25 psi drop

25 GPM (5.5 m<sup>3</sup>/hr)

### Cv flow at 1 psi drop

4.8

### Max Backwash 25 psi drop

17 GPM (3.9 m<sup>3</sup>/hr)

## Dimensions

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### Distributor Pilot

1.05" O.D. (26.7 mm)

### Drain Line

1/2" NPTF Quick-Connect

### Injector System

1600, 1650

### Mounting Base

2.5" - 8 NPSM

### Height from Top of Tank

7.5" (191 mm)

### Riser Tube Diameter

3/4" (19 mm)

### Riser Height

1/4" below top of tank

## Additional Information

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### Electrical Rating

24/110/220V 50/60 Hz

### Pressure (Hydrostatic)

300 psi (20 bar)

### Pressure (Working)

20-125 psi (1.4-8.5 bar)

### Temperature Cold Water Valve:

34-110°F (1-43°C)

### Deflector

1" inner diameter

## Installation

### Installation Overview

- The AIO valve is designed for use when water containing contaminants subjected to oxidation is encountered. The water passes through the AIO valve then passes through the tank containing oxygen enriched filter media. The oxygen reduces all contaminants in the water to an oxide, or in the case of hydrogen sulfide gas, it is reduced to a molecule of acid.
- Install the AIO valve after the supply lines to the outside faucets (unless outside faucets need to be free of contaminants in water). The AIO valve is generally installed before a water softener or any taste/odor cartridges, if applicable.
- Due to the release of air during regeneration, the drain line should be anchored throughout the run and secured at the end of the drain line. The drain line should be sized for the backwash rate and friction loss.
- The drain line flow control should accommodate the size tank and backwash rate for the filter media being used.
- The injector size (slow rinse rate based on pressure) should be sized the same as the service flow rate of the filter media being used.

### Water Pressure

- A minimum of 20 psi (1.4 bar) of water pressure is required for regeneration valve to operate effectively.

**Caution:** Water pressure is not to exceed 125 psi (8.6 bar), water temperature is not to exceed 110°F (43°C), and the unit cannot be subjected to freezing conditions.

### Electrical Facilities

- An uninterrupted alternating current (120 VAC) supply is required. Please make sure your voltage supply is compatible with your unit before installation.

**Note:** Other voltages are available. Please make sure your voltage supply is compatible with your unit before installation. The power source should be constant. Be certain the power adapter is not on a switched outlet.

### Existing Plumbing

- Condition of existing plumbing should be free from lime and iron buildup. Piping that is built up heavily with lime and/or iron should be replaced. If piping is clogged with iron, a separate iron filter unit should be installed ahead of the water softener.

### Location of Softener/Filter/AIO Drain

- You must have an air gap on the drain line to prevent back flow of drain water into the system. A 2x the drain line pipe diameter air gap is required with a minimum 1" air gap.

### Bypass Valves

- Always provide for the installation of a bypass valve if unit is not equipped with one.

### Recommended Servicing

- Due to the nature of AIO valves, it is recommended to replace the injector, air check, piston, seals and spacers, and adapter coupling every 6 to 12 months as needed.

**Warning:** The system MUST be depressurized before removing any connections for servicing.

## Installation Instructions

1. Place the softener tank where you want to install the unit making sure the unit is level and on a firm base.
2. During cold weather, the installer should warm the valve to room temperature before operating.
3. All plumbing should be done in accordance with local plumbing codes. The pipe size for residential drain line should be a minimum of 1/2 inch (13 mm). Backwash flow rates in excess of 7 gpm (26.5 Lpm) or length in excess of 20 feet (6 m) require 3/4-inch (19 mm) drain line. Commercial drain lines should be the same size as the drain line flow control. Be sure drain lines are secured properly.
4. Refer to the dimensional drawing for cutting height of the distributor tube. If there is no dimensional drawing, cut the distributor tube flush with the top of the tank. The tank should have the distributor tube installed and the proper amount of regenerant in place.
5. Lubricate the distributor O-ring seal and tank O-ring seal. Place the main control valve on tank.

**Note:** Only use silicone lubricant.

6. Solder joints near the drain must be done prior to connecting the Drain Line Flow Control fitting (DLFC). Leave at least 6 inches (15 cm) between the DLFC and solder joints when soldering pipes that are connected on the DLFC. Failure to do this could cause interior damage to the DLFC.
7. Plumber's tape is the only sealant to be used on the drain fitting.
8. On units with a bypass, place in bypass position. Turn on the main water supply. Open a cold soft water tap nearby and let run a few minutes or until the system is free from foreign material (usually solder) that may have resulted from the installation. Once clean, close the water tap.
9. Slowly place the bypass in service position and let water flow into the mineral tank. When water flow stops, slowly open a cold water tap nearby and let run until the air is purged from the unit.
10. Plug unit into an electrical outlet.

**Note:** All electrical connections must be connected according to local codes. Be certain the outlet is uninterrupted.

## Deflector Installation

- Put a thin layer of silicone lube around inside diameter of the deflector. Slowly slide the deflector over the distributor tube down about 1". When threading the AIO valve to the tank, the bottom of the threads will slide the deflector down, as shown in the diagram.

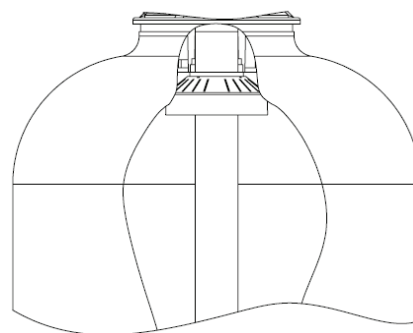


Figure 1

## Regeneration Steps

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### Backwash (BW) Cycle Step #1

- The backwash cycle (factory set to 10 minutes) washes oxidized contaminants to drain and reclassifies the media bed.

### Air Draw (AD) Cycle Step #2

- Air Draw (factory set to 60 minutes) empties water from tank and replenishes oxygen to filter media.

### Rapid Rinse (RR) Cycle Step #3

- Rapid Rinse (factory set to 10 minutes) purges excess atmosphere from the media tank and distributor.

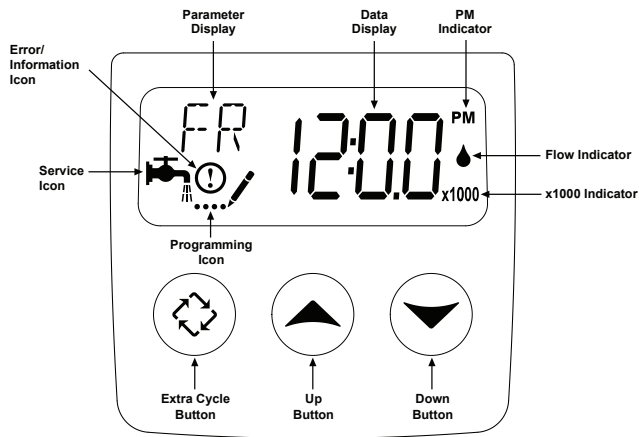
## Start-Up Instructions

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The water softener should be installed with the inlet, outlet, and drain connections made in accordance with the manufacturer's recommendations, and to meet applicable plumbing codes.

1. Initiate a manual regeneration by pressing the Extra Cycle button for 5 continuous seconds on the SXT.
2. During the backwash, air draw, and rapid rinse cycles inspect plumbing for leaks.
3. When the regeneration is complete, the unit will advance automatically into the service position.

## Timer Operation



### Time Clock Delayed Control

- The 2510 AIO SXT uses a Time Clock Delayed control, which regenerates the system on a timed interval. The control will initiate a regeneration cycle at the programmed regeneration time when the number of days since the last regeneration equals the regeneration day override value.

### Manually Initiating a Regeneration

- When timer is in service, press the Extra Cycle button for five seconds on the main screen.
- The timer advances to Regeneration Cycle Step #1 (backwash), and begins programmed time countdown.
- Press the Extra Cycle button once to advance valve to Regeneration Cycle Step #2 (air draw).
- Press the Extra Cycle button once to advance valve to Regeneration Cycle Step #3 (rapid rinse).
- Press the Extra Cycle button once more to advance the valve back to service.

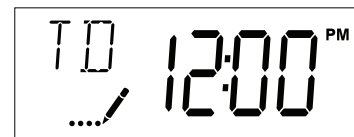
A queued regeneration can be initiated by pressing the Extra Cycle button. To clear a queued regeneration, press the Extra Cycle button again to cancel. If regeneration occurs for any reason prior to the delayed regeneration time, the manual regeneration request will be cleared.

## Control Operation During a Power Failure

- The SXT includes power backup. In the event of power failure, the control shifts into a power-saving mode. The display and motor shut down, but the control continues to keep track of the time and day for a minimum of 48 hours.
- The system configuration settings are stored in a non-volatile memory and are stored indefinitely with or without line power. The Time of Day flashes when there has been a power failure. Press any button to stop the Time of Day from flashing.
- If power fails while the unit is in regeneration, the control will save the current valve position before it shuts down. When power is restored, the control will resume the regeneration cycle from the point where power failed. Note that if power fails during a regeneration cycle, the valve will remain in its current position until power is restored. The valve system should include all required safety components to prevent overflows resulting from a power failure during regeneration.
- The control will not start a new regeneration cycle without line power. If the valve misses a scheduled regeneration due to a power failure, it will queue a regeneration. Once power is restored, the control will initiate a regeneration cycle the next time that the Time of Day equals the programmed regeneration time. Typically, this means that the valve will regenerate one day after it was originally scheduled.

### Setting the Time of Day

- Press and hold either the Up **or** Down buttons until the programming icon replaces the service icon and the parameter display reads TD.
- Adjust the displayed time with the Up and Down buttons.
- When the desired time is set, press the Extra Cycle button to resume normal operation. The unit will also return to normal operation after five (5) seconds if no buttons are pressed.



### Queueing a Regeneration

- Press the Extra Cycle button. The service icon will flash to indicate that a regeneration is queued.
- To cancel a queued regeneration, press the Extra Cycle button.

### Regenerating Immediately

- Press and hold the Extra Cycle button for five (5) seconds.

## SXT User Programming

| Programming Abbreviation | Programming Definition | Default Values | Option Definition  |
|--------------------------|------------------------|----------------|--|
| DO                       | Day Override           | 3              | Days Between Regeneration - In conditions of high water usage and/or high levels of contaminants, the AIO may need to regenerate more frequently than once every three days. DO NOT set the regeneration day override for a longer period than three (3) days, as the filter media can become fouled with contaminants, rendering the AIO ineffective. |
| RT                       | Regeneration Time      | 12:00 AM       | Regeneration Time - If there is a need to change the factory default, then make sure the time of regeneration is not the same as any other water treatment equipment in the system.  |

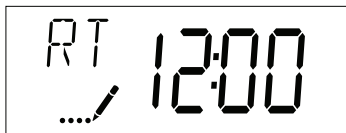
The timer will discard any changes and exit User Mode if any button is not pressed for 60 seconds.

### User Programming Mode Steps

1. Press the Up **and** Down buttons for five seconds while in service.
2. Use this display to adjust the Day Override. This option setting is identified by "DO" in the upper left-hand corner of the screen.



3. Press the Extra Cycle button. Use this display to adjust the Regeneration Time. This option setting is identified by "RT" in the upper left-hand corner of the screen.



4. Press the Extra Cycle button to end User Programming Mode.

## Diagnostic Programming Mode

| Diagnostic Programming Mode Options |                  |  |
|-------------------------------------|------------------|--|
| Abbreviation                        | Parameter        | Description  |
| HR                                  | Hours in Service | Displays the total hours that the unit has been in service |
| SV                                  | Software Version | Displays the software version installed on the controller  |

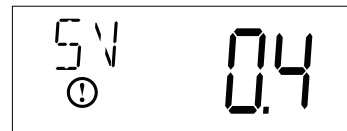
The timer will exit Diagnostic Mode after 60 seconds if no buttons are pressed.

### Diagnostic Programming Mode Steps

1. Press the Up **and** Extra Cycle buttons for five (5) seconds while in service.
2. Press the Up button. Use this display to view the Hours in Service since the last regeneration cycle. This option setting is identified by "HR" in the upper left-hand corner of the screen.



3. Press the Up button. Use this display to view the Software Version. This option setting is identified by "SV" in the upper left-hand corner of the screen.

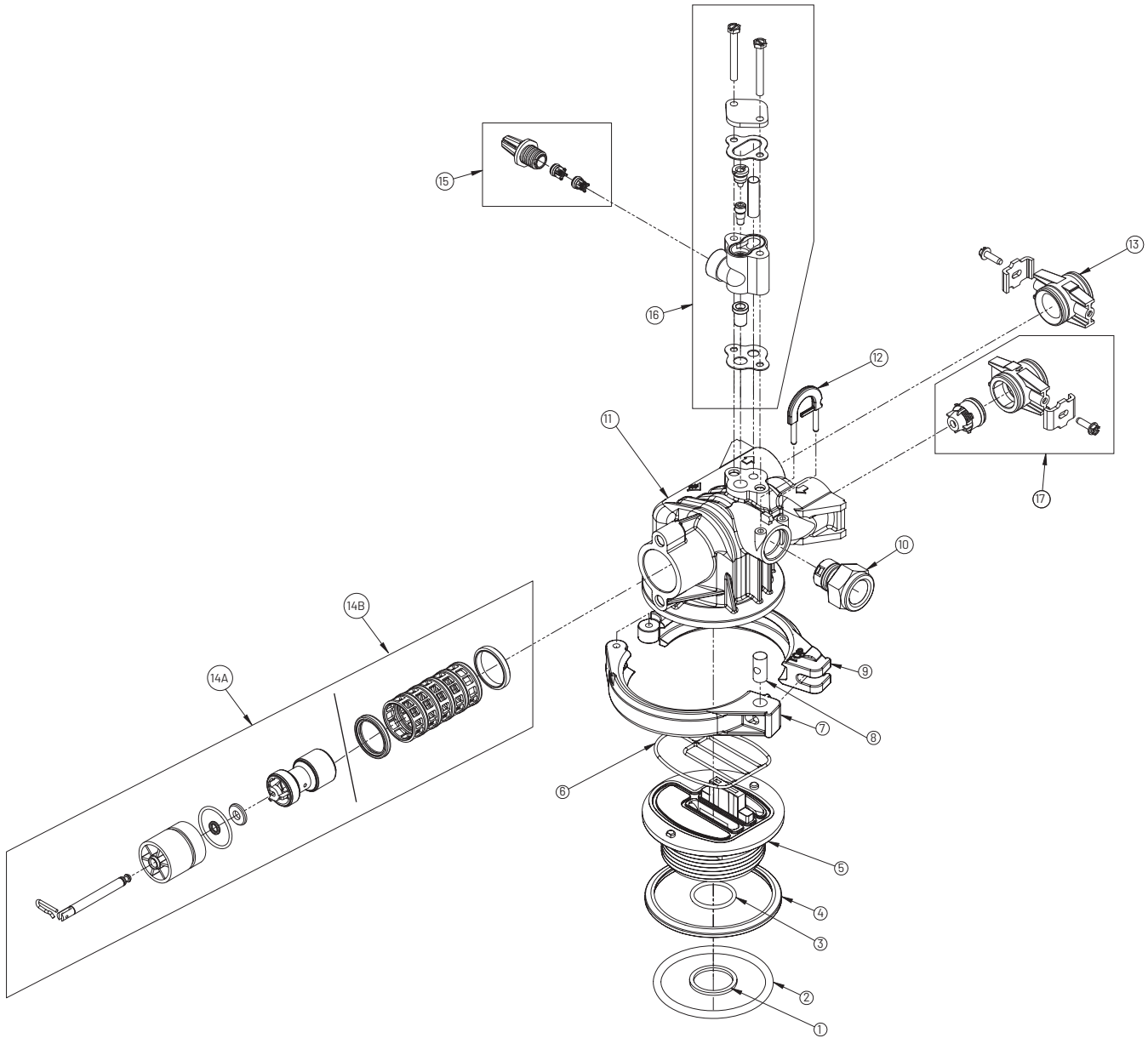


4. Press the Extra Cycle button to end Diagnostic Programming Mode.

## 2510 AIO SXT Control Valve Part Number

| Item No. | QTY | Part No.   | Description   |
|----------|-----|------------|---|
| 1        | 1   | 251006-007 | Time Clock, AIO Filter, U.S. Transformer, Hardwater Bypass, 1" Deflector, DLFC 4.0 GPM, Environmental Backplate |

### Control Valve Assembly



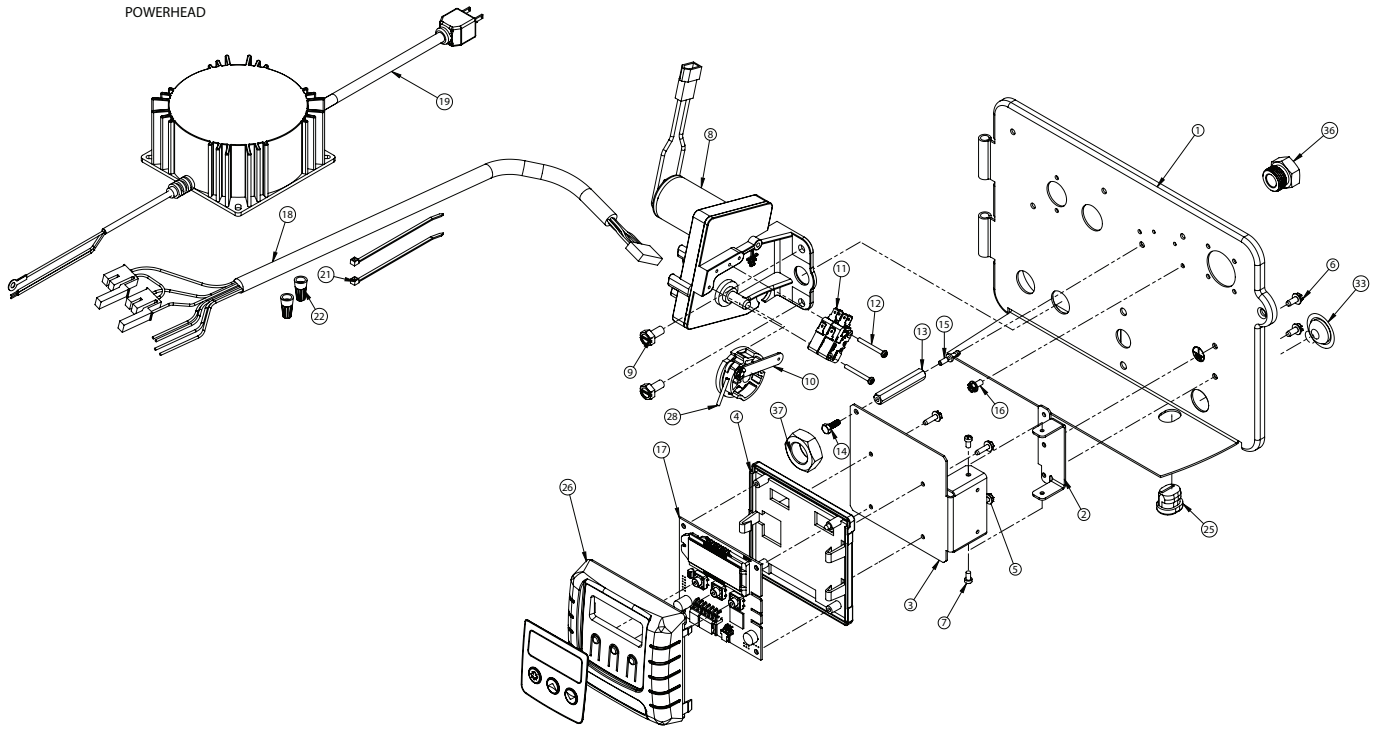
61500-2510 AIO Rev D



## Control Valve Assembly Continued

| Item No.  | QTY | Part No.  | Description  |
|-----------|-----|-----------|--|
| 1         | 1   | 13030     | Retainer, Distributor Tube<br>O-Ring                     |
| 2         | 1   | 18303     | O-Ring, -336   |
| 3         | 1   | 13304     | O-Ring, -121   |
| 4         | 1   | 19197     | Ring, Slip, Ladder Valve                                 |
| 5         | 1   | 19322     | Adapter Base, 2510                                       |
| 6         | 1   | 19936     | Seal, 2510 Base  |
| 7         | 1   | 19899     | Clamp, Female, 2510                                      |
| 8         | 1   | 19998     | Pivot, Clamp, 2510                                       |
| 9         | 1   | 19900     | Clamp, Male, 2510  |
| 10        | 1   | 60705-40  | DLFC, Plastic 4.0 GPM                                    |
| 11        | 1   | 19328     | Valve Body, 2510   |
| 12        | 1   | 18312     | Retaining Clip   |
| 13        | 1   | 19228-01  | Adapter Assy, Coupling, 5600                             |
| 14A       | 1   | 60090     | Piston Assy, 1500/2500/2750                              |
| 14B       | 1   | 60121     | Seals & Spacer, Kit, 2750                                |
| 15        | 1   | 62116     | Air Check Assy, 2510                                     |
| 16        | 1   | 60480-000 | Injector Assy, 1600, #00, Plastic<br>2750-2900, Complete |
|           |     | 60480-00  | Injector Assy, 1600 #0, Plastic<br>2750-2900, Complete   |
|           |     | 60480-01  | Injector Assy, 1600 #1, Plastic<br>2750-2900, Complete   |
|           |     | 60480-02  | Injector Assy, 1600 #2, Plastic<br>2750-2900, Complete   |
|           |     | 60480-03  | Injector Assy, 1600 #3, Plastic<br>2750-2900, Complete   |
|           |     | 60480-04  | Injector Assy, 1600 #4, Plastic<br>2750-2900, Complete   |
| 17        | 1   | 19228-02  | Adapter Assy, Coupling, 2510 AIO                         |
| NOT SHOWN |     |           |  |
|           | 1   | 11098     | Stuffer Tool Assy, 2510/2750                             |
|           | 1   | 13061     | Puller Assy, Port Ring 2510/2750                         |
|           | 1   | 12874     | Hook, Seal   |
|           | 1   | 1030043   | Deflector, 1", Turbulator                                |

# Powerhead Assembly



61500-2510 AIO Rev C

## Powerhead Assembly Continued

| Item No. | QTY | Part No. | Description                               |
|----------|-----|----------|---|
| 1        | 1   | 18697-15 | Backplate, Hinged                         |
| 2        | 1   | 13881    | Bracket, Hinge Timer, 900SE               |
| 3        | 1   | 41546    | Bracket, Timer, 2510SXT,<br>2750SXT       |
| 4        | 1   | 19889    | Housing, Circuit Board                    |
| 5        | 4   | 13296    | Screw, Hex Wash, 6-20 X 1/2               |
| 6        | 2   | 10300    | Screw, Hex Wash Head, 8 x 3/8             |
| 7        | 2   | 11384    | Screw, Phil, 6-32 x 1/4 Zinc              |
| 8        | 1   | 42579    | Motor, Drive, 24VAC/DC, 50-60<br>Hz Fam 1 |
| 9        | 2   | 10231    | Screw, Slot Hex, 1/4-20 x 1/2             |
| 10       | 1   | 60160-15 | Drive Cam Assy, Stf, Blue, 2900           |
| 11       | 2   | 10218    | Switch, Micro                             |
| 12       | 2   | 14923    | Screw, Pan Hd Mach, 4-40 x 1              |
| 13       | 1   | 27172    | Stand-Off, Timer,<br>2510SE/2750SSE       |
| 14       | 1   | 21363    | Screw, Hex Head, M4 X 12MM                |
| 15       | 1   | 14265    | Clip, Spring                              |
| 16       | 1   | 14202-01 | Screw, Hex Washer,<br>#8-32 X 5/16        |
| 17       | 1   | 44098U   | Circuit Board, SXT, Unprgm                |
| 18       | 1   | 42864    | Wire Harness, SXT                         |
| 19       | 1   | 44144    | Transformer, US, 24V 40VA, W/O            |
| 21       | 2   | 14044    | Tie, Cable, Plastic                       |
| 22       | 2   | 40422    | Wire Nut, Min 2 #22 Wires                 |
| 25       | 1   | 13547-01 | Strain Relief, Euro Round Cord            |
| 26       | 1   | 42635-01 | Front Cover, SXT, Square, Black           |
| 28       | 1   | 10338    | Pin, Roll, 3/32 X 7/8                     |
| 33       | 1   | 19691    | Plug, .750 DIA. Hole, Flush               |
| 36       | 1   | 43560    | Fitting, Brine Valve, Steel               |
| 37       | 1   | 10269    | Nut, Jam, 3/4-16_v1                       |

## 2510 Valve Accessories

### Covers

60219-02 ..... Cover Assy, Environmental, Black w/clear window

### Bypasses

60041SS ..... 1" Bypass, SS, NPT

60040SS ..... 3/4" Bypass, SS, NPT

60049..... Bypass, Plastic

### Yokes

19620-01..... Yoke Assy, 3/4", r/angle, 90 deg.

18706..... 1" Yoke, Plastic NPT

18706-10 ..... 1" Yoke, Plastic BSP

18706-02 ..... 3/4" Yoke, Plastic NPT

18706-12 ..... 3/4" Yoke, Plastic BSP

13708-40 ..... 1" Yoke, Sweat

41026-01 ..... 1" Yoke, SS, NPT

42690..... 3/4" Yoke, Sweat

41027-01 ..... 3/4" Yoke, SS, NPT

### Washers

19153 ..... Washer, Flow, 0.6 GPM

19152 ..... Washer, Flow, 0.8 GPM

12085 ..... Washer, Flow, 1.2 GPM

19150 ..... Washer, Flow, 1.3 GPM

12086 ..... Washer, Flow, 1.5 GPM

12087..... Washer, Flow, 2.0 GPM

12088 ..... Washer, Flow, 2.4 GPM

12089 ..... Washer, Flow, 3.0 GPM

12090 ..... Washer, Flow, 3.5 GPM

12091..... Washer, Flow, 4.0 GPM

19147 ..... Washer, Flow, 4.5 GPM

12092 ..... Washer, Flow, 5.0 GPM

17814..... Washer, Flow, 6.0 GPM

12408 ..... Washer, Flow, 7.0 GPM

17943..... Washer, Flow, 8.0 GPM

17944..... Washer, Flow, 9.0 GPM

16529..... Washer, Flow, 10.0 GPM

16735..... Washer, Flow, 12.0 GPM

16736..... Washer, Flow, 15.0 GPM

### Drain Elbows

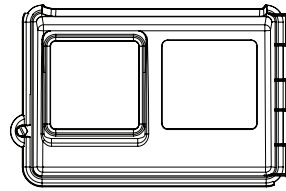
19699..... 1/2" Drain Elbow, 45

13121..... 5/8" Drain Elbow, 90

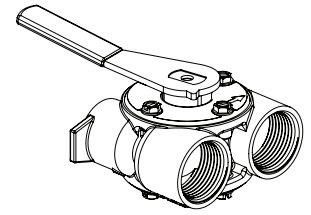
### Hose Barbs

13308..... 1/2" Straight Hose Barb

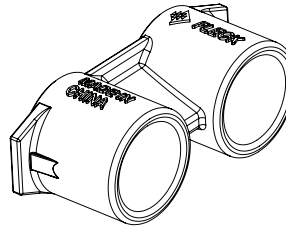
13308-01..... 5/8" Straight Hose Barb



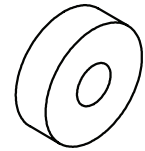
COVER, ENVIRONMENTAL



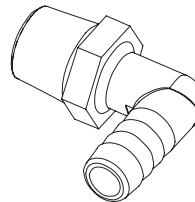
BYPASS



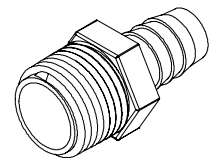
YOKE



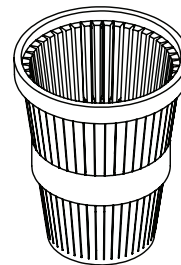
WASHER



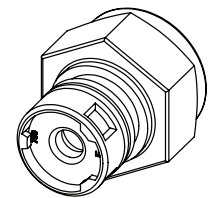
DRAIN ELBOW



HOSE BARBS



COLLECTOR



DLFC

### Collectors

18280 ..... Top Collector, 1.050

18280-01..... Top Collector, 1.050 Wide

18280-02 ..... Top Collector, 1.050 Narrow

### DLFC

60705-00 ..... DLFC, Plastic, Blank

60706-8.0..... DLFC, QC x 3/4"F, 8.0 GPM

60706-9.0..... DLFC, QC x 3/4"F, 9.0 GPM

60706-10 ..... DLFC, QC x 3/4"F, 10 GPM

60706-12 ..... DLFC, QC x 3/4"F, 12 GPM

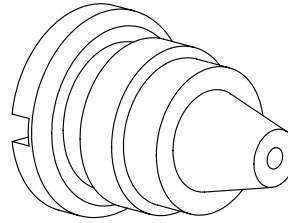
60706-15 ..... DLFC, QC x 3/4"F, 15 GPM

## 2510 Valve Conversion Assemblies

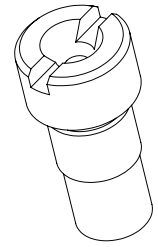
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### Injector Nozzles

|                |   |
|----------------|---|
| 10913-0.....   | Nozzle, Injector, #0, Red (8" Tank)         |
| 10913-00.....  | Nozzle, Injector, #00, Violet (7" Tank)     |
| 10913-000..... | Nozzle, Injector, #000, Brown (6" Tank)     |
| 10913-1.....   | Nozzle, Injector, #1, White (9" & 10" Tank) |
| 10913-2.....   | Nozzle, Injector, #2, Blue (12" Tank)       |
| 10913-3.....   | Nozzle, Injector, #3, Yellow (13" Tank)     |
| 10913-4.....   | Nozzle, Injector, #4, Green (14" Tank)      |



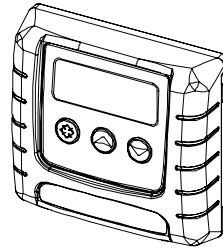
INJECTOR NOZZLE



INJECTOR THROAT

### Injector Throats

|                |   |
|----------------|---|
| 10914-0.....   | Throat, Injector, #0, Red (8" Tank)         |
| 10914-00.....  | Throat, Injector, #00, Violet (7" Tank)     |
| 10914-000..... | Throat, Injector, #000, Brown (6" Tank)     |
| 10914-1.....   | Throat, Injector, #1, White (9" & 10" Tank) |
| 10914-2.....   | Throat, Injector, #2, Blue (12" Tank)       |
| 10914-3.....   | Throat, Injector, #3, Yellow (13" Tank)     |
| 10914-4.....   | Throat, Injector, #4, Green (14" Tank)      |

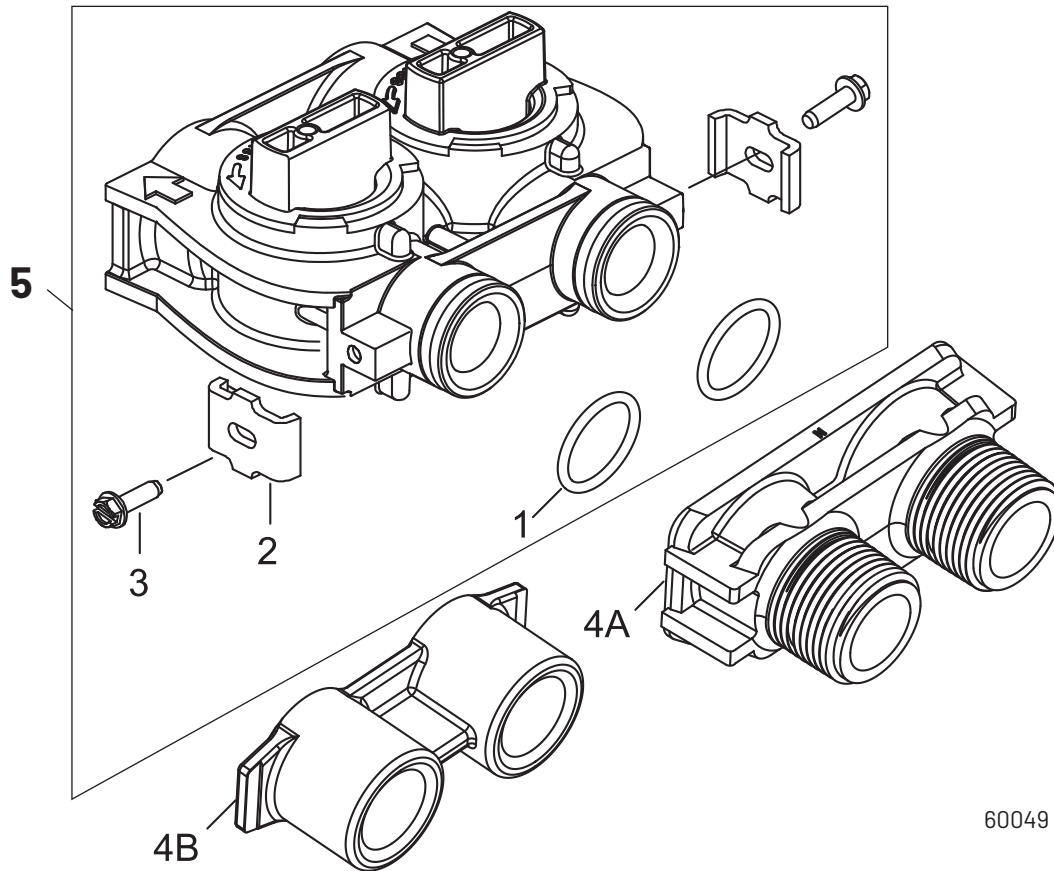


TIMER ASSY, SXT

### Timers

|            |                                 |
|------------|---------------------------------|
| 42778..... | Timer Assy, SXT, 2510/2750/2850 |
|------------|---------------------------------|

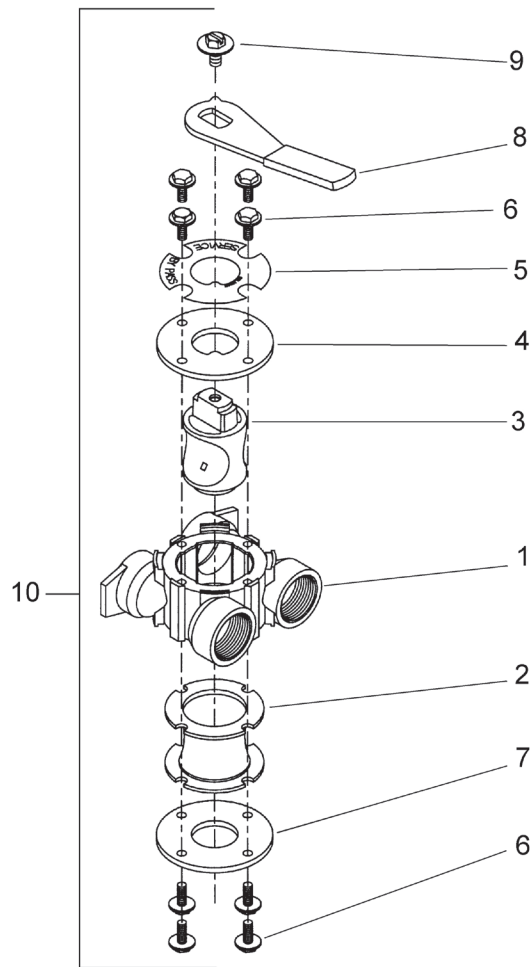
## Bypass Valve Assembly (Plastic)



60049 Rev G

| Item No.  | QTY | Part No. | Description                            |
|-----------|-----|----------|--|
| 1         | 2   | 13305    | O-Ring, -119                           |
| 2         | 2   | 13255    | Clip, Mounting                         |
| 3         | 2   | 13314    | Screw, Slot Ind Hex, 8-18 x .60        |
| 4A        | 1   | 18706    | Yoke, 1-inch , NPT, Plastic            |
|           |     | 18706-02 | Yoke, 3/4-inch , NPT, Plastic          |
| 4B        | 1   | 13708-40 | Yoke, 1-inch , Sweat                   |
|           |     | 42690    | Yoke, 3/4-inch, Sweat, Brass           |
|           |     | 41027-01 | Yoke, 3/4-inch , NPT, Cast, Machined   |
|           |     | 41026-01 | Yoke, 1-inch , NPT, Cast, Machined, SS |
|           |     | 18706-10 | Yoke, 1-inch , BSP, Plastic            |
|           |     | 18706-12 | Yoke, 3/4-inch , BSP, Plastic          |
|           |     | 19620-01 | Yoke Assy, 3/4-inch , R/Angle, 90 Deg  |
| 5         | 1   | 60049    | Bypass Plastic                         |
| Not Shown | 2   | 19228-01 | Adapter Assy, Coupling, w/O-Rings      |

## Bypass Valve Assembly (Metal)



60040SS Rev T  
60041SS Rev U

| Item No.  | QTY | Part No. | Description   |
|-----------|-----|----------|---|
| 1         | 1   | 40614    | Bypass Body, 3/4-inch                               |
|           |     | 40634    | Bypass Body, 1-inch , SS                            |
| 2         | 1   | 14105    | Seal, Bypass, 560CD                                 |
| 3         | 1   | 11972    | Plug, Bypass  |
| 4         | 1   | 11978    | Side Cover  |
| 5         | 1   | 13604-01 | Label   |
| 6         | 8   | 15727    | Screw, 10-24 x 0.5-inch                             |
| 7         | 1   | 11986    | Side Cover  |
| 8         | 1   | 11979    | Lever, Bypass                                       |
| 9         | 1   | 11989    | Screw, Hex Head, 1/4-14 x 1.5-inch                  |
| 10        | 1   | 60040SS  | Bypass Valve, 5600, 3/4-inch NPT Blk Grip Lever, SS |
|           |     | 60041SS  | Bypass Valve, 5600, 1-inch NPT Blk Grip Lever, SS   |
| Not Shown | 2   | 19228-01 | Adapter Assy, Coupling, w/O-Rings                   |

## Troubleshooting (2510)

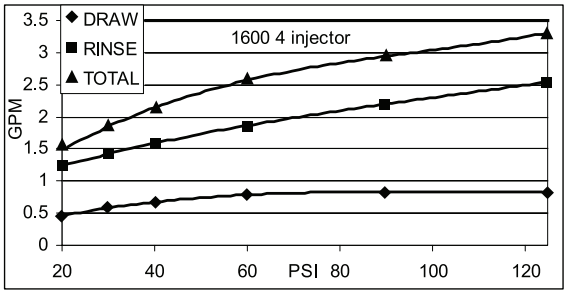
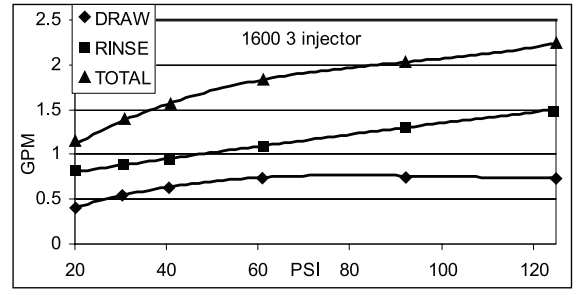
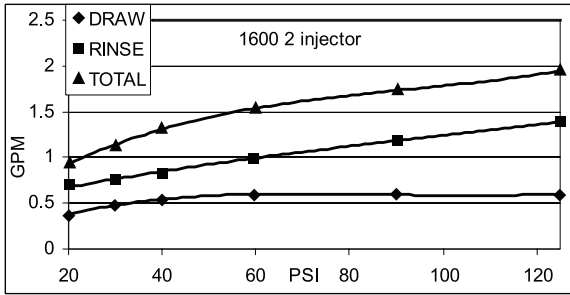
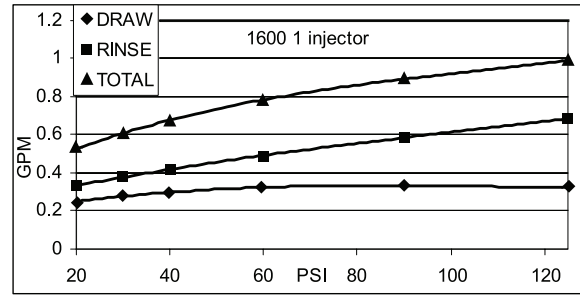
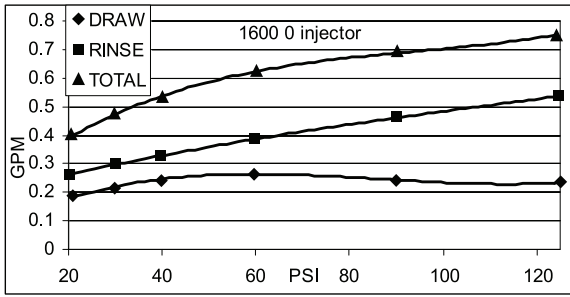
| <b>Problem</b>                         | <b>Cause</b>   | <b>Correction</b>  |
|--|--|--|
| Water conditioner fails to regenerate. | Electrical service to unit has been interrupted  | Ensure permanent electrical service (check fuse, plug, pull chain, or switch)  |
|  | Timer is defective.  | Replace timer.   |
|  | Power failure.   | Reset time of day.   |
| Loss of water pressure.                | Iron buildup in line to water conditioner.   | Clean line to water conditioner.   |
|  | Iron buildup in water conditioner.   | Clean control and add mineral cleaner to mineral bed. Increase frequency of regeneration.  |
|  | Inlet of control plugged due to foreign material broken loose from pipes by recent work done on plumbing system. | Remove piston and clean control.   |
| Loss of mineral through drain line.    | Air in water system.   | Ensure that well system has proper air eliminator control. Check for dry well condition.   |
|  | Improperly sized drain line flow control.  | Check for proper drain rate.   |
| Iron in conditioned water.             | Fouled mineral bed.  | Check backwash, brine draw, and brine tank fill. Increase frequency of regeneration. Increase backwash time. Check iron buildup on check valve and piston. |
| Control cycles continuously.           | Misadjusted, broken, or shorted switch.  | Determine if switch or timer is faulty and replace it, or replace complete power head.   |
| Drain flows continuously.              | Valve is not programming correctly.  | Check timer program and positioning of control. Replace power head assembly if not positioning properly.   |
|  | Foreign material in control.   | Remove power head assembly and inspect bore. Remove foreign material and check control in various regeneration positions.                                  |
|  | Internal control leak.   | Replace seals and piston assembly.   |



## Troubleshooting (AIO)

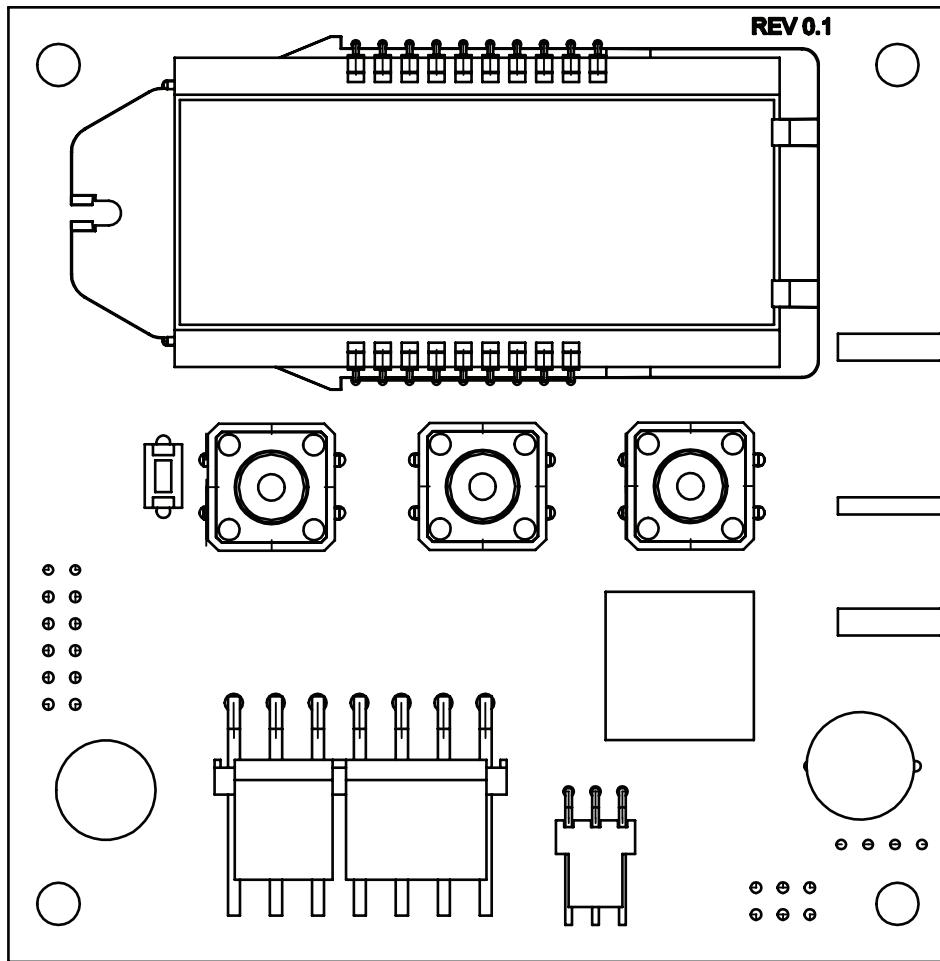
| Problem   | Cause   | Correction   |
|---|---|--|
| 1. Unit does not go through air draw cycle          | A. Electrical service to unit is interrupted.   | A. Inspect power supply and correct if necessary.  |
|   | B. Power failure  | B. Reset time of day.  |
|   | C. Timer is defective   | C. Verify that dial showing days moves from day today. If it does not move, replace timer.   |
| 2. Unit does not draw air                           | A. Drain line is kinked   | A. Straighten drain line.  |
|   | B. Water pressure to unit too low   | B. Pressure must be above 20 psi at all times. Increase pressure if necessary.   |
|   | C. Drain line flow control blocked  | C. Inspect DLFC and clean if necessary.  |
|   | D. Injectors or screen plugged  | D. Inspect and clean or replace as necessary.  |
|   | E. Internal leak in control   | E. Inspect piston and seals/spacers. Replace as needed.  |
| 3. Water flows continuously to drain                | A. Timer motor stopped or jammed  | A. Replace if necessary.   |
|   | B. Foreign material jammed inside control   | B. Remove piston and check.  |
|   | C. Internal leak  | C. Inspect piston and seals/spacers. Replace as needed.  |
| 4. Water is clear from tap, turns red upon standing | A. Insufficient air drawn by valve  | A. Check valve at air draw time.   |
|   | B. Bypass open or leaking   | B. Close bypass valve and/or repair as necessary.  |
|   | C. Filter bed back washed at improper frequency   | C. Increase backwash frequency.  |
| 5. Water is red when drawn from tap                 | A. Filter bed overloaded with precipitated iron due to insufficient backwash flow rate. | A. Inspect drain line for kinks or obstructions. Verify drain line flow control is correct size for application. If, after correction, manual backwash does not clear bed of iron, filter bed may need chemical washing. |
|   | B. Filter bed backwashed at improper frequency  | B. Increase backwash frequency.  |
| 6. Excessive pressure loss through filter           | A. Filter bed overloaded with precipitated iron   | A. Inspect drain line for kinks or obstructions. Verify drain line flow control is correct size for application. If, after correction, manual backwash does not clear bed of iron, filter bed may need chemical washing. |
|   | B. Control in/outlet valves not fully open  | B. Open valves.  |
|   | C. Sand, silt, or mud collecting in filter media  | C. Inspect well for these conditions.  |
|   | D. Filter bed not properly "classified"   | D. Manually backwash to reclassify.  |
|   | E. "Cementing" or "channelling" of filter media   | E. Stir filter bed to break up hardened layer. Increase backwash frequency to prevent recurrence.  |
| 7. Milky or bubbly water                            | A. Excess gasses in water   | A. System may require cleaning. Some installations will naturally produce aerated water.   |
| 8. Control cycles continuously                      | A. Misadjusted, broken, or shorted switch   | A. Determine if switch or timer is faulty and replace it, or replace complete power head.  |
| 9. Drain flows continuously                         | A. Valve is not programming correctly   | A. Check timer program and positioning of control. Replace power head assembly if not positioning properly.  |
|   | B. Foreign material in control  | B. Remove power head assembly and inspect bore. Remove foreign material and check control in various regeneration positions.   |
|   | C. Internal control leak  | C. Replace seals and piston assembly.  |

# Flow Data & Injector Draw Rates



TR20391\_REVA

# SXT Wiring Diagram



P2  
POWER HARNESS

P1  
METER

44098U REV D

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