



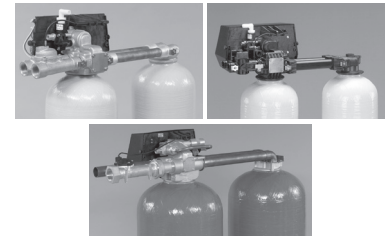
# Pentair Water

## Fleck Model 9000/9100/9500

### Service Manual

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#### JOB SPECIFICATION SHEET

Job Number: \_\_\_\_\_  
 Model Number: \_\_\_\_\_  
 Water Test: \_\_\_\_\_  
 Capacity Per Unit: \_\_\_\_\_  
 Mineral Tank Size: \_\_\_\_\_ Diameter: \_\_\_\_\_ Height: \_\_\_\_\_  
 Brine Tank Size & Salt Setting per Regeneration: \_\_\_\_\_  
 9000/9100/9500 Control Valve Specifications:

1. **Type of Timer:**
  - A. 82 minute available regeneration time, 1/15 RPM
  - B. 164 minute available regeneration time, 1/30 RPM
2. **Meter Size:**
  - A. 3/4" Std Range (125 - 2,100 gallon setting)
  - B. 3/4" Ext Range (625 - 10,625 gallon setting)
  - C. 1" Std Range (310 - 5,270 gallon setting)
  - D. 1" Ext Range (1,150 - 26,350 gallon setting)
  - E. 1-1/2" Std Range (625 - 10,625 gallon setting)
  - F. 1-1/2" Ext Range (3,125 - 53,125 gallon setting)
3. **Timer Gallon Setting:** \_\_\_\_\_ Gallons
4. **Regeneration Program Setting:**
  - A. Backwash: \_\_\_\_\_ Minutes
  - B. Brine and Slow Rinse: \_\_\_\_\_ Minutes
  - C. Rapid Rinse: \_\_\_\_\_ Minutes
  - D. Brine Tank Refill: \_\_\_\_\_ Minutes
5. **Drain Line Flow Control:** \_\_\_\_\_ gpm
6. **Brine Refill Rate:** \_\_\_\_\_ gpm
7. **Injector Size:** \_\_\_\_\_

#### EQUIPMENT CONFIGURATION

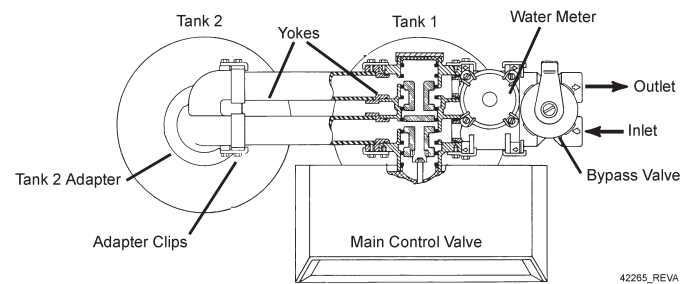


Figure 1 9000/9100 Equipment Configuration

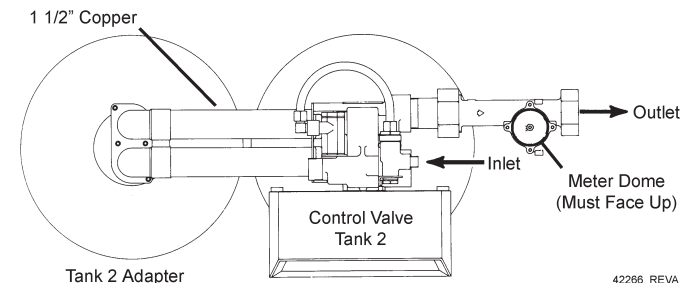


Figure 2 9500 Equipment Configuration

# INSTALLATION & START-UP

## Water Pressure

A minimum of 25 pounds of water pressure is required for regeneration valve to operate effectively.

## Electrical Facilities

A continuous 115 volt, 60 Hertz current supply is required. Make certain the current supply is always hot and cannot be turned off with another switch.

## 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 And Drain

The softener should be located close to a drain.

## BY-PASS VALVES

Always provide for the installation of a by-pass valve.

**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.

1. Place the softener tank where you want to install the unit.

**NOTE: Be sure the tank is level and on a firm base.**

2. During cold weather it is recommended that the installer warm the valve to room temperature before operating.

3. Perform all plumbing according to local plumbing codes.

- Use a 1/2" minimum pipe size for the drain.
- Use a 3/4" drain line for backwash flow rates that exceed 7 gpm or length that exceeds 20' (6 m).

4. Both tanks must be the same height and diameter and filled with equal amounts of media.

5. The distributor tube must be flush with the top of each tank. Cut if necessary. Use only non-aerosol silicone lubricant.

6. Lubricate the distributor O-ring seal and tank O-ring seal. Place the main control valve on one tank and the tank adapter on the second tank.

**NOTE: If required, solder copper tubing for tank interconnection before assembling on the main control valve and tank adapter. Maintain a minimum of 1" distance between tanks on final assembly.**

7. Solder joints near the drain must be done before connecting the Drain Line Flow Control fitting (DLFC). Leave at least 6" (152 mm) between the DLFC and solder joints when soldering pipes that are connected on the DLFC. Failure to do this could cause interior damage to DLFC.

8. Use only Teflon tape on the drain fitting.

9. Be sure the floor under the salt storage tank is clean and level.

10. Place approximately 1" (25 mm) of water above the grid plate. If a grid is not utilized, fill to the top of the air check in the salt tank. Do not add salt to the brine tank at this time.

11. On units with a bypass, place in Bypass position.

12. Turn on the main water supply.

13. Open a cold soft water tap nearby and let water run a few minutes or until the system is free of foreign material (usually solder) resulting from the installation. Close the water tap when water runs clean.

2 • NO11 Fleck Model 9000/9100/9500

14. 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 water run until air is purged from the unit. Then close tap.

15. Make all electrical connections according to codes. Plug the valve into an approved power source. Do not insert meter cable into the meter yet.

16. Tank one has control valve and tank two has adapter.

17. Look on the right side of the control valve, it has indicators showing which position the control valve is in during Regeneration and which tank is In Service.

**NOTE: Make sure the meter cable is not inserted in the meter dome. Swing the timer out to expose the program wheel. To swing timer out, grab onto the lower right corner of timer face and pull outward.**

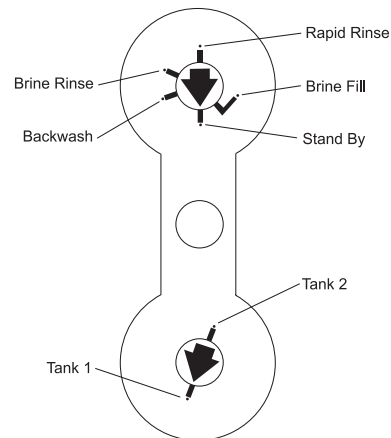
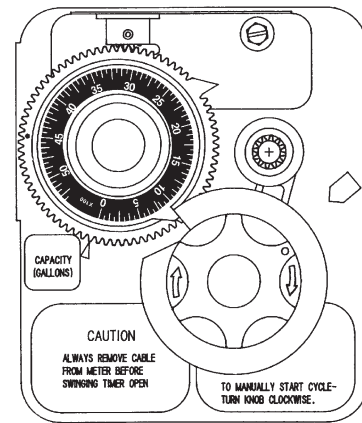
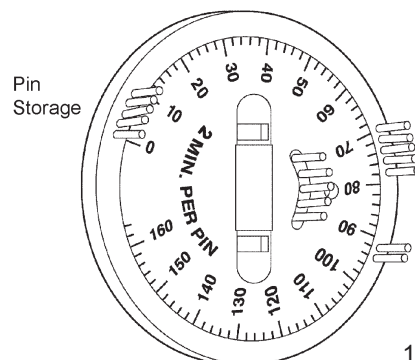


Figure 3 Control Valve Position Indicators



61591 Rev A

Figure 4 Timer



19210 Rev D

Figure 5 Program Wheel

## INSTALLATION & START-UP *continued*

18. Cycle timer into backwash position. Turn manual knob so that the micro switch rides on the first set of pins. In this position the tanks switch (lower piston) and the control valve moves to the backwash position (upper piston). Wait until the positioning of upper and lower pistons stops before advancing the timer further. If advanced too fast the control will not home into the In Service position (it will not advance to any other position). To correct this, rotate the manual knob back to In Service and start again into backwash.

**NOTE: Once valve positions itself into the backwash cycle, the homing circuit locks in.**

19. With all the air backwashed, slowly cycle the timer to the brine position; rapid rinse; and brine tank refill. Wait for the control drive motor to position itself in each cycle and stop, before advancing on to the next position.

20. Once back in the In Service position, cycle the control valve again into the backwash position. The tanks switch again, and air head backwashes out of the other tank. Cycle the control back to the In Service position. Leave the timer in the open position. DO NOT insert meter cable yet.

**NOTE: Two motors are available.**

**1/15 RPM has 82 minute regeneration time.**

**1/30 RPM has 164 minute regeneration time.**

### Valve To Tank Installation

1. Spin the valve onto the tank, ensuring the threads are not cross-threaded.

**NOTE: All Fleck® valves are right-hand threads, or clockwise, to install**

2. Rotate the valve freely without using force until it comes to a stop (this position is considered zero).

3. Rotate the valve clockwise from zero, between ¼ turn and ½ turn (see Figure 6).

**NOTE: If lubricant is required, a silicone compound is strongly recommended. Dow Corning® Silicone Compound (available from Fleck®), is recommended for best possible results. Dow Corning® 7 Release Compound is used in the manufacture of Fleck® control valves. The use of other types of lubricants may attack the control's plastic or rubber components. Petroleum-based lubricants can cause swelling in rubber parts, including O-rings and seals.**

Part No.	Description
16174	Silicone, 2 oz Tube
16586-8	Silicone, Dow #7 8 LB

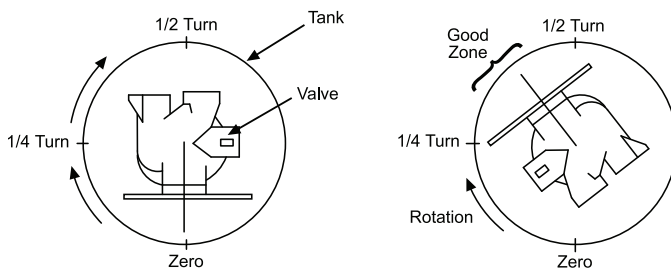


Figure 6

### Setting the Regeneration Cycle Program

The Regeneration cycle program on the water conditioner is preset at the factory. However, portions of the cycle or program time may be lengthened or shortened for local conditions or system design.

1. Expose cycle program wheel by grasping timer in lower right hand corner and pulling. This releases snap retainer and swings timer to the left

**NOTE: Meter cable must be removed from meter dome before opening timer.**

2. Remove the program wheel by grasping program wheel and squeezing protruding lugs towards center. Lift program wheel off timer. Switch arms may require movement to facilitate removal.

3. Return timer to closed position by engaging snap retainer in back plate. Make certain all electrical wires locate above snap retainer post.

### Changing Length of the Backwash Time

Looking at the numbered side of the program wheel, the group of pins starting at zero determines the length of time the unit backwashes.

**Example:** If there are six pins in this section, the time of backwash is 12 minutes (2 minutes per pin). To change the length of backwash time, add or remove pins as required.

The number of pins multiplied by two equals minutes of backwash.

### Changing Length of Brine and Rinse Time

The group of holes between the last pin in the backwash section and the second group of pins determines the length of time that a unit will brine and rinse (2 minutes per hole).

To change the length of brine and rinse time, add or remove pins in the rapid rinse group of pins to increase or decrease the number of holes in the brine and rinse section.

The number of holes multiplied by two equals minutes of brine and rinse.

### Changing Length Of Rapid Rinse

The second group of pins on the program wheel determines the length of time the water conditioner rapid rinses (2 minutes per pin). To change the length of rapid rinse time, add or remove pins at the higher numbered end of this section as required.

The number of pins multiplied by two equals minutes of rapid rinse.

**NOTE: Program wheels with 0–82 minute cycle times, use one minute per pin or hole to set Regeneration times. The layout of pins and holes on the program wheel follow the same procedure as on this page.**

### Changing Length of Brine Tank Refill Time

The second group of holes on the program wheel determines the length of time the water conditioner refills the brine tank (2 minutes per hole).

To change the length of refill time, move the two pins at the end of the second group of holes as required.

The Regeneration cycle is complete when the two pin set at end of the brine tank refill section trips the outer micro-switch. The program wheel, however, continues to rotate until the inner micro-switch drops into the notch on the program wheel.

## **INSTALLATION & START-UP *continued***

### **Programming**

1. The control valve is set at the factory for backwash; brine and slow rinse; rapid rinse and brine tank fill times. Change any of these times by repositioning the pins and holes or adding more pins.

**NOTE: Two timer motors are available.**

**1/15 RPM has 82 minute Regeneration Time and each pin or hole equals one minute.**

**1/30 RPM has 164 minute Regeneration Time and each pin or hole equals two minutes.**

2. The control valve has a separate brine tank fill cycle. Calculate the desired salt setting using the brine line flow control rate of refill (in gpm) multiplied by the timer setting. Then, using one gallon of fresh water dissolving approximately 3 lbs salt, calculate the refill time.

**Example:** A desired 30 lbs salt setting:

The unit has a 1.0 gpm refill rate so a 10 gallon fill is required.

10 gallons x 3 lbs/gals = 30 lbs salt

Set the timer refill section at 10 minutes.

10 minutes x 1.0 gpm = 10 gallon fill

**NOTE: There must always be two pins at the end of a refill time to stop the fill cycle. With the Regeneration times set, place timer back to its original position, making sure the lower right hand corner snaps back into the backplate and the meter cable slides through the backplate and does not bind.**

3. Setting the gallon wheel. Knowing the amount of resin in each tank and the salt setting per Regeneration, calculate the gallons available, using the following capacities as a guide:

$$\frac{(\text{capacity per ft}^3 \times \text{ft}^3 \text{ of resin per tank})}{\text{compensated hardness of H}_2\text{O}} = \text{gallons available}$$

**NOTE: Based on tank size: More resin increases capacity, less resin decreases capacity. More salt increases capacity, less salt decreases capacity.**

**Example:**

Tank Diameter	=	16"
Compensated Hardness	=	35 grains per gallon (tested sample)
ft <sup>3</sup> Resin (based on flow rate)	=	4
lbs of Salt	=	8
Capacity per ft <sup>3</sup>	=	24,000
$\frac{(24,000 \times 4 \text{ ft}^3 \text{ of resin per tank})}{35 \text{ grains}}$	=	2,740 gallons available before regeneration

Complete step 4 before setting gallons on the meter wheel.

4. Because the control valve regenerates with soft water from the other tank, subtract the water used for regeneration. Take each regeneration cycle and calculate the water used.

**Example:** Unit is set for a 16" diameter tank with 4 ft<sup>3</sup> of resin and salted at 8 lbs. per ft<sup>3</sup>, 7 gpm backwash, #3 injector, 1.0 gpm brine refill, and 60 psi and timer set for 10 min. backwash, 60 min. brine and rinse, 10 min. rapid rinse, 10 min. brine tank fill.

Backwash            10 min x 7.0 gpm = 70.0 gal

Brine and Rinse    60 min x 1.0 gpm = 60.0 gal

Rapid Rinse        10 min x 7.0 gpm = 70.0 gal

Brine Tank Fill    10 min x 1.0 gpm = 10.0 gal

Total Regeneration Water = 210.0 gal

With the 2740 gallons available calculated in Step 3, subtract the Regeneration water used from the total water available.

2740 gallons available - 210 gallons used = 2530 gallons (in Regeneration, Step 4)

5. Set meter wheel at approximately 2530 gallons. Lift the inner dial of the meter program wheel so that you can rotate it freely. Position the white dot opposite the 2530 gallon setting.

**NOTE: There is a slight delay between the time the meter zeros out and the cycle starts. Units using the:**

**1/15 RPM motor, 82 minute Regeneration Time has a 9 minute delay**

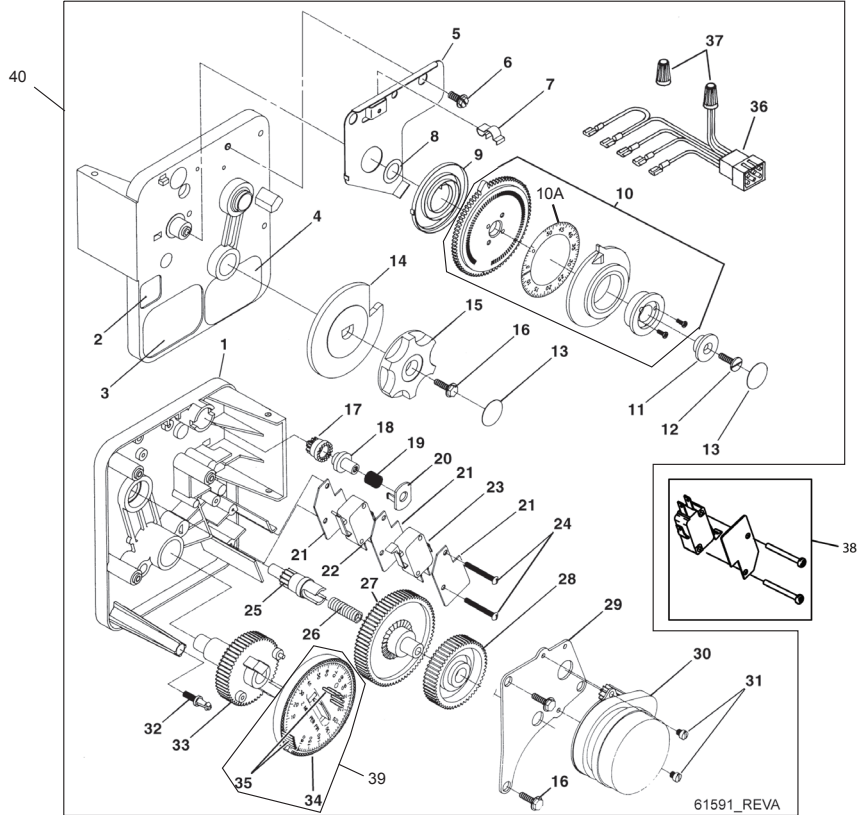
**1/30 RPM motor, 180 minute Regeneration Time has an 18 minute delay.**

**NOTE: This delay period is not critical on residential equipment. However, take this factor into consideration for commercial applications by subtracting continuous flows for 9 minutes or 18 minutes from water available.**

6. Insert meter cable into meter.
7. Check bypass.
8. Plug in unit.



# 9000/9100/9500 (3200 SERIES) ELECTRO MECHANICAL TIMER ASSEMBLY

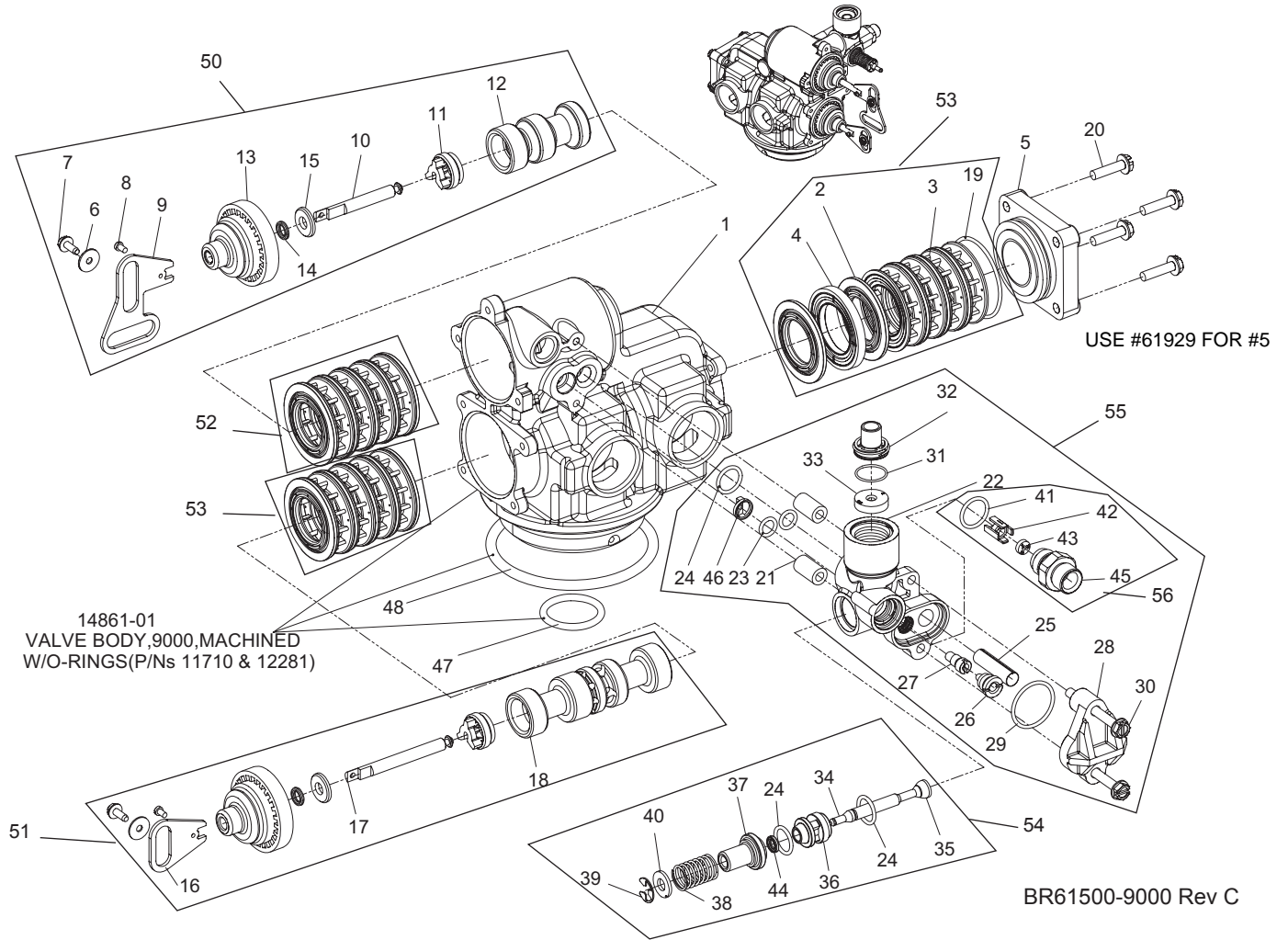


Item No.	QTY	Part No.	Description	Item No.	QTY	Part No.	Description
1	1	13870-03	Housing, Timer, 9000	17	1	17724	Program Wheel, Pinion Drive
2	1	17870	Label, Indicator, 9000 Timer	18	1	17723	Clutch, Drive Pinion
3	1	15465	Label, Caution	19	1	14276	Spring, Meter Clutch
4	1	16930	Label, Instruction	20	1	14253	Retainer, Clutch Spring
5	1	15227	Plate, Clutch, Actuator	21	3	14087	Insulator
6	1	10300	Screw, Slot Hex Washer, 18-8 x 3/8	22	1	15314	Switch, Micro, Modified
7	1	17513	Clip, Spring	23	1	15320	Switch, Micro, Timer
8	1	15407	Washer, Plain, #4	24	2	11413	Screw, Pan Hd Mach, 4-40 x 1 1/8
9	1	15228	Spring, Return	25	1	13018	Pinion, Idler
10	1	16270-10	Program Wheel Assy, 9000/9100, 3/4" STD, 0-2, 100	26	1	18563	Spring, Idler Shaft
		16270-30	Program Wheel Assy, 9000/9100, 1" STD, 0-5, 100	27	1	13017	Gear, Idler
		16270-40	Program Wheel Assy, 9000/9100, 1" EXT, 0-25, 500	28	1	13164	Gear, Drive
		16270-50	Program Wheel Assy, 9000/9100/9500, 3/4" EXT, 1.5" STD, 0-10, 500	29	1	13887	Plate, Motor Mounting
		16270-60	Program Wheel Assy, 9500, 1.5" EXT, 0-50, 000	30	1	18743-1	Motor, 120V, 60 Hz 1/30 RPM, 5600
10A		24673	Volume Label, Metric, 9000/9100, 3/4" STD, 0-8m3			18824-1	Motor, 230V, 50 Hz 1/30 RPM
		24672	Volume Label, Metric, 9000/9100, 1" STD, 0-20m3			19170	Motor, 120V 60 Hz 1/15 RPM
		24676	Volume Label, Metric, 9000/9100, 1" EXT, 0-100m3			18825	Motor, 230V, 50 Hz 1/15 RPM Mallory
		24675	Volume Label, Metric, 9000/9100/9500, 3/4" EXT, 1.5" STD 0-40m3	31	2	13278	Screw, Phil Hd Mach, 6-32 x 1/8 Steel Zinc
		25027	Volume Label, Metric, 9500, 1.5" EXT, 1.5" EXT 0-200m3	32	1	14265	Clip, Spring
11	1	13806	Retainer, Program Wheel	33	1	15055	Timer, Main Drive Gear
12	1	13748	Screw, Flt Hd St, 6-20 x 1/2	34	1	19210-02	Program Wheel Assy, 9000 1/15
13	2	11999	Label, Button			19210-05	Program Wheel Assy, 9000/3230
14	1	15223	Actuator, Cycle	35	23	15493	Pin, Spring, 1/16 x 5/8 SS
15	1	13886	Know, 3200	36	1	15203	Harness, 9000/9500, Timer
16	4	13296	Screw, Hex Washer, 6-20 x 1/2	37	2	40422	Nut, Wire, Tan
				38	1	60320-02	Switch Kit, 3200/9000 Timer Auxiliary
				39		61420-69	Program Wheel & Gear Assy, 5-30-5-10-2, 2 Min Per Pin
						61420-80	Program Wheel & Gear Assy, 5-40-5-7-2, 2 Min Per Pin
				40	1	*	Complete 9000 Meter Immediate Timer Assembly

\*Call your distributor for Part Number



# 9000 CONTROL VALVE ASSEMBLY



# 9000 CONTROL VALVE ASSEMBLY

*continued*

Item No.	QTY	Part No.	Description	Item No.	QTY	Part No.	Description
1.....	1	14861.....	Valve Body, 9000	.....		19149.....	Washer, Flow, 1.7 GPM
2.....	15	13242.....	Seal, 5600,9000, 9100	.....		12087.....	Washer, Flow, 2.0 GPM
3.....	12	14241.....	Spacer, 5600,9000, 9100	.....		12088.....	Washer, Flow, 2.4 GPM
4.....	1	16595.....	Spacer, 9000, 9100	.....		12089.....	Washer, Flow, 3.0 GPM
5.....	1	42278.....	End Cap, Plastic, 9000/9100	.....		12090.....	Washer, Flow, 3.5 GPM
6.....	2	13363.....	Washer, Hague Drive	.....		12091.....	Washer, Flow, 4.0 GPM
7.....	2	17020.....	Screw, STL. Hex Washer, 6-20 x 3/8	.....		19147.....	Washer, Flow, 4.5 GPM
8.....	2	11335.....	Screw, #4-40	.....		12092.....	Washer, Flow, 5.0 GPM
9.....	1	14921.....	Link, Piston Rod	.....		17814.....	Washer, Flow, 6.0 GPM
10.....	1	14919.....	Piston, Rod, Upper	.....		12408.....	Washer, Flow, 7.0 GPM
11.....	2	14309.....	Retainer, Piston Rod	34.....	1	14925.....	Brine Valve Stem, 9000, 9100
12.....	1	14914.....	Piston, 9000, 9100 Upper	35.....	1	12626.....	Seat, Brine Valve
13.....	2	13243.....	Plug, End, 5600, 9000, 9100	36.....	1	13167.....	Spacer, Brine Valve
14.....	2	10209.....	Quad Ring, -010	37.....	1	13165.....	Cap, Brine Valve
15.....	2	13008.....	Retainer, End Plug Seal	38.....	1	11973.....	Spring, Brine Valve
16.....	1	15019.....	Link, Piston Rod, 9000/9500, 9100	39.....	1	11981-01.....	Ring, Retaining, SS
17.....	1	14920.....	Rod, Piston, Lower, 9000, 9100	40.....	1	16098.....	Washer, Nylon Brine
18.....	1	14905.....	Piston, 9000, 9100 Lower	41.....	1	12977.....	O-ring, -015
19.....	1	40952.....	O-ring, -030	42.....	1	13245.....	Retainer, BLFC
20.....	4	15331.....	Screw, Hex Washer Head	43.....	1	17307.....	Washer, Flow, 0.125 GPM
21.....	2	13361.....	Spacer, 4600, 9000, 9100	.....		12094.....	Washer, Flow, 0.25 GPM
22.....	1	15215.....	Body, Injector, 9000, 9100	.....		12095.....	Washer, Flow, 0.50 GPM
23.....	2	13301.....	O-ring, -011	.....		12097.....	Washer, Flow, 1.0 GPM
24.....	3	13302.....	O-ring, -014	44.....	1	12550.....	Quad Ring, -009
25.....	1	10227.....	Screen, Injector	45.....	1	13244-01.....	Adapter, BLFC
26.....	1	10913-000.....	Nozzle, Injector, #000, Brown	46.....	1	13497.....	Air Disperser, Injector
.....		10913-00.....	Nozzle, Injector, #00, Violet	47.....	1	11710.....	O-ring, -215
.....		10913-0.....	Nozzle, Injector, #0, Red	48.....	1	12281.....	O-ring, -338
.....		10913-1.....	Nozzle, Injector, #1, White	50.....		60400.....	Piston Assy, 9000, 9100 Upper
.....		10913-2.....	Nozzle, Injector, #2, Blue	.....		60400-01.....	Piston Assy, 9000 Upper, HW
.....		10913-3.....	Nozzle, Injector, #3, Yellow	.....		60400-001.....	Piston Assy, 9000, 9100 Upper, 560CD
.....		10913-4.....	Nozzle, Injector, #4, Green	51.....		60401.....	Piston Assy, 9000, 9100 Lower
27.....	1	10914-000.....	Throat, Injector, #000, Brown	.....		60401-01.....	Piston Assy, 9000 Lower, HW
.....		10914-00.....	Throat, Injector, #00, Violet	.....		60401-001.....	Piston Assy, 9000, 9100 Lower, 560CD
.....		10914-0.....	Throat, Injector, #0, Red	52.....		60125.....	Seal & Spacer Kit, 5600/9000/9100 Upper
.....		10914-1.....	Throat, Injector, #1, White	.....		60125-15.....	Seal & Spacer Kit, 5600/9000/9100 Upper Blue
.....		10914-2.....	Throat, Injector, #2, Blue	.....		60125HW.....	Seal & Spacer Kit, 9000 Upper
.....		10914-3.....	Throat, Injector, #3, Yellow	53.....		60421.....	Seal & Spacer Kit, 9000/9100 Lower
.....		10914-4.....	Throat, Injector, #4, Green	.....		60421HW.....	Seal & Spacer Kit, 9000 Lower
28.....	1	13166.....	Cap, Injector, 5600, 9000, 9100	.....		60421-50.....	Seal & Spacer Kit, 9000/9100 Lower, 559PE
29.....	1	13303.....	O-ring, -021	54.....		60350.....	Brine Valve Assy, 9000, 9100
30.....	2	13387.....	Screw, Hex Washer Head	.....		60350-01.....	Brine Valve Assy, 9000, 560CD, Hot Water
31.....	1	15348.....	O-ring, -563	55.....		60385-0011.....	Injector Drain, 9000, 9100, 0.25 BLFC #0 INJ, 1.2 DLFC
32.....	1	13173-01.....	Retainer, DLFC Button	.....		60385-0111.....	Injector Drain, 9000, 9100, 0.25 BLFC #1 INJ, 1.2 DLFC
33.....	1	19153.....	Washer, Flow, 0.6 GPM				
.....		19152.....	Washer, Flow, 0.8 GPM				
.....		12097.....	Washer, Flow, 1.0 GPM				
.....		12085.....	Washer, Flow, 1.2 GPM				
.....		19150.....	Washer, Flow, 1.3 GPM				
.....		12086.....	Washer, Flow, 1.5 GPM				

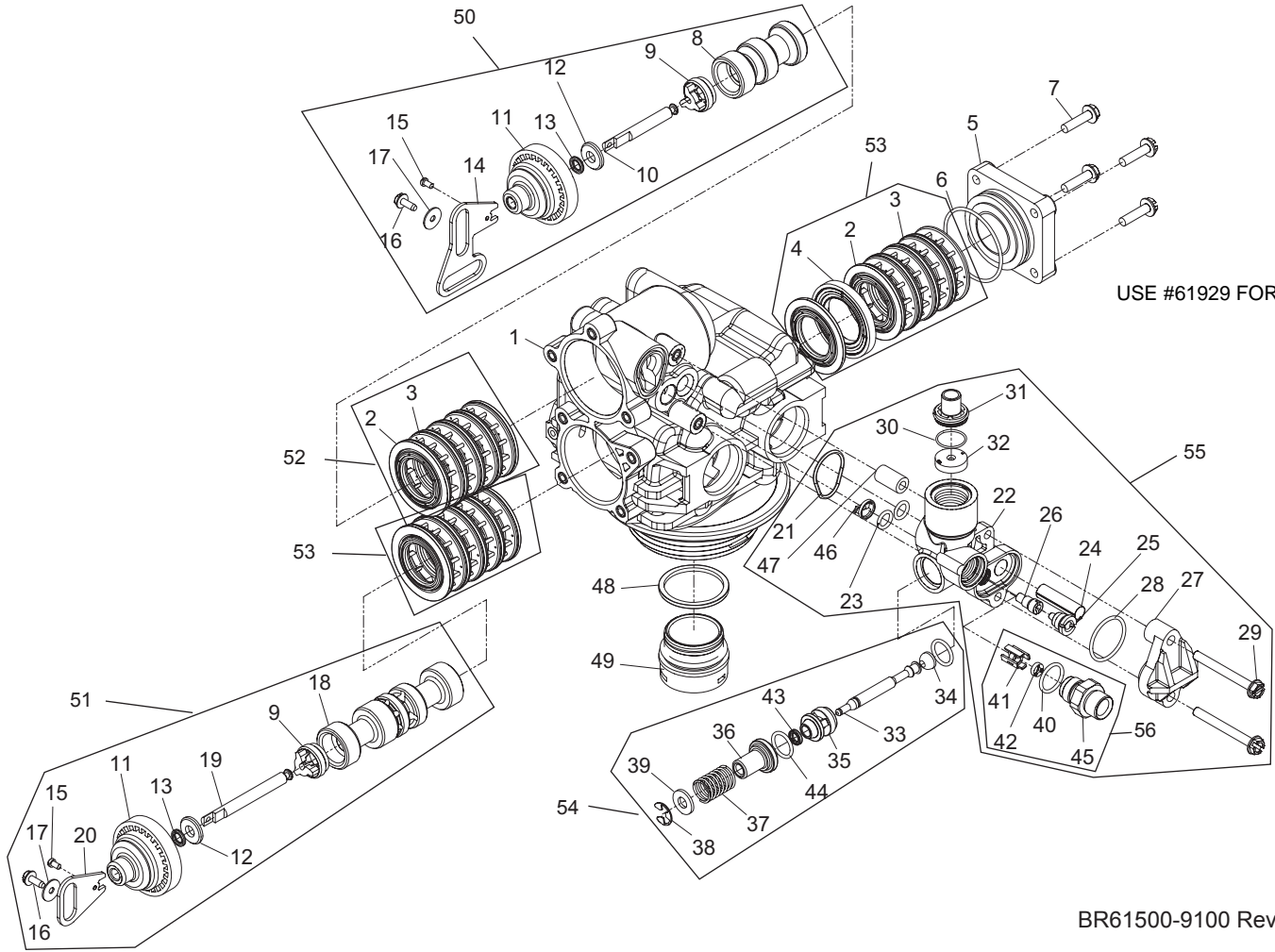


# 9000 CONTROL VALVE ASSEMBLY

*continued*

Item No.	QTY	Part No.	Description	Item No.	QTY	Part No.	Description
		60385-0121	Injector Drain, 9000, 9100, 0.25 BLFC #1 INJ, 1.5 DLFC			60385-0383	Injector Drain, 9000, 9100, 1.0 BLFC #3 INJ, 5.0 DLFC
		60385-0131	Injector Drain, 9000, 9100, 0.25 BLFC #1 INJ, 2.0 DLFC			60385-0393	Injector Drain, 9000, 9100, 1.0 BLFC #3 INJ, 7.0 DLFC
		60385-0141	Injector Drain, 9000, 9100, 0.25 BLFC #1 INJ, 2.4 DLFC			60385-0120	Injector Drain, 9000, 9100, Blank BLFC #1 INJ, 1.5 DLFC
		60385-0012	Injector Drain, 9000, 9100, 0.50 BLFC #0 INJ, 1.2 DLFC	56		60022-12	BLFC, 0.125 GPM, 5000/5600/9000/9100
		60385-0112	Injector Drain, 9000, 9100, 0.50 BLFC #1 INJ, 1.2 DLFC			60022-25	BLFC, 0.25 GPM, 5000/5600/9000/9100
		60385-0122	Injector Drain, 9000, 9100, 0.50 BLFC #1 INJ, 1.5 DLFC			60022-50	BLFC, 0.50 GPM, 5000/5600/9000/9100
		60385-0132	Injector Drain, 9000, 9100, 0.50 BLFC #1 INJ, 2.0 DLFC			60022-100	BLFC, 1.0 GPM, 5000/5600/9000/9100
		60385-0142	Injector Drain, 9000, 9100, 0.50 BLFC #1 INJ, 2.4 DLFC	<b>Not Shown</b>			
		60385-0182	Injector Drain, 9000, 9100, 0.50 BLFC #1 INJ, 5.0 DLFC	1		12128	Label, 0.25 GPM BLFC
		60385-0222	Injector Drain, 9000, 9100, 0.50 BLFC #2 INJ, 1.5 DLFC	1		13333	Label, Injector
		60385-0242	Injector Drain, 9000, 9100, 0.50 BLFC #2 INJ, 2.4 DLFC	1		10760	Label, 1 GPM, 3 lbs salt/min
		60385-0252	Injector Drain, 9000, 9100, 0.50 BLFC #2 INJ, 3.0 DLFC			10759	Label, 0.5 GPM, 1.5 lbs salt
		60385-0262	Injector Drain, 9000, 9100, 0.50 BLFC #2 INJ, 3.5 DLFC			19654	Label, 0.125 GPM Brine Refill Flow
		60385-0272	Injector Drain, 9000, 9100, 0.50 BLFC #2 INJ, 4.0 DLFC				
		60385-0282	Injector Drain, 9000, 9100, 0.50 BLFC #2 INJ, 5.0 DLFC				
		60385-02A2	Injector Drain, 9000, 9100, 0.50 BLFC #2 INJ, 6.0 DLFC				
		60385-0202	Injector Drain, 9000, 9100, 0.50 BLFC #2 INJ, Blank DLFC				
		60385-0372	Injector Drain, 9000, 9100, 0.50 BLFC #3 INJ, 4.0 DLFC				
		60385-0382	Injector Drain, 9000, 9100, 0.50 BLFC #3 INJ, 5.0 DLFC				
		60385-0482	Injector Drain, 9000, 9100, 0.50 BLFC #4 INJ, 5.0 DLFC				
		60385-0133	Injector Drain, 9000, 9100, 1.0 BLFC #1 INJ, 2.0 DLFC				
		60385-0143	Injector Drain, 9000, 9100, 1.0 BLFC #1 INJ, 2.4 DLFC				
		60385-0163	Injector Drain, 9000, 9100, 1.0 BLFC #1 INJ, 3.5 DLFC				
		60385-0233	Injector Drain, 9000, 9100, 1.0 BLFC #2 INJ, 2.0 DLFC				
		60385-0243	Injector Drain, 9000, 9100, 1.0 BLFC #2 INJ, 2.4 DLFC				
		60385-0253	Injector Drain, 9000, 9100, 1.0 BLFC #2 INJ, 3.0 DLFC				
		60385-0263	Injector Drain, 9000, 9100, 1.0 BLFC #2 INJ, 3.5 DLFC				
		60385-0273	Injector Drain, 9000, 9100, 1.0 BLFC #2 INJ, 4.0 DLFC				
		60385-0353	Injector Drain, 9000, 9100, 1.0 BLFC #3 INJ, 3.0 DLFC				
		60385-0373	Injector Drain, 9000, 9100, 1.0 BLFC #3 INJ, 4.0 DLFC				

# 9100 CONTROL VALVE ASSEMBLY



BR61500-9100 Rev C

# 9100 CONTROL VALVE ASSEMBLY

*continued*

Item No.	QTY	Part No.	Description	Item No.	QTY	Part No.	Description
1.....	1	40688.....	Valve Body Assy, 9100	.....		12088.....	Washer, Flow, 2.4 GPM
2.....	15	13242.....	Seal, 5600,9000, 9100	.....		12089.....	Washer, Flow, 3.0 GPM
3.....	12	14241.....	Spacer, 5600,9000, 9100	.....		12090.....	Washer, Flow, 3.5 GPM
4.....	1	16595.....	Spacer, 9000, 9100	.....		12091.....	Washer, Flow, 4.0 GPM
5.....	1	42278.....	End Cap, Plastic, 9000/9100	.....		19147.....	Washer, Flow, 4.5 GPM
6.....	1	40952.....	O-ring, -030	.....		12092.....	Washer, Flow, 5.0 GPM
7.....	4	15331.....	Screw, Hex Washer Head	.....		17814.....	Washer, Flow, 6.0 GPM
8.....	1	14914.....	Piston, 9000, 9100 Upper	.....		12408.....	Washer, Flow, 7.0 GPM
9.....	2	14309.....	Retainer, Piston Rod	33.....	1	14925.....	Brine Valve Stem, 9000, 9100
10.....	1	14919.....	Piston, Rod, Upper	34.....	1	12626.....	Seat, Brine Valve
11.....	2	13243.....	Plug, End, 5600, 9000, 9100	35.....	1	13167.....	Spacer, Brine Valve
12.....	2	13008.....	Retainer, End Plug Seal	36.....	1	13165.....	Cap, Brine Valve
13.....	2	10209.....	Quad Ring, -010	37.....	1	11973.....	Spring, Brine Valve
14.....	1	14921.....	Link, Piston Rod	38.....	1	11981-01.....	Ring, Retaining, SS
15.....	2	11335.....	Screw, #4-40	39.....	1	16098.....	Washer, Nylon Brine
16.....	2	17020.....	Screw, STL. Hex Washer, 6-20 x 3/8	40.....	1	12977.....	O-ring, -015
17.....	2	13363.....	Washer, Hague Drive	41.....	1	13245.....	Retainer, BLFC
18.....	1	14905.....	Piston, 9000, 9100 Lower	42.....	1	17307.....	Washer, Flow, 0.125 GPM
19.....	1	14920.....	Rod, Piston, Lower, 9000, 9100	.....		12094.....	Washer, Flow, 0.25 GPM
20.....	1	15019.....	Link, Piston, Rod, 9000/9500	.....		12095.....	Washer, Flow, 0.50 GPM
21.....	1	41500.....	O-ring, 9100 Drain	.....		12097.....	Washer, Flow, 1.0 GPM
22.....	1	15215.....	Body, Injector, 9000, 9100	43.....	1	12550.....	Quad Ring, -009
23.....	2	13301.....	O-ring, -011	44.....	2	13302.....	O-ring, -014
24.....	1	10227.....	Screen, Injector	45.....	1	13244-01.....	Adapter, BLFC
25.....	1	10913-000.....	Nozzle, Injector, #000, Brown	46.....	1	13497.....	Air Dispereser, Injector
.....		10913-00.....	Nozzle, Injector, #00, Violet	47.....	1	13361.....	Spacer, 4600, 9100
.....		10913-0.....	Nozzle, Injector, #0, Red	48.....	1	40538.....	Retainer, 32 mm, O-ring DIST, 7000
.....		10913-1.....	Nozzle, Injector, #1, White	49.....	1	61419.....	Kit, 1.05" Distributor Adapter
.....		10913-2.....	Nozzle, Injector, #2, Blue	50.....		60400.....	Piston Assy, 9000, 9100 Upper
.....		10913-3.....	Nozzle, Injector, #3, Yellow	.....		60400-001.....	Piston Assy, 9000, 9100 Upper, 560CD
.....		10913-4.....	Nozzle, Injector, #4, Green	51.....		60401.....	Piston Assy, 9000, 9100 Lower
26.....	1	10914-000.....	Throat, Injector, #000, Brown	.....		60401-01.....	Piston Assy, 9000 Lower, HW
.....		10914-00.....	Throat, Injector, #00, Violet	.....		60401-001.....	Piston Assy, 9000, 9100 Lower, 560CD
.....		10914-0.....	Throat, Injector, #0, Red	52.....		60125.....	Seal & Spacer Kit, 5600/9000/9100 Upper
.....		10914-1.....	Throat, Injector, #1, White	.....		60125-15.....	Seal & Spacer Kit, 5600/9000/9100 Upper Blue Silicone
.....		10914-2.....	Throat, Injector, #2, Blue	53.....		60421.....	Seal & Spacer Kit, 9000/9100 Lower
.....		10914-3.....	Throat, Injector, #3, Yellow	.....		60421-50.....	Seal & Spacer Kit, 9000/9100 Lower, 559PE
.....		10914-4.....	Throat, Injector, #4, Green	54.....		60350.....	Brine Valve Assy, 9000, 9100
27.....	1	13166.....	Cap, Injector, 5600, 9000, 9100	55.....		60385-0011.....	Injector Drain, 9000, 9100, 0.25 BLFC #0 INJ, 1.2 DLFC
28.....	1	13303.....	O-ring, -021	.....		60385-0111.....	Injector Drain, 9000, 9100, 0.25 BLFC #1 INJ, 1.2 DLFC
29.....	2	13387.....	Screw, Hex Washer Head	.....		60385-0121.....	Injector Drain, 9000, 9100, 0.25 BLFC #1 INJ, 1.5 DLFC
30.....	1	15348.....	O-ring, -563	.....		60385-0131.....	Injector Drain, 9000, 9100, 0.25 BLFC #1 INJ, 2.0 DLFC
31.....	1	13173-01.....	Retainer, DLFC Button	.....		60385-0141.....	Injector Drain, 9000, 9100, 0.25
32.....	1	19153.....	Washer, Flow, 0.6 GPM				
.....		19152.....	Washer, Flow, 0.8 GPM				
.....		12097.....	Washer, Flow, 1.0 GPM				
.....		12085.....	Washer, Flow, 1.2 GPM				
.....		19150.....	Washer, Flow, 1.3 GPM				
.....		12086.....	Washer, Flow, 1.5 GPM				
.....		19149.....	Washer, Flow, 1.7 GPM				
.....		12087.....	Washer, Flow, 2.0 GPM				

# 9100 CONTROL VALVE ASSEMBLY

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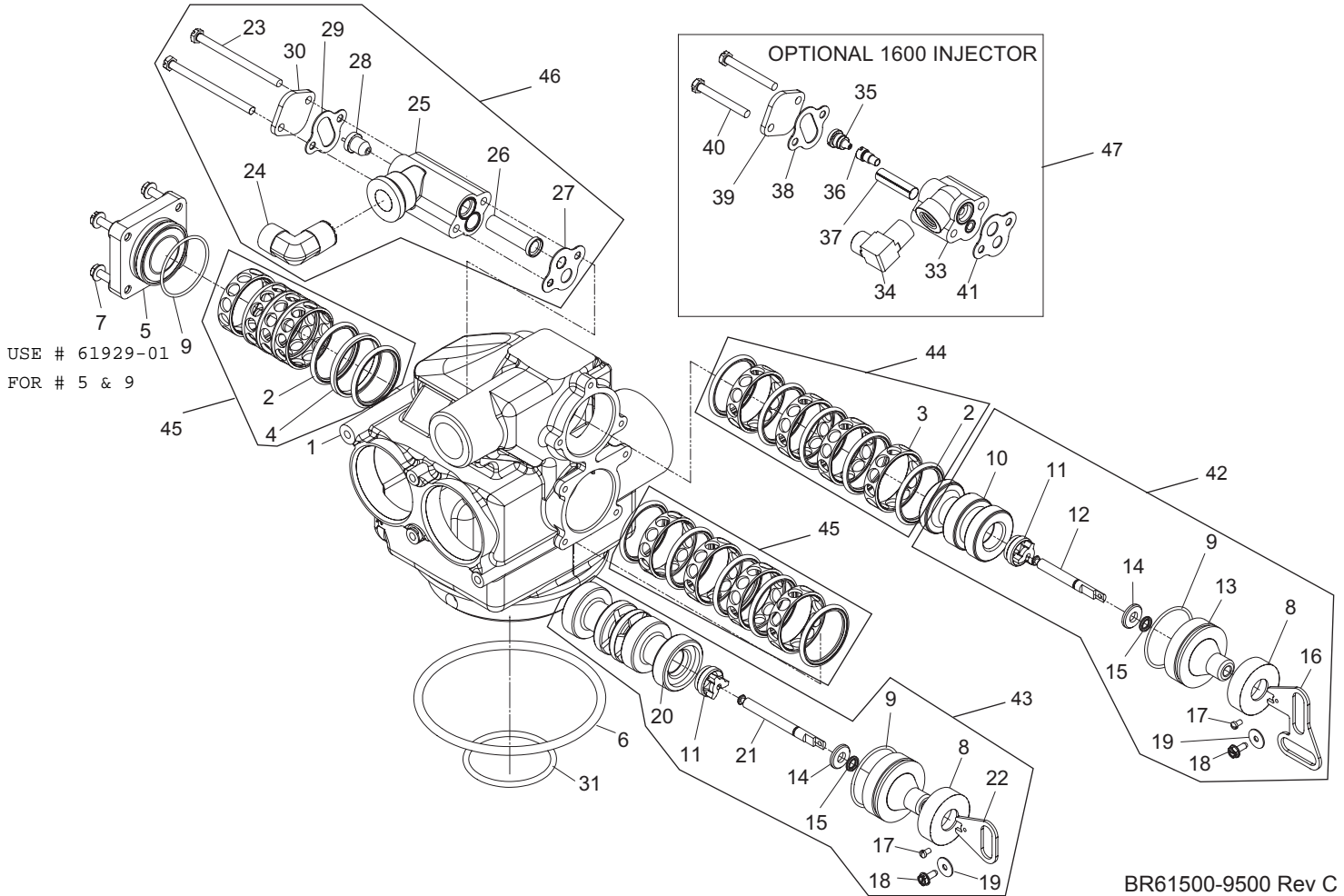
	BLFC #1 INJ, 2.4 DLFC
..... 60385-0012.....	Injector Drain, 9000, 9100, 0.50 BLFC #0 INJ, 1.2 DLFC
..... 60385-0112.....	Injector Drain, 9000, 9100, 0.50 BLFC #1 INJ, 1.2 DLFC
..... 60385-0122.....	Injector Drain, 9000, 9100, 0.50 BLFC #1 INJ, 1.5 DLFC
..... 60385-0132.....	Injector Drain, 9000, 9100, 0.50 BLFC #1 INJ, 2.0 DLFC
..... 60385-0142.....	Injector Drain, 9000, 9100, 0.50 BLFC #1 INJ, 2.4 DLFC
..... 60385-0182.....	Injector Drain, 9000, 9100, 0.50 BLFC #1 INJ, 5.0 DLFC
..... 60385-0222.....	Injector Drain, 9000, 9100, 0.50 BLFC #2 INJ, 1.5 DLFC
..... 60385-0242.....	Injector Drain, 9000, 9100, 0.50 BLFC #2 INJ, 2.4 DLFC
..... 60385-0252.....	Injector Drain, 9000, 9100, 0.50 BLFC #2 INJ, 3.0 DLFC
..... 60385-0262.....	Injector Drain, 9000, 9100, 0.50 BLFC #2 INJ, 3.5 DLFC
..... 60385-0272.....	Injector Drain, 9000, 9100, 0.50 BLFC #2 INJ, 4.0 DLFC
..... 60385-0282.....	Injector Drain, 9000, 9100, 0.50 BLFC #2 INJ, 5.0 DLFC
..... 60385-02A2.....	Injector Drain, 9000, 9100, 0.50 BLFC #2 INJ, 6.0 DLFC
..... 60385-0202.....	Injector Drain, 9000, 9100, 0.50 BLFC #2 INJ, Blank DLFC
..... 60385-0372.....	Injector Drain, 9000, 9100, 0.50 BLFC #3 INJ, 4.0 DLFC
..... 60385-0382.....	Injector Drain, 9000, 9100, 0.50 BLFC #3 INJ, 5.0 DLFC
..... 60385-0482.....	Injector Drain, 9000, 9100, 0.50 BLFC #4 INJ, 5.0 DLFC
..... 60385-0133.....	Injector Drain, 9000, 9100, 1.0 BLFC #1 INJ, 2.0 DLFC
..... 60385-0143.....	Injector Drain, 9000, 9100, 1.0 BLFC #1 INJ, 2.4 DLFC
..... 60385-0163.....	Injector Drain, 9000, 9100, 1.0 BLFC #1 INJ, 3.5 DLFC
..... 60385-0233.....	Injector Drain, 9000, 9100, 1.0 BLFC #2 INJ, 2.0 DLFC
..... 60385-0243.....	Injector Drain, 9000, 9100, 1.0 BLFC #2 INJ, 2.4 DLFC
..... 60385-0253.....	Injector Drain, 9000, 9100, 1.0 BLFC #2 INJ, 3.0 DLFC
..... 60385-0263.....	Injector Drain, 9000, 9100, 1.0 BLFC #2 INJ, 3.5 DLFC
..... 60385-0273.....	Injector Drain, 9000, 9100, 1.0 BLFC #2 INJ, 4.0 DLFC
..... 60385-0353.....	Injector Drain, 9000, 9100, 1.0 BLFC #3 INJ, 3.0 DLFC
..... 60385-0373.....	Injector Drain, 9000, 9100, 1.0 BLFC #3 INJ, 4.0 DLFC
..... 60385-0383.....	Injector Drain, 9000, 9100, 1.0 BLFC #3 INJ, 5.0 DLFC
..... 60385-0393.....	Injector Drain, 9000, 9100, 1.0 BLFC #3 INJ, 7.0 DLFC
..... 60385-0120.....	Injector Drain, 9000, 9100, Blank

Item No.	QTY	Part No.	Description
			BLFC #1 INJ, 1.5 DLFC
56.....		60022-12.....	BLFC, 0.125 GPM, 5000/5600/9000/9100
		..... 60022-25.....	BLFC, 0.25 GPM, 5000/5600/9000/9100
		..... 60022-50.....	BLFC, 0.50 GPM, 5000/5600/9000/9100
		..... 60022-100.....	BLFC, 1.0 GPM, 5000/5600/9000/9100

**Not Shown**

1 .....	13333.....	Label, Injector
1 .....	10759.....	Label, 0.5 GPM, 1.5 lbs salt/min
.....	18569.....	Retainer, Tank Seal
.....	18303.....	O-ring, -336, Top of Tank
.....	12128.....	Label, 0.25 GPM BLFC
.....	10760.....	Label 1 GPM, 3 lbs Salt
.....	19654.....	Label, 0.125 GPM Brine Refill Flow

# 9500 CONTROL VALVE ASSEMBLY



Item No.	QTY	Part No.	Description
1	1	16919	Valve Body, 9500, Machining
2	15	16101	Seal, 2850, 4500
		41113	Seal, 2850, 559PE
3	12	16638	Spacer, 9500/2850, Cold & Hot Water
		16638-02	Spacer, 9500/2850, MS1050, Plastic
4	1	17092	Spacer, Disc, 9500
5	1	42278-01	End Cap, Plastic, 9500
6	1	16455	O-ring, -347
7	4	15331	Screw, Hex Washer Head
8	2	17558	Disc, Spacer, End Plug
9	3	16394	O-ring, -029
10	1	17110	Piston, 9500, Upper
11	2	14309	Retainer, Piston Rod
12	1	16957	Rod, Piston, 9500
13	2	16954	Plug, End, 9500
14	2	13008	Retainer, End Plug Seal
15	2	10209	Quad Ring, -010
16	1	14921	Link, Piston Rod
17	2	11335	Screw, #4-40
18	2	17020	Screw, STL. Hex Washer, 6-20 x 3/8
19	2	13363	Washer, Plain, .145 ID S.S.
20	1	17111	Piston, 9500, Lower
21	1	16956	Rod, Piston, Lower, 9500
22	1	15019	Link, Piston Rod, 9000/9500, 9100
23	2	14804	Screw, Slotted Hex Head

Item No.	QTY	Part No.	Description
24	1	15413	Fitting, Elbow, Male, 1/2 TX 3/8 NPT
25	1	17777-03	Body, Injector, 1700
26	1	14802-03C	Throat, Injector, #3C, Yellow
		14802-04C	Throat, Injector, #4C, Green
		14802-05C	Throat Injector, #5C, White
		14802-06C	Throat Injector, #6C, Red
27	1	14805	Gasket, Injector Body
28	1	14801-03C	Nozzle, Injector, 3C, Yellow
		14801-04C	Nozzle, Injector, 4C, Green
		14801-05C	Nozzle, Injector, 5C, White
		14801-06C	Nozzle, Injector, 6C, Red
29	1	10229	Gasket, Injector Body
30	1	11893	Cap, Injector
31	1	13577	O-ring, -226
<b>Optional (1600) Injector Part Number</b>			
33		17776	Body, Injector, 1600
34		10328	Fitting, Elbow, 90 Deg.
35		10913-1	Nozzle, Injector, #1, Natural
36		10914	Throat, Injector
37		10227	Screen, Injector
38		10229	Gasket, Injector Body
39		11893	Cap, Injector
40		10692	Screw, Slot, Indented Hex Head
41		14805	Gasket, Injector Body

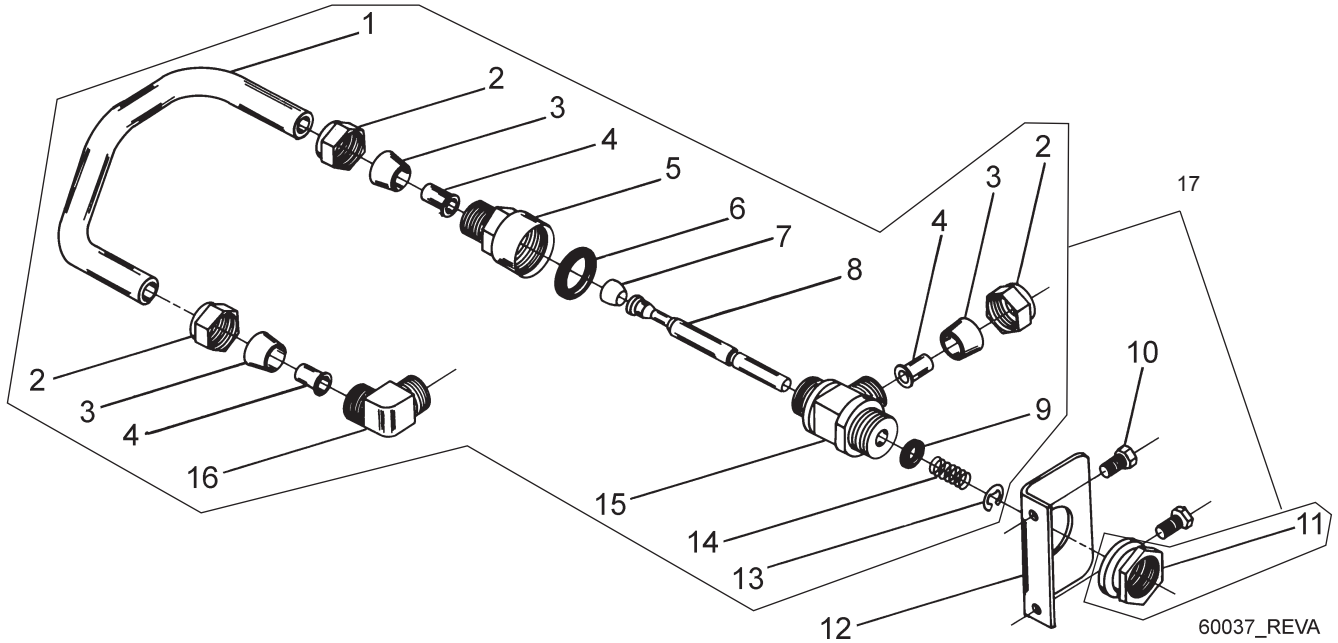


# 9100 CONTROL VALVE ASSEMBLY

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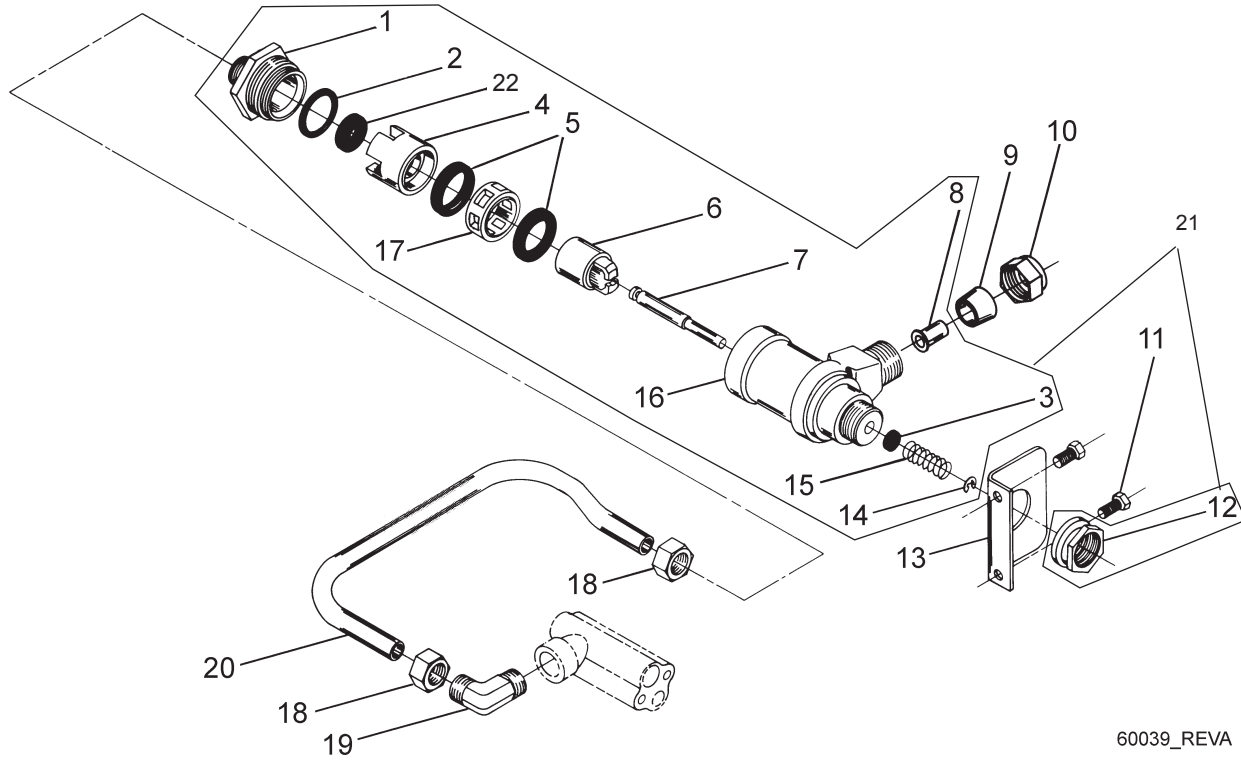
Item No.	QTY	Part No.	Description	Item No.	QTY	Part No.	Description
42		60108	Piston Assy, 9500, Upper			60366-50	DLFC, 1"F x 3/4"F, NPT, 5.0 GPM
		60108-01	Piston Assy, 9500, Upper, HW			60366-60	DLFC, 1"F x 3/4"F, NPT, 6.0 GPM
		60108-02	Piston Assy, 9500, Upper, 560CD			60366-70	DLFC, 1"F x 3/4"F, NPT, 7.0 GPM
43		60109	Piston Assy, 9500, Lower			60708-00	DLFC, 1"F x 3/4"F, NPT, No Button
		60109-01	Piston Assy, 9500, HW, Lower			60708-8.0	DLFC, 1"F x 3/4"F, NPT, 8.0 GPM
		60109-02	Piston Assy, 9500, Lower, 560CD			60708-9.0	DLFC, 1"F x 3/4"F, NPT, 9.0 GPM
44		60134	Seal & Spacer Kit, 9500, Upper, Hot & Cold			60708-10	DLFC, 1"F x 3/4"F, NPT, 10.0 GPM
		60134-20	Seal & Spacer Kit, 9500, Upper, Plastic Spacers			60708-12	DLFC, 1"F x 3/4"F, NPT, 12.0 GPM
		60134-30	Seal & Spacer Kit, 9500, Upper, Plastic Spacers, Chemical Resistant Seals			60708-15	DLFC, 1"F x 3/4"F, NPT, 15.0 GPM
45		60133-01	Seal & Spacer Kit, 9500, Lower, Hot & Cold			60721-00	DLFC, 1"F x 1"F, NPT, No Button
		60133-20	Seal & Spacer Kit, 9500, Lower, Plastic Spacers			60721-06	DLFC, 1"F x 1"F, NPT, 0.06 GPM
		60133-30	Seal & Spacer Kit, 9500, Upper, Plastic Spacers, Chemical Resistant Seals			60721-08	DLFC, 1"F x 1"F, NPT, 0.08 GPM
46		60381-03	Injector Assy, 1700, #3C			60721-10	DLFC, 1"F x 1"F, NPT, 1.0 GPM
		60381-04	Injector Assy, 1700, #4C			60721-12	DLFC, 1"F x 1"F, NPT, 1.2 GPM
		60381-05	Injector Assy, 1700, #5C			60721-13	DLFC, 1"F x 1"F, NPT, 1.3 GPM
		60381-06	Injector Assy, 1700, #6C			60721-15	DLFC, 1"F x 1"F, NPT, 1.5 GPM
47		60480-00	Injector Assy, 1600, #0, Plastic			60721-00	DLFC, 1"F x 1"F, NPTF, No Button
		60480-01	Injector Assy, 1600, #1, Plastic			60721-17	DLFC, 1"F x 1"F, NPTF, 1.7 GPM
		60480-02	Injector Assy, 1600, #2, Plastic			60721-20	DLFC, 1"F x 1"F, NPTF, 2.0 GPM
		60480-03	Injector Assy, 1600, #3, Plastic			60721-24	DLFC, 1"F x 1"F, NPTF, 2.4 GPM
		60480-04	Injector Assy, 1600, #4, Plastic			60721-30	DLFC, 1"F x 1"F, NPTF, 3.0 GPM
		60481-21	Injector Assy, 1600, #1, S.S. Brass, HW			60721-35	DLFC, 1"F x 1"F, NPTF, 3.5 GPM
		60481-22	Injector Assy, 1600, #2, S.S. Brass, HW			60721-40	DLFC, 1"F x 1"F, NPTF, 4.0 GPM
		60481-23	Injector Assy, 1600, #3, S.S. Brass, HW			60721-45	DLFC, 1"F x 1"F, NPTF, 4.5 GPM
		60080-11	Injector Assy, 1600, #1, PVC			60721-50	DLFC, 1"F x 1"F, NPTF, 5.0 GPM
		60080-12	Injector Assy, 1600, #2, PVC			60721-60	DLFC, 1"F x 1"F, NPTF, 6.0 GPM
		60080-14	Injector Assy, 1600, #4, PVC			60721-70	DLFC, 1"F x 1"F, NPTF, 7.0 GPM
<b>Not Shown</b>						60702-00	DLFC, 1"M x 1"F, NPT, Brass, No Button
		60366-00	DLFC, 1"F x 3/4"F, NPT, No Button			60702-8.0	DLFC, 1"M x 1"F, NPT, 8.0 GPM
		60366-06	DLFC, 1"F x 3/4"F, NPT, 0.6 GPM			60702-9.0	DLFC, 1"M x 1"F, NPT, 9.0 GPM
		60366-08	DLFC, 1"F x 3/4"F, NPT, 0.8 GPM			60702-10	DLFC, 1"M x 1"F, NPT, 10 GPM
		60366-10	DLFC, 1"F x 3/4"F, NPT, 1.0 GPM			60702-12	DLFC, 1"M x 1"F, NPT, 12 GPM
		60366-12	DLFC, 1"F x 3/4"F, NPT, 1.2 GPM			60702-15	DLFC, 1"M x 1"F, NPT, 15 GPM
		60366-13	DLFC, 1"F x 3/4"F, NPT, 1.3 GPM				
		60366-15	DLFC, 1"F x 3/4"F, NPT, 1.5 GPM				
		60366-17	DLFC, 1"F x 3/4"F, NPT, 1.7 GPM				
		60366-20	DLFC, 1"F x 3/4"F, NPT, 2.0 GPM				
		60366-24	DLFC, 1"F x 3/4"F, NPT, 2.4 GPM				
		60366-30	DLFC, 1"F x 3/4"F, NPT, 3.0 GPM				
		60366-35	DLFC, 1"F x 3/4"F, NPT, 3.5 GPM				
		60366-40	DLFC, 1"F x 3/4"F, NPT, 4.0 GPM				
		60366-45	DLFC, 1"F x 3/4"F, NPT, 4.5 GPM				

# 1600 BRINE VALVE SYSTEM (FOR 9500)



Item No.	QTY	Part No.	Description
1	1	16960	Tube, Brine Valve
	1	16960	Tube, Brine Valve, HW
2	1	10329	Fitting, Tube, 3/8 Nut, Brass
		18698	Nut, 3/8" TUBE, W/SLEEVE, HW
3	1	10330	Fitting, Sleeve, 3/8 Celcon
4	1	10332	Fitting, Insert, 3/8
5	1	12747	Fitting, Flow Control
		60020-25	BLFC, 0.25 GPM, 1600
		60020-50	BLFC, 0.50 GPM, 1600
		60020-100	BLFC, 1.0 GPM, 1600
6	1	12550-01	Quad Ring, -009, 560CD
7	1	12626-01	Seat, Brine Valve, 560CD
8	1	16958	Brine Valve Stem, 1600 Coated
9	1	11982-01	O-ring, -016, 560CD
10	3	15137	Screw, Hex Washer Mach, 10-24 x 3/8
11	3	10269	Nut, Jam, 3/84 - 16
12	3	16922	Bracket, Brine Valve Mounting
13	1	10250	Ring, Retaining
14	1	10249	Spring, Brine Valve
15	1	12748-01	Brine Valve Body, 1600
16	2	10328	Fitting, Elbow, 90 Deg.
17		60037-610	Brine Valve Assy. 9500/1600 0.25 GPM
		60037-620	Brine Valve Assy. 9500/1600 0.50 GPM
		60037-630	Brine Valve Assy. 9500/1600 1.0 GPM
		60037HW	Brine Valve Assy. 9500/1600 Hot Water

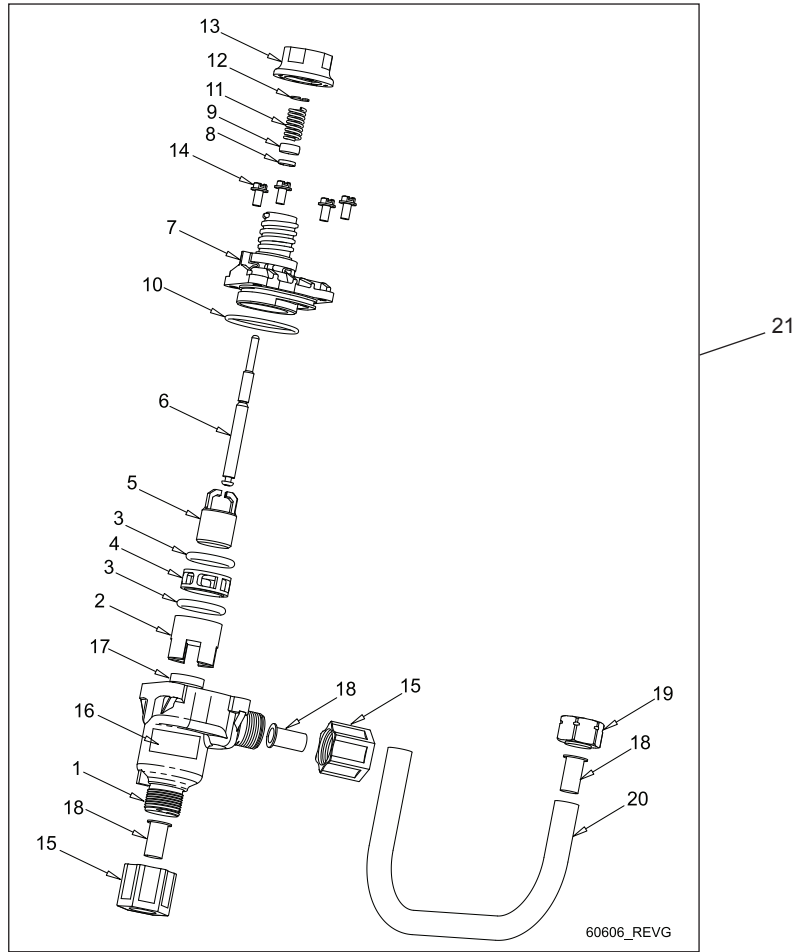
# 1700 BRINE VALVE SYSTEM (FOR 9500)



60039\_REVA

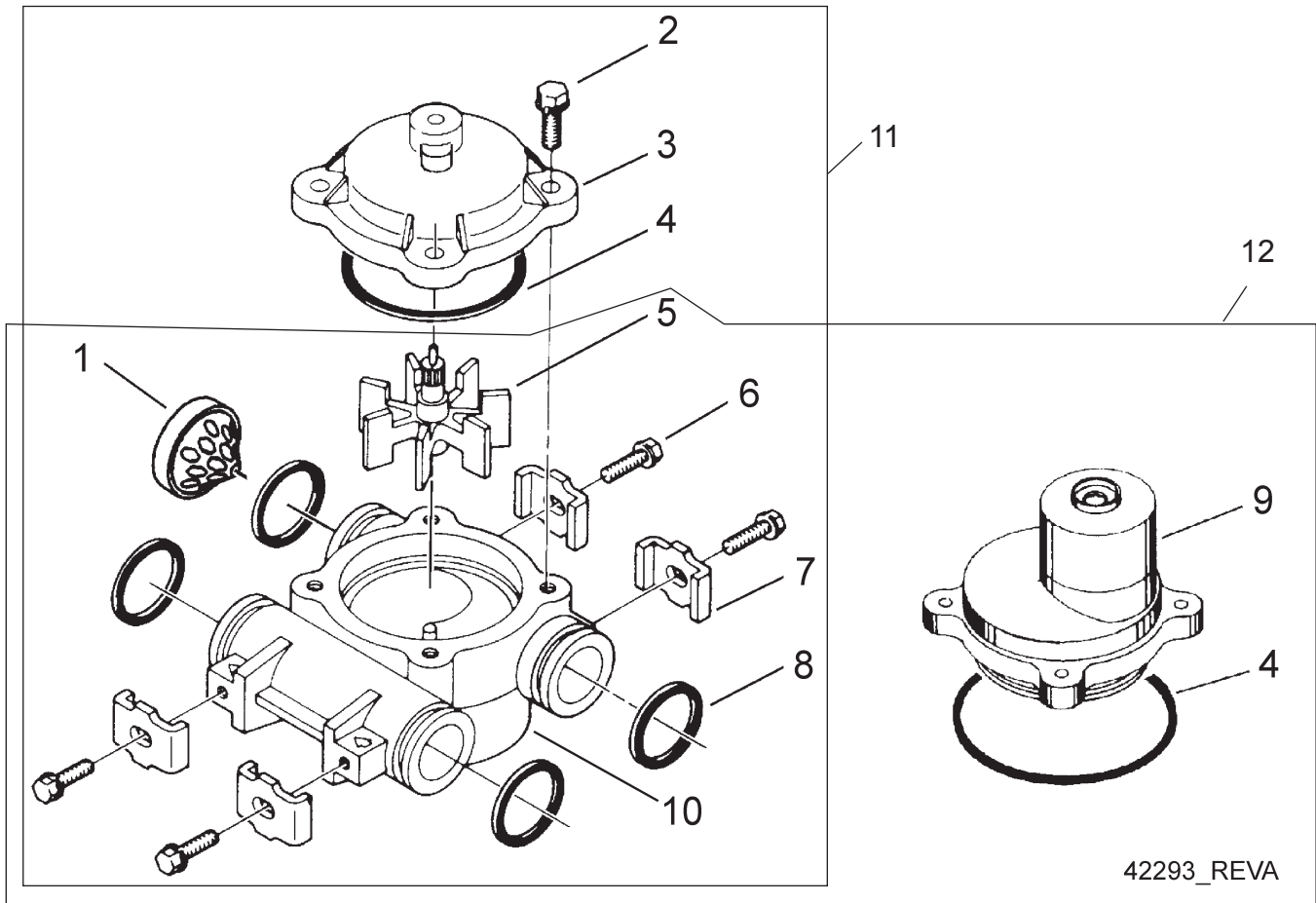
Item No.	QTY	Part No.	Description	Item No.	QTY	Part No.	Description
1	1	14792	Plug, End, Brine Valve	21	1	60039-10	Brine Valve Assy. 9500/1700 1.0 GPM
2	1	13201	Quad Ring, -020			60039-12	Brine Valve Assy. 9500/1700 1.2 GPM
		13201-01	Quad Ring, -20, 560CD			60039-15	Brine Valve Assy. 9500/1700 1.5 GPM
3	1	12550	Quad Ring, -009			60039-20	Brine Valve Assy. 9500/1700 2.0 GPM
		12550-01	Quad Ring, -009, 560CD			60039-24	Brine Valve Assy. 9500/1700 2.4 GPM
4	1	14785-01	Retainer, Flow Control			60039-30	Brine Valve Assy. 9500/1700 3.0 GPM
5	2	14811	O-ring, -210, 560CD, Brine			60039-50	Brine Valve Assy. 9500/1700 5.0 GPM
6	1	14795	Piston, Brine Valve			60039-00	Brine Valve Assy. 9500/1700 Blank
7	1	16929	Brine Valve Stem, Coated	22	1	12097	Washer, Flow, 1.0 GPM
8	1	15415	Fitting, Insert, 1/2" Tube			12085	Washer, Flow, 1.2 GPM
9	1	16124	Fitting, Sleeve, Delrin			19150	Washer, Flow, 1.3 GPM
10	1	16123	Nut, Brass			12086	Washer, Flow, 1.5 GPM
11	1	15137	Screw, Hex Washer Mach, 10-24 x 3/8			19149	Washer, Flow, 1.7 GPM
12	1	10269	Nut, Jam, 3/4 - 16			12087	Washer, Flow, 2.0 GPM
13	1	16922	Bracket, Brine Valve Mounting			12088	Washer, Flow, 2.4 GPM
14	2	10250	Ring, Retaining			12089	Washer, Flow, 3.0 GPM
15	1	15310	Spring, Brine Valve			12090	Washer, Flow, 3.5 GPM
16	2	14790	Brine Valve Body			12091	Washer, Flow, 4.0 GPM
17	1	14798	Spacer, 1700, Brine			19147	Washer, Flow, 4.5 GPM
18	1	15414	Nut, 2900, w/Sleeve			12092	Washer, Flow, 5.0 GPM
19	1	15413	Fitting, Elbow, Male, 1/2T x 3/8 NPT			17814	Washer, Flow, 6.0 GPM
20	1	16959	Tube, Brine 9500/1710, 10.6"			12408	Washer, Flow, 7.0 GPM
		16959-01	Tube, Brine Valve 9500/1710, CPVC, Hot Water				

# 1710 BRINE VALVE SYSTEM (FOR 9500)



Item No.	QTY	Part No.	Description	Item No.	QTY	Part No.	Description
1.....	1	41202.....	Brine Valve, 1700, Plastic, Top	21.....	1	60606-10.....	Brine Valve Assy. 9500/1710 1.0 GPM
2.....	1	14785-01.....	Retainer, Flow Control	.....	1	60606-12.....	Brine Valve Assy. 9500/1710 1.2 GPM
3.....	2	14811.....	O-ring, -210, 560CD, Brine	.....	1	60606-15.....	Brine Valve Assy. 9500/1710 1.5 GPM
4.....	1	14798.....	Spacer, 1700, Brine	.....	1	60606-20.....	Brine Valve Assy. 9500/1710 2.0 GPM
5.....	1	14795.....	Piston, Brine Valve	.....	1	60606-24.....	Brine Valve Assy. 9500/1710 2.4 GPM
6.....	1	41429.....	Stem, Brine, 1710, Plastic, 9500	.....	1	60606-30.....	Brine Valve Assy. 9500/1710 3.0 GPM
7.....	1	41201.....	Brine Valve, 1700, Plastic, Bottm	.....	1	60606-40.....	Brine Valve Assy. 9500/1710 4.0 GPM
8.....	1	12550.....	Ring, Quad, -009	.....	1	60606-50.....	Brine Valve Assy. 9500/1710 5.0 GPM
9.....	1	17908.....	Sleeve, Brine Valve Stem	.....	1	60606-00.....	Brine Valve Assy. 9500/1710 Blank
10.....	1	41547.....	O-ring, 2mm x 35mm				
11.....	1	15310.....	Spring, Brine Valve				
12.....	1	10250.....	Ring, Retaining				
13.....	1	17906-01.....	Guide, Brine Valve Stem				
14.....	4	14202-01.....	Screw, Hex Washer, Mach, 8-32 x 5/16"				
15.....	2	41056.....	Nut Assy, 1/2" Plastic				
16.....	1	41493-XX.....	Label, BLFC, 1710 (Specify GPM)				
17.....	1		Washer, Flow (Specify GPM)				
18.....	3	15415.....	Fitting, Insert, 1/2", Tube				
19.....	1	15414.....	Nut, 2900, w/Sleeve				
20.....	1	16959.....	Tube, Brine 9500/1700, 10.6"				

# 3/4" METER ASSEMBLY

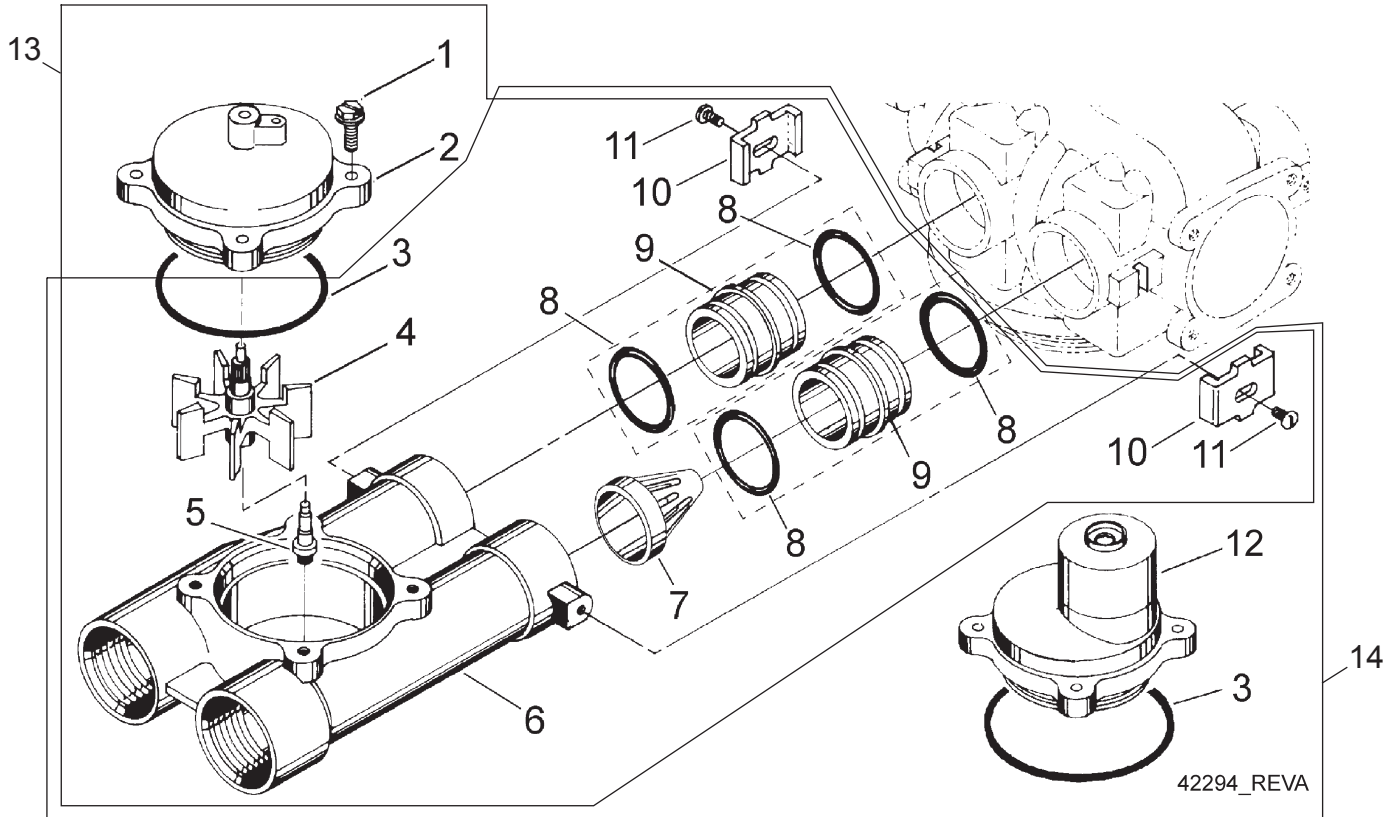


42293\_REVA

Item No.	QTY	Part No.	Description
1.....	1 .....	14613.....	Flow Straightener
2.....	4 .....	12473.....	Screw, Hex Washer, 10-24 x 5/8
3.....	1 .....	14038.....	Meter Cap Assy, STD, Plastic
4.....	1 .....	13847.....	O-ring, -137, Std/560CD, Meter
5.....	1 .....	13509.....	Impeller, Meter
6.....	4 .....	13314.....	Screw, Slot Ind Hex, 8-18 x .60
7.....	4 .....	13255.....	Clip, Mounting
8.....	4 .....	13305.....	O-ring, -119
9.....	1 .....	15150.....	Meter Cap Assy, EXT, Plastic Paddle
10.....	1 .....	13821.....	Body, Meter, 5600
11.....	1 .....	60086.....	Meter Assy, 3/4" Dual Port, Slip, STD, Plastic, Paddlewheel, w/ Clips
12.....	1 .....	60087.....	Meter Assy, 3/4" Dual Port, Slip, EXT, Plastic, Paddlewheel, w/ Clips

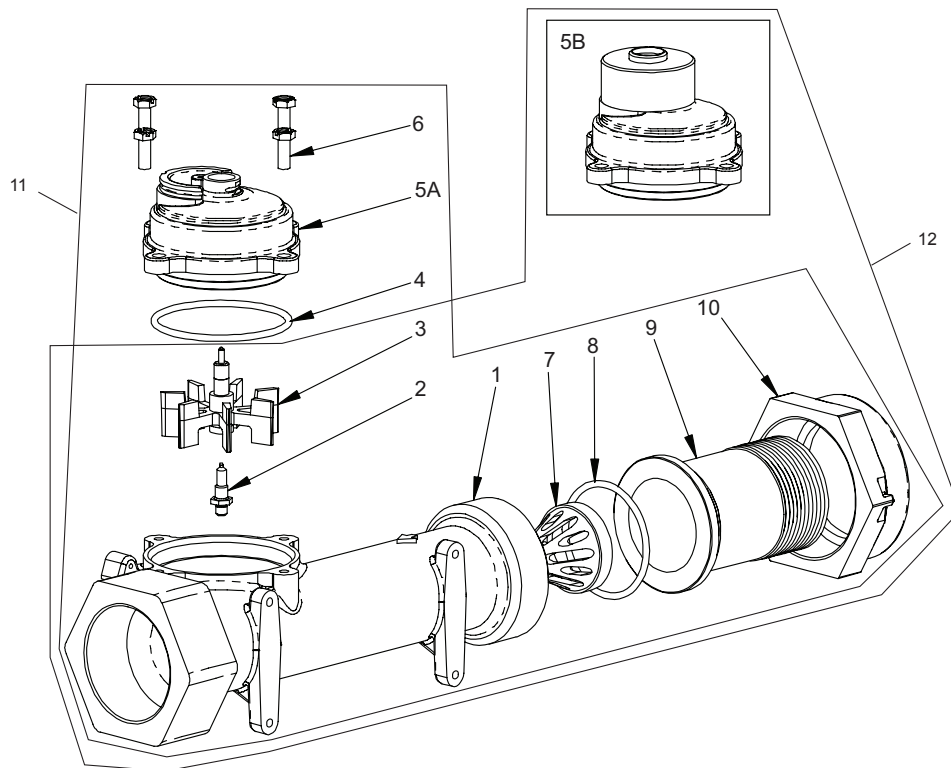


# 1" METER ASSEMBLY



Item No.	QTY	Part No.	Description	Item No.	QTY	Part No.	Description
1.....	4.....	12112.....	Screw, Hex Hd Mach 10-24 x 1/2	.....	60389-001.....	Meter Assy, 1" Dual Port, NPT, STD, BRS BDY, 560CD, PDL, W/ CLPS	
2.....	1.....	15218.....	Meter Cap Assy, Brass, Standard	.....	60389-001NP.....	Meter Assy, 1" Dual Port, NPT, STD, BRS BDY, 560CD, PDL, W/ CLPS	
		14038.....	Meter Cap Assy, Standard	.....	60389NP.....	Meter Assy, 1" Dual Port, NPT, STD, BRS BDY, NP, PDL, W/ CLPS	
3.....	1.....	13847.....	O-ring, -137, STD/560CD, Meter	.....	60612.....	Meter Assy, 1" Dual Port, NPT, STD, BRS, HW, PDL	
4.....	1.....	13509.....	Impeller, Meter	.....	60612NP.....	Meter Assy, 1" Dual Port, NPT, STD, BRS, HW, NP, PDL	
		13509-01.....	Impeller, Celcon	.....	61575.....	Meter Assy, 1" Dual Port, NPT, STD, BRS BDY, PDL, W/O CLP & SCW	
5.....	1.....	13882.....	Post, Meter Impeller	.....	60389-20.....	Meter Assy, 1" Dual Port, BSP/ Metric, STD, BRS BDY, PDL, W/ CLPS	
6.....	1.....	15043.....	Body, Meter, 9000 1"	.....	60390-20.....	Meter Assy, 1" Dual Port, BSP/ Metric, EXT, BRS BDY, PDL, W/ CLPS	
7.....	1.....	14960.....	Flow Straightener, 1"	.....	60632-20.....	Meter Assy, 1" Dual Port, BSP/ Metric, EXT, BRS, HW, PDL	
8.....	4.....	13305.....	O-ring, -119	.....	60612-20.....	Meter Assy, 1" Dual Port, BSP/ Metric, STD, BRS, HW, PDL	
9.....	2.....	15078.....	Adapter, 1" Coupling				
10.....	2.....	13255.....	Clip, Mounting				
11.....	2.....	14202-01.....	Screw, Hex Washer Mach, 8-32 x 5/16				
12.....	1.....	15150.....	Meter Cap Assy, Ext, Plastic Paddle				
		15237.....	Meter Cap Assy, Ext, Brass Paddle				
13.....		60390.....	Meter Assy, 1" Dual Port, NPT, EXT, BRS BDY, PDL, W/CLPS				
		60390-001.....	Meter Assy, 1" Dual Port, NPT, EXT, BRS BDY, 560CD, PDL, W/ CLPS				
		60390NP.....	Meter Assy, 1" Dual Port, NPT, EXT, BRS BDY, NP, PDL, W/ CLPS				
		60632.....	Meter Assy, 1" Dual Port, NPT, EXT, BRS, HW, PDL				
		60632NP.....	Meter Assy, 1" Dual Port, NPT, EXT, BRS, HW, NP, PDL				
		60389.....	Meter Assy, 1" Dual Port, NPT, STD, BRS BDY, PDL, W/CLPS				

# 1-1/2" METER ASSEMBLY



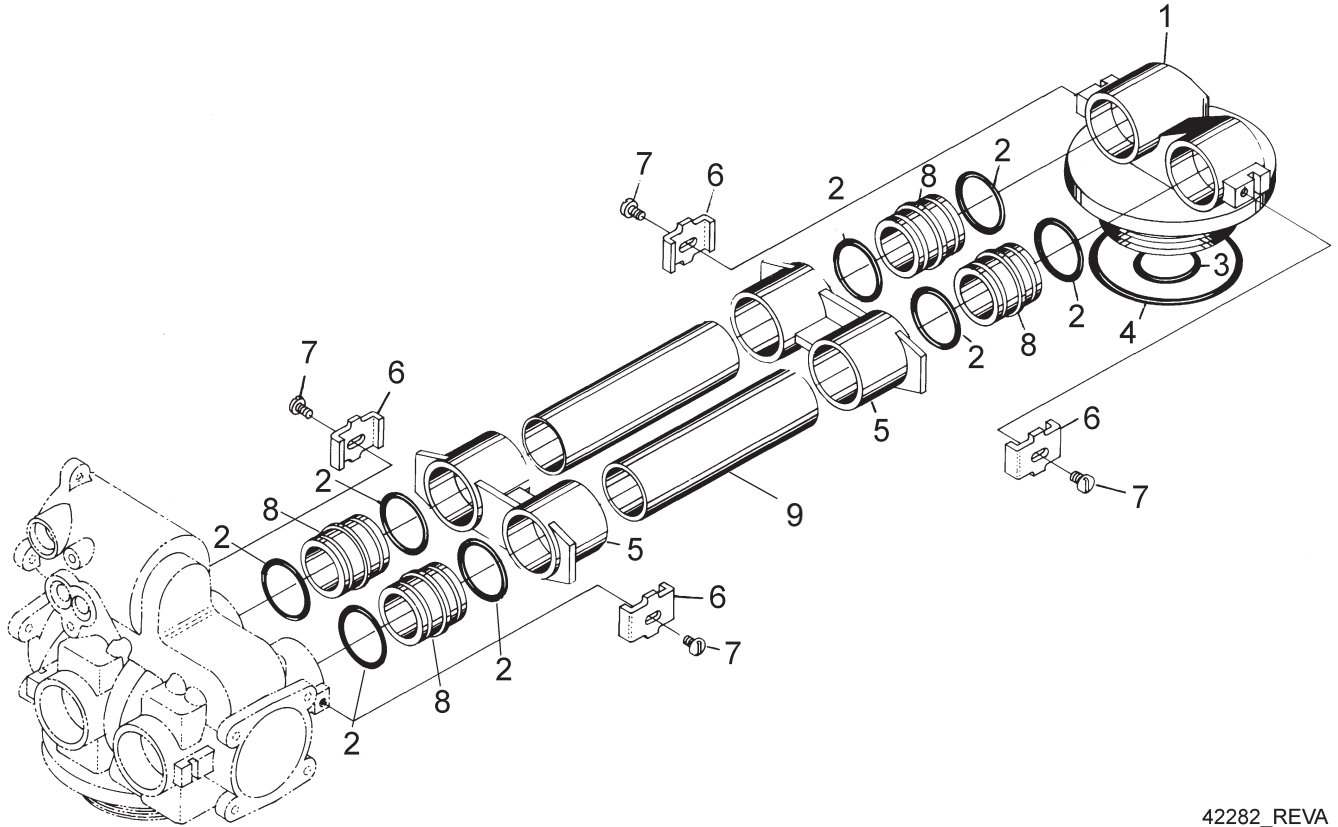
60610 Rev C

Item No.	QTY	Part No.	Description
1	1	17569	Body, Meter, 2850/9500
2	1	13882	Post, Meter Impeller
3	1	13509	Impeller, Meter
	1	13509-01	Impeller, Celcon, Hot Water
4	1	13847	O-Ring, -137, Std/560CD, Meter
5A	1	14038	Meter Cap Assy, STD Range, Plastic
5B	1	15150	Meter Cap Assy, Ext Range, Plastic
6	4	12112	Screw, Hex Hd Mach, 10-24 x 1/2 18-8 Stainless Steel
7	1	17542	Flow Straightener, 1-1/2"
8	1	12733	O-Ring, -132
9	1	17544	Fitting, 1-1/2" Quick Connector
10	1	17543	Nut, 1-1/2", Q/C
11		60610-01	Meter Assy, 1-1/2", NPT, STD, Brass, Paddlewheel
		60610-21	Meter Assy, 1-1/2", BSP, STD, Brass, Paddlewheel
12		60610-02	Meter Assy, 1-1/2", NPT, STD, Brass Paddlewheel
		60610-22	Meter Assy, 1-1/2", BSP, EXT, Brass, Paddlewheel

## Not Shown

1	17790	Sleeve, Meter, 1 1/2" x 1"
1	15218	Meter Cap Assy, STD Range, Brass, Hot Water
1	15237	Meter Cap Assy, EXT Range, Brass, Hot Water
		Sleeve, Meter, 1.5" x 1"

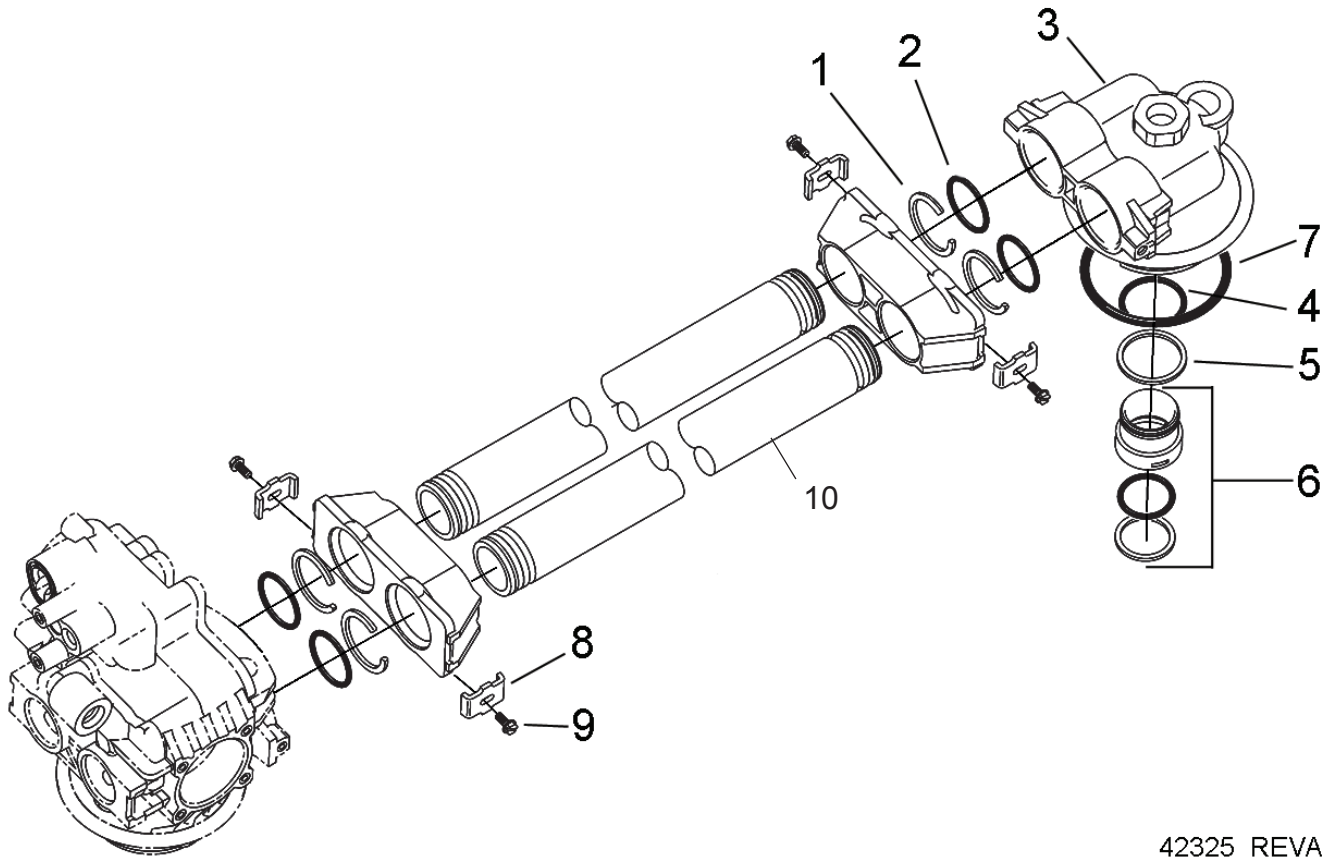
# 9000 SECOND TANK ASSEMBLY



42282\_REVA

Item No.	QTY	Part No.	Description
1.....	1	14864-01.....	Adapter, 9000, 2nd Tank, Machd w/O-rings
2.....	8	13305.....	O-ring, -119
3.....	1	11710.....	O-ring, -215
4.....	1	12281.....	O-ring, -338
5.....	2	13708-40.....	Yoke, 1" Sweat
.....	1	15823-XX.....	Yoke Assy. Specify Tank Size
6.....	4	13255.....	Clip, Mounting
7.....	4	14202-01.....	Screw, Hex Washer Mach, 8-32 x 5/16
8.....	4	15078.....	Adapter, 1" Coupling
9.....		15823-06.....	9000 Tube Assy, 6" Dia. Tank Only (Overall Length 7.25)
.....		15823-06NP.....	9000 Tube Assy, 6" Dia. Tank Only (Overall Length 7.25)
.....		15823-12.....	9000 Tube Assy, 6" to 12" Dia. Tank (Overall Length 9.75)
.....		15823-12NP.....	9000 Tube Assy, 6" to 12" Dia. Tank (Overall Length 9.75)
.....		15823-14.....	9000 Tube Assy, 14" Dia. Tank (Overall Length 11.75)
.....		15823-14NP.....	9000 Tube Assy, 14" Dia. Tank (Overall Length 11.75)
.....		15823-16.....	9000 Tube Assy, 16" Dia. Tank (Overall Length 13.75)
.....		15823-16NP.....	9000 Tube Assy, 16" Dia. Tank (Overall Length 13.75)

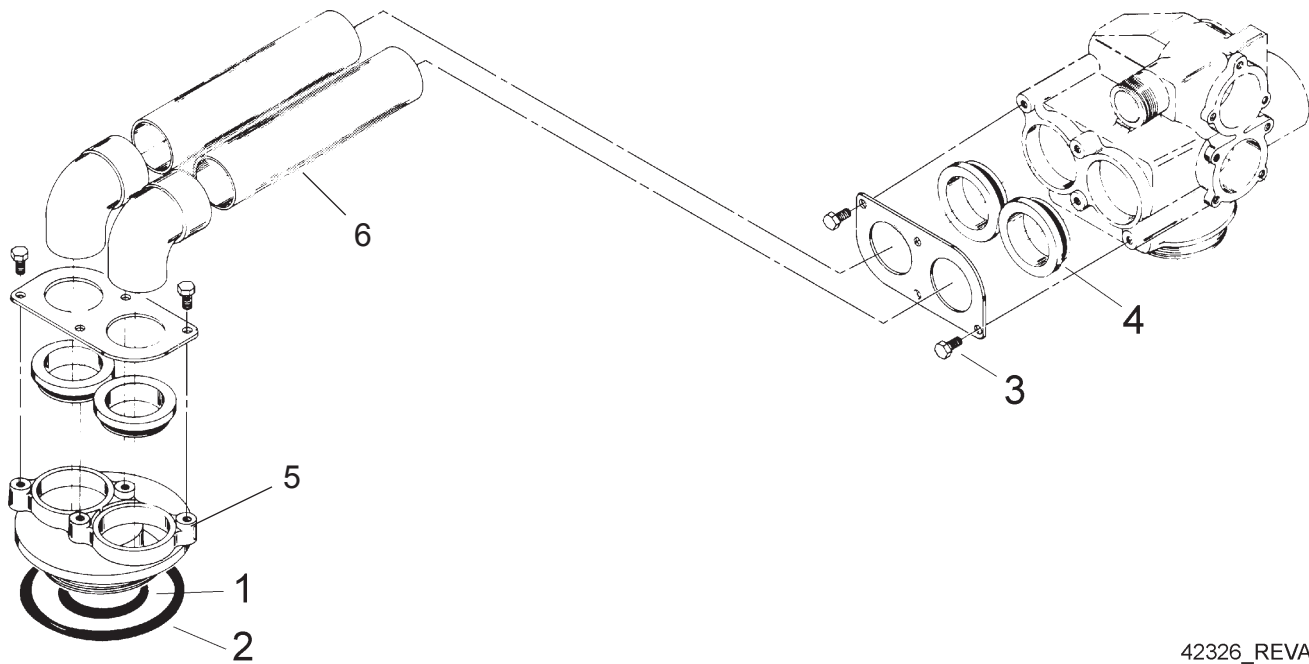
# 9100 SECOND TANK ASSEMBLY



42325\_REVA

Item No.	QTY	Part No.	Description
1.....	4	40678.....	Ring, 9100, Yoke Retainer
2.....	4	13287.....	O-ring, -123
3.....	1	14865.....	Adapter Assy, 2nd Tank, 9100
4.....	1	19054.....	O-ring, -124
5.....	1	40538.....	Retainer, 32mm, O-ring Dist, 7000
6.....	1	61419.....	Kit, 1.05" Distributor, Adapter
7.....	1	18303.....	O-ring, -336
8.....	4	13255.....	Clip, Mounting
9.....	4	14202-01.....	Screw, Hex Washer Mach, 8-32 x 5/16
10.....		60425-9.....	Tube Assy, 9100 8-9" Tank
		..... 60425-12.....	Tube Assy, 9100 6-12" Tank
		..... 60425-16.....	Tube Assy, 9100 13-16" Tank

# 9500 SECOND TANK ASSEMBLY

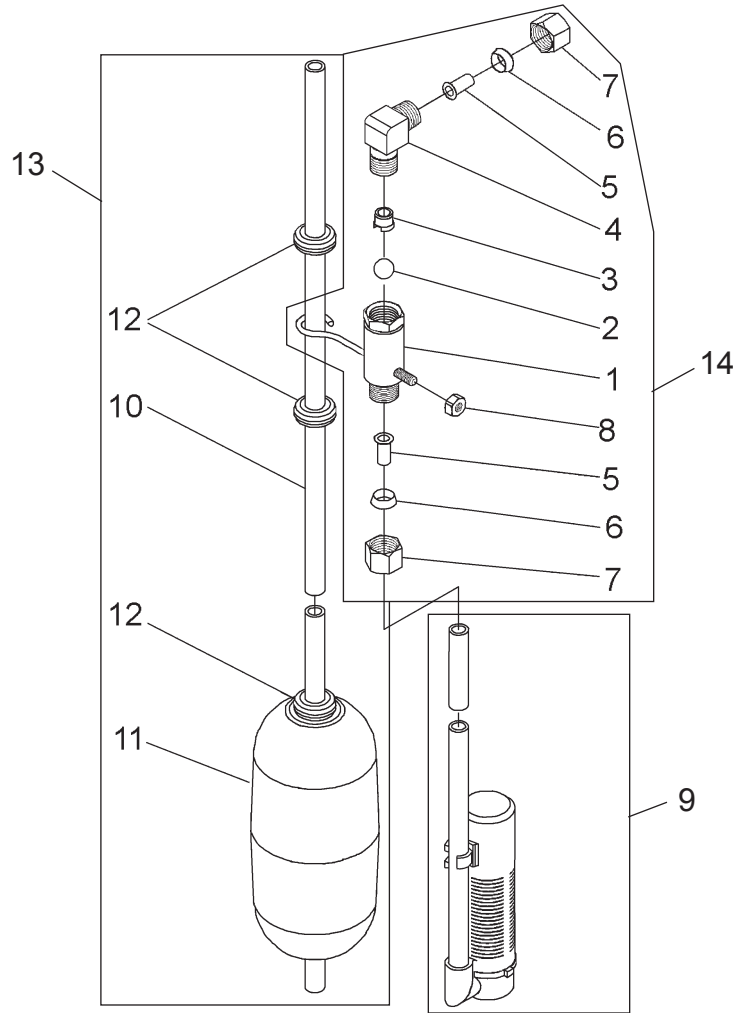


42326\_REVA

Item No.	QTY	Part No.	Description
1.....	1 .....	13577 .....	O-ring, -226
2.....	1 .....	16455 .....	O-ring, -347
3.....	8 .....	10231 .....	Screw, Slot Hex, 1/4 - 20 x 1/2
4.....	4 .....	17224 .....	O-ring, -224
5.....	1 .....	16916-01.....	Adapter, 9500, 2nd Tank, NPT
		..... 16916-21.....	Adapter, 9500, 2nd Tank, Metric
		..... 16916-01NP.....	Adapter, 9500, 2nd Tank, NPT, Nickel Plated
6.....		17465-16.....	Tube Assy, 2nd Tank, 16" 9500
		..... 17465-16NP.....	Tube Assy, 2nd Tank, 16" 9500 Nickel Plated
		..... 17465-20.....	Tube Assy, 2nd Tank, 20" 9500
		..... 17465-24.....	Tube Assy, 2nd Tank, 24" 9500
		..... 17465-24NP.....	Tube Assy, 2nd Tank, 24" 9500 Nickel Plated



# 2300 SAFETY BRINE VALVE

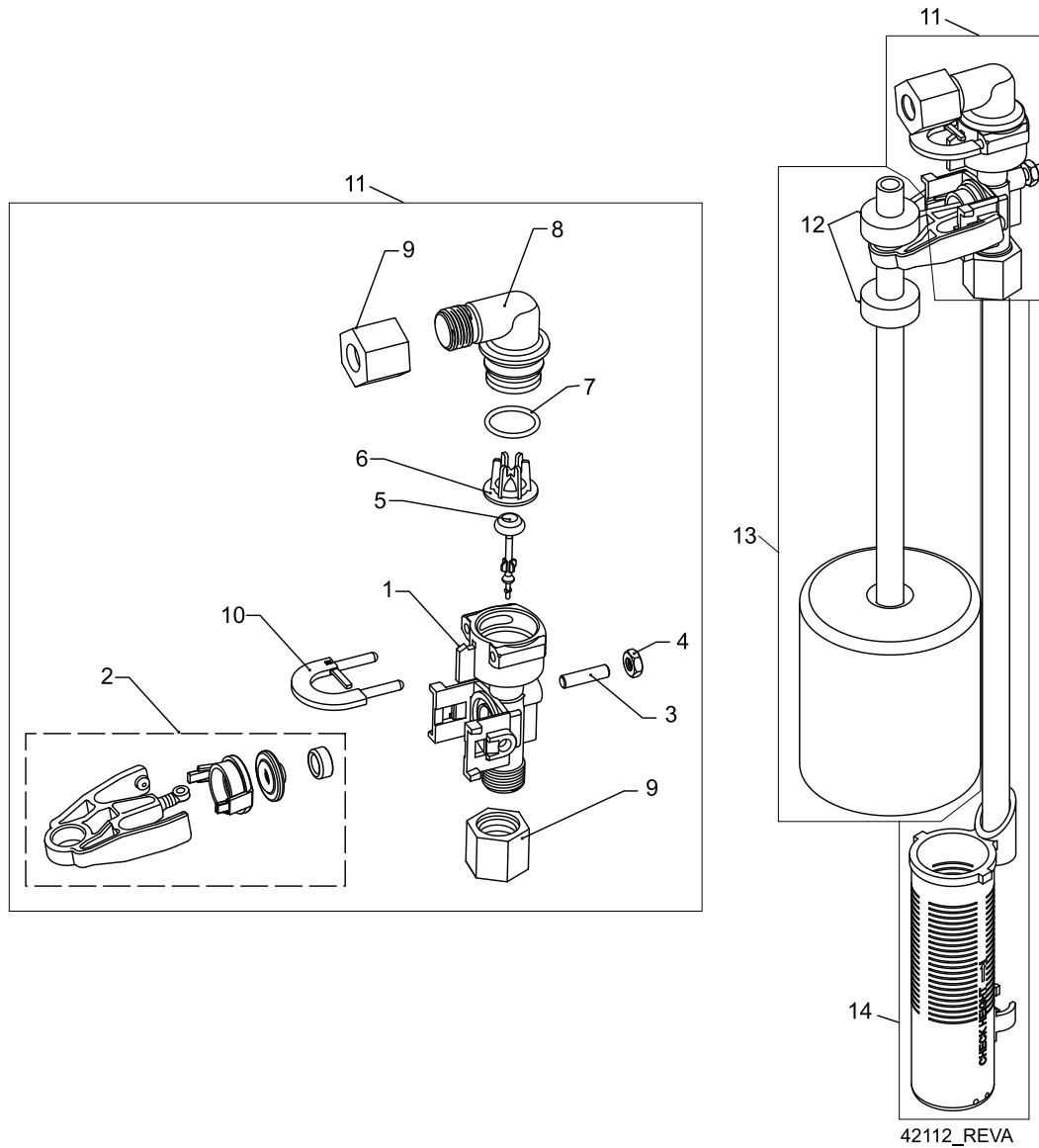


60027 Rev D

Item No.	QTY	Part No.	Description
1	1	60027-00	Safety Brine Valve, 2300, Less Elbow
2	1	10138	Ball, 3/8", Brass
3	1	11566	Ball Stop, Slow Fill
4	1	10328	Fitting, Elbow, 90 Deg. 1/4 NPT x 3/8 Tube
5	1	10332	Fitting, Insert, 3/8
6	1	10330	Fitting, Sleeve, 3/8 Celcon
7	1	10329	Fitting, Tube, 3/8 Nut, Brass
8	1	10186	Nut, Hex, 10-32
9	1	60002-10	Air Check, #500, American Hydro
		60002-11.38	Air Check, #500, 11.38" Long
		60002-24	Air Check, #500, 24" Long
		60002-27	Air Check, #500, 27" Long
		60002-32	Air Check, #500, 32" Long
		60002-34	Air Check, #500, 34" Long
		60002-36	Air Check, #500, 36" Long
		60002-48	Air Check, #500, 48" Long
		60002-26.25	Air Check, #500, 26.25" Long
		60002-33.25	Air Check, #500, 33.25" Long
10	1	10149	Rod, Float, 30"

Item No.	QTY	Part No.	Description
11	1	10700	Float Assy, White
12	3	10150	Grommet, .30 Dia
13	1	60028-30	Float Assy, 2300, 30" White
14	1	60027-FFA	Safety Brine Valve, 2300, Fitting Facing Arm
	1	60027-FFS	Safety Brine Valve, 2300 Fitting Facing Stud

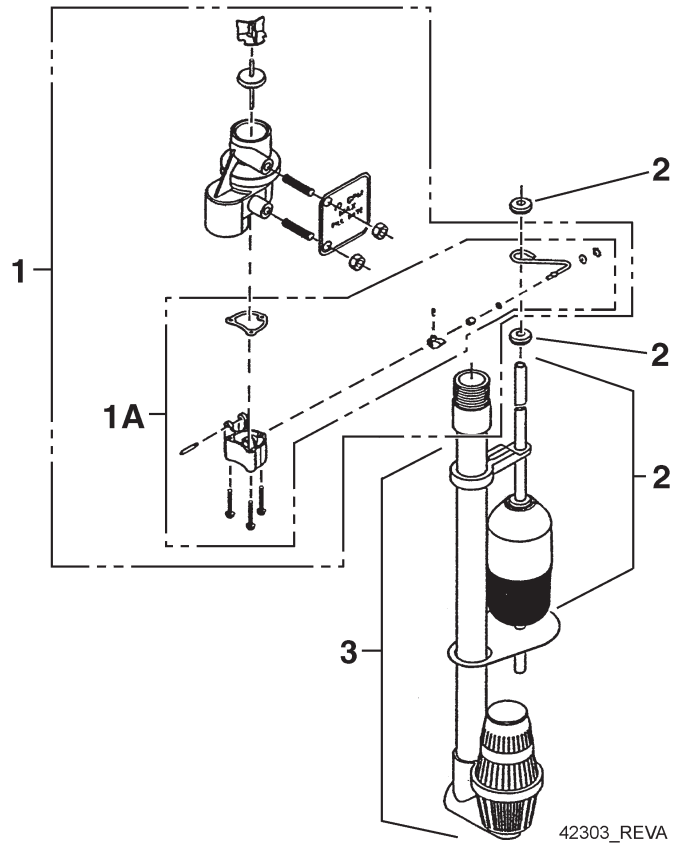
# 2310 SAFETY BRINE VALVE



Item No.	QTY	Part No.	Description
1	1	19645	Body, Safety Brine Valve, 2310
2	1	19803	Safety Brine Valve Assy
3	1	19804	Screw, Sckt Hd, Set, 10-24 x .75
4	1	19805	Nut, Hex, 10-24, Nylon Black
5	1	19652-01	Poppet Assy, SBV w/O-ring
6	1	19649	Flow Dispenser
7	1	11183	O-ring, -.017
8	1	19647	Elbow, Safety Brine Valve
9	2	19625	Nut Assy, 3/8" Plastic
10	1	18312	Retainer, Drain
11	1	60014	Safety Brine Valve Assy, 2310
12	2	10150	Grommet, .30 Dia
13	1	60068-8.06	Float Assy, 2310, w/8.06" Rod
		60068-10.5	Float Assy, 2310, w/10.5" Rod
		60068-11.5	Float Assy, 2310, w/11.5" Rod
		60068-20	Float Assy, 2310, w/20" Rod
		60068-30	Float Assy, 2310, w/30" Rod

Item No.	QTY	Part No.	Description
14	1	60002-10	Air Check, #500, American Hydro
		60002-11.38	Air Check, #500, 11.38" Long
		60002-24	Air Check, #500, 24" Long
		60002-27	Air Check, #500, 27" Long
		60002-32	Air Check, #500, 32" Long
		60002-34	Air Check, #500, 34" Long
		60002-36	Air Check, #500, 36" Long
		60002-48	Air Check, #500, 48" Long
		60002-26.25	Air Check, #500, 26.25" Long
		60002-33.25	Air Check, #500, 33.25" Long

# 2350 SAFETY BRINE VALVE

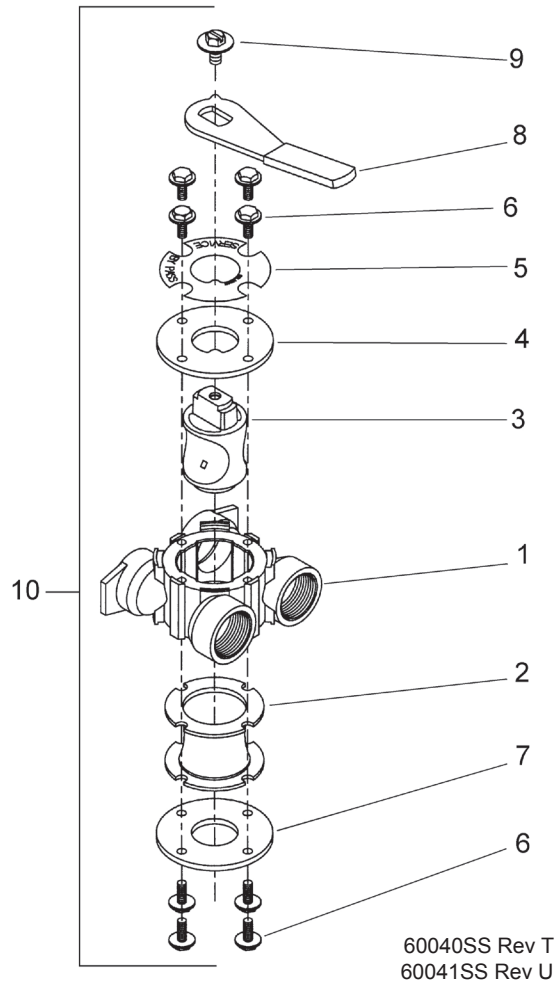


Item No.	QTY	Part No.	Description
1.....	1 .....	60038.....	Safety Brine Valve, 2350
1A.....	1 .....	61024.....	Actuator Assy, 2350 Brine
2.....	1 .....	60028-30.....	Float Assy, 2350, 30" Wht
.....	1 .....	60026-30SAN .....	Float Assy, 2350, 30" Hot Water
3.....	1 .....	60009-00.....	Air Check, #900, Commercial Less Fittings
.....	1 .....	60009-01.....	Air Check, #900, Commercial, Hot Water Less Fittings

**Not Shown**

.....	1 .....	18603.....	Fitting Assy, 900 Air Check 2350
.....	1 .....	18602.....	Fitting Assy, 900 Air Check

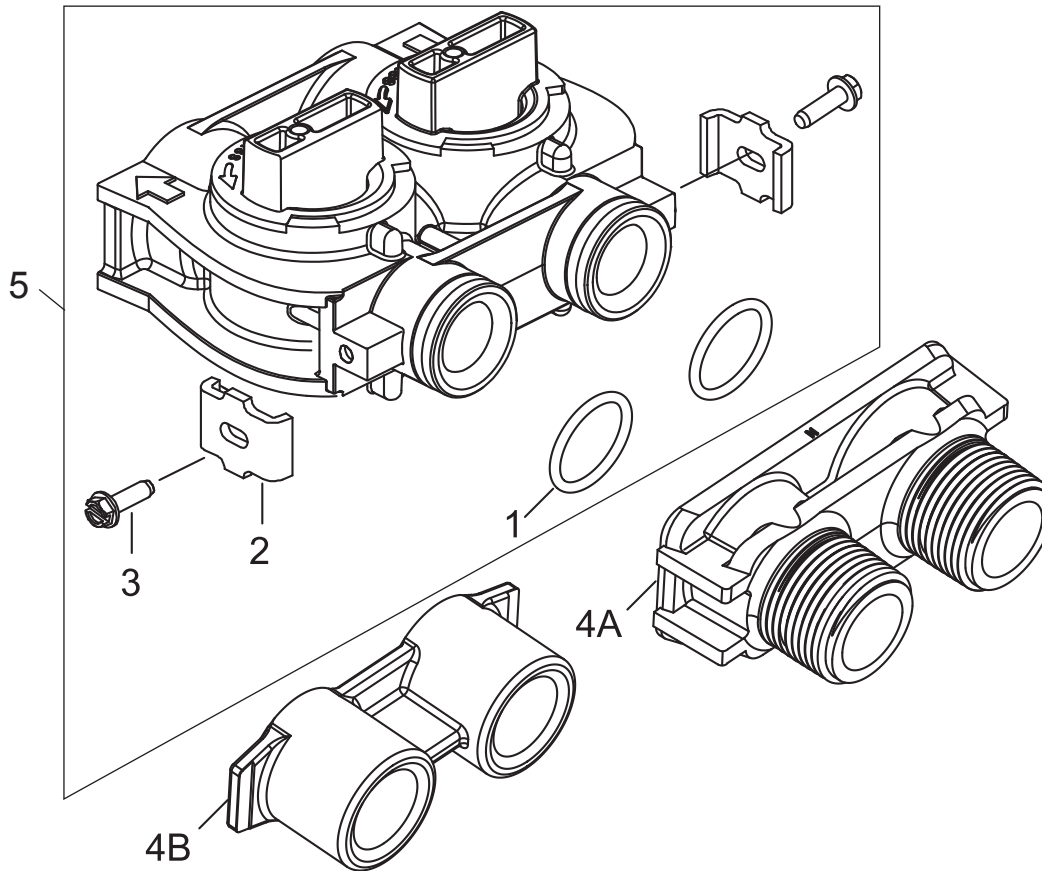
# BYPASS VALVE ASSEMBLY (METAL)



Item No.	QTY	Part No.	Description
1.....	1 .....	40614.....	Bypass Body, 3/4"
		40634.....	Bypass Body, 1", 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"
7.....	1 .....	11986.....	Side Cover
8.....	1 .....	11979.....	Lever, Bypass
9.....	1 .....	11989.....	Screw, Hex Head, 1/4-14 x 1.5"
10.....	1 .....	60040SS.....	Bypass Valve, 5600, 3/4" NPT Blk Grip Lever, SS
		60041SS.....	Bypass Valve, 5600, 1" NPT Blk Grip Lever, SS
*	2 .....	19228-01.....	Adapter Assy, Coupling, w/O-rings

\*Not Shown

## BYPASS VALVE ASSEMBLY (PLASTIC)



60049 Rev G

Item No.	QTY	Part No.	Description
1.....2	.....2	13305.....	O-ring, -119
2.....2	.....2	13255.....	Clip, Mounting
3.....2	.....2	13314.....	Screw, Slot Ind Hex, 8-18 x .60
4A.....1	.....1	18706.....	Yoke, 1", NPT, Plastic
		.....18706-02.....	Yoke, 3/4", NPT, Plastic
4B.....1	.....1	13708-40.....	Yoke, 1", Sweat
		.....13708-45.....	Yoke, 3/4", Sweat
		.....19275.....	Yoke, Angle 90 Deg, 3/4", NPT
		.....19275-45.....	Yoke, Angle 90 Deg, 3/4" Sweat
		.....19620-01.....	Yoke Assy, 3/4", R/Angle, 90 Deg w/O-rings, Clips & Screws
		.....40636.....	Yoke, 1 1/4", NPT
		.....40636-49.....	Yoke, 1 1/4", Sweat
		.....41027-01.....	Yoke, 3/4", NPT, Cast, Machined
		.....41026-01.....	Yoke, 1", NPT, Cast, Machined, SS
		.....41026-02.....	Yoke, 1", BSP, Cast, MACHD, SS
		.....18706-10.....	Yoke, 1", BSP, Plastic
		.....41027-02.....	Yoke, 3/4", BSP, Cast, MACHD
		.....18706-12.....	Yoke, 3/4", BSP, Plastic
		.....19620-01.....	Yoke Assy, 3/4", R/Angle, 90 Deg
5.....1	.....1	60049.....	Bypass Plastic
*	.....2	19228-01.....	Adapter Assy, Coupling, w/O-rings

\*Not Shown

## GENERAL SERVICE HINTS FOR METER CONTROL

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**Problem: Softener delivers hard water**

**Reason:** Reserve capacity has been exceeded.

**Correction:** Check salt dosage requirements and reset program wheel to provide additional reserve.

**Reason:** Program wheel is not rotating with meter output.

**Correction:** Pull cable out of meter cover and rotate manually. Program wheel must move without binding and clutch must give positive clicks when program wheel strikes regeneration stop. If it does not, replace timer.

**Reason:** Meter is not measuring flow.

**Correction:** Check meter with meter checker.



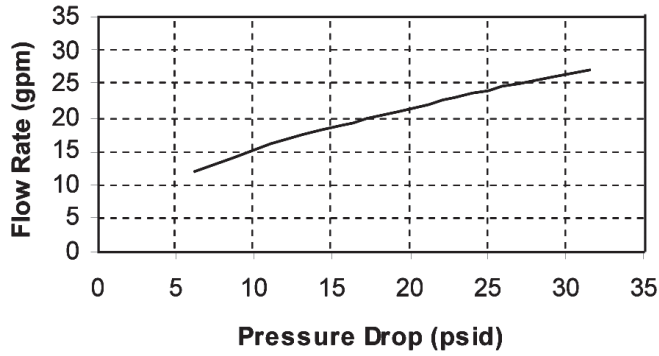
## TROUBLESHOOTING

Problem	Cause	Correction
Water conditioner fails to regenerate.	Electrical service to unit has been interrupted	Assure permanent electrical service (check fuse, plug, pull chain, or switch)
	Timer is defective.	Replace timer.
	Power failure.	Reset time of day.
Hard water.	By-pass valve is open.	Close by-pass valve.
	No salt is in brine tank.	Add salt to brine tank and maintain salt level above water level.
	Injector screen plugged.	Clean injector screen.
	Insufficient water flowing into brine tank.	Check brine tank fill time and clean brine line flow control if plugged.
	Hot water tank hardness.	Repeated flushings of the hot water tank is required.
	Leak at distributor tube.	Make sure distributor tube is not cracked. Check O-ring and tube pilot.
	Internal valve leak.	Replace seals and spacers and/or piston.
Unit used too much salt.	Improper salt setting.	Check salt usage and salt setting.
	Excessive water in brine tank.	See "Excessive water in brine tank".
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.	Assure 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.
Excessive water in brine tank.	Plugged drain line flow control.	Clean flow control.
	Plugged injector system.	Clean injector and screen.
	Timer not cycling.	Replace timer.
	Foreign material in brine valve.	Replace brine valve seat and clean valve.
	Foreign material in brine line flow control.	Clean brine line flow control.
Softener fails to draw brine.	Drain line flow control is plugged.	Clean drain line flow control.
	Injector is plugged.	Clean injector
	Injector screen plugged.	Clean screen.
	Line pressure is too low.	Increase line pressure to 20 psi
	Internal control leak	Change seals, spacers, and piston assembly.
	Service adapter did not cycle.	Check drive motor and switches.
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.

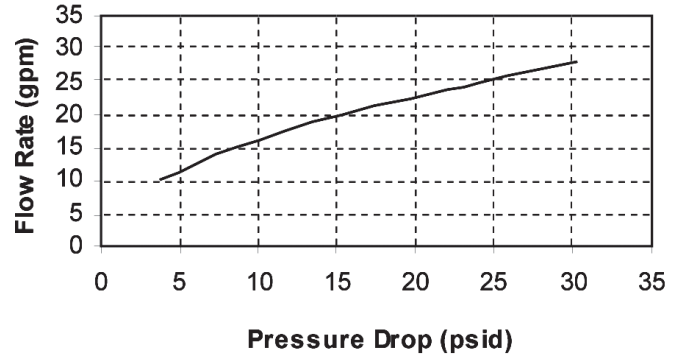
# 9000/9100/9500 METER FLOW DATA

## 9000 Meter Flow Data

### 3/4" Mechanical Meter



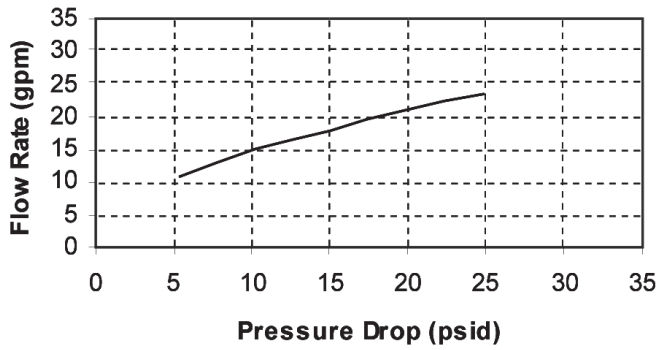
### 1" Brass Meter



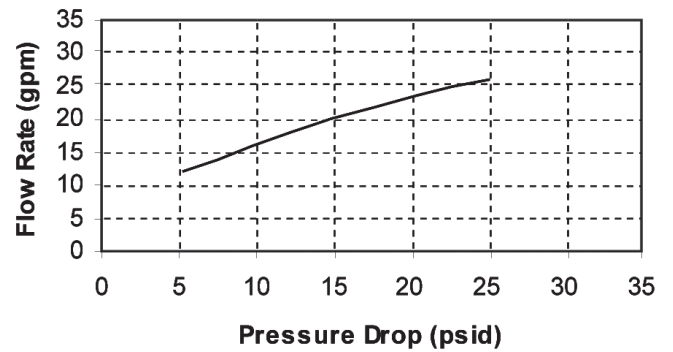
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## 9100 Meter Flow Data

### 3/4" Mechanical Meter



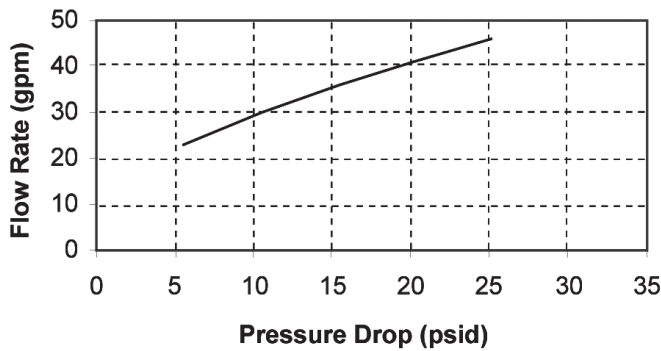
### 1" Brass Meter



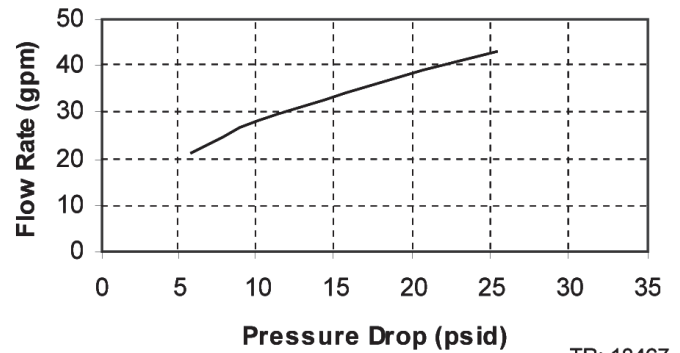
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## 9500 Meter Flow Data

### 1&1/2" Meter

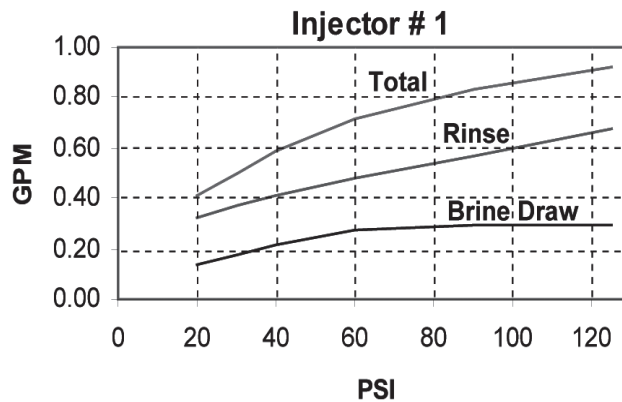
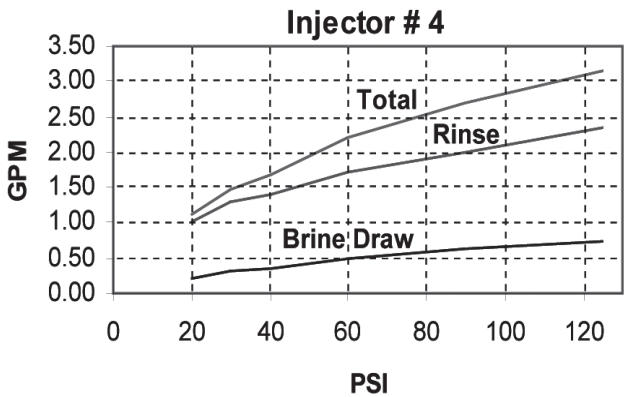
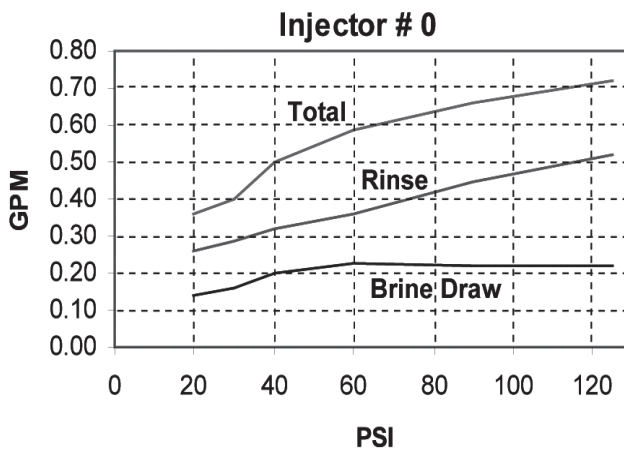
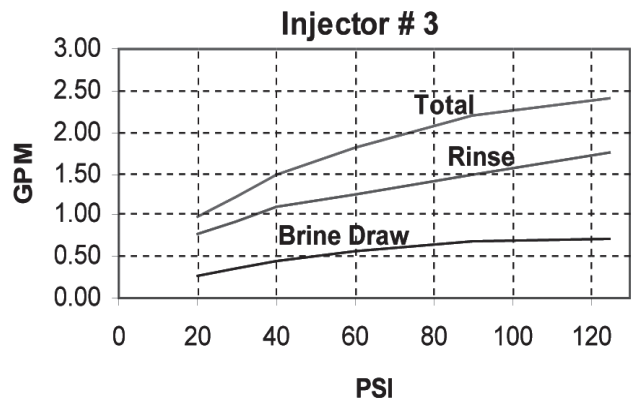
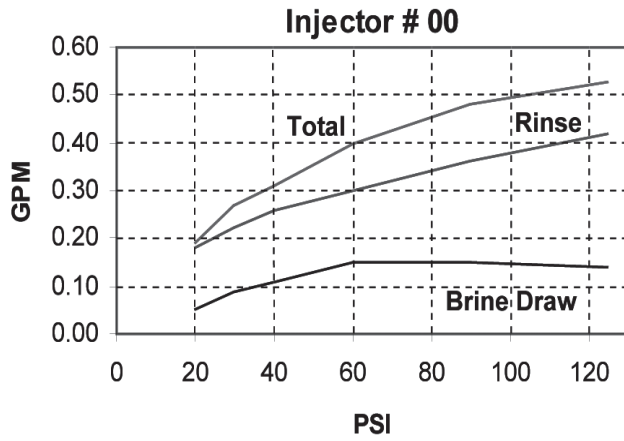
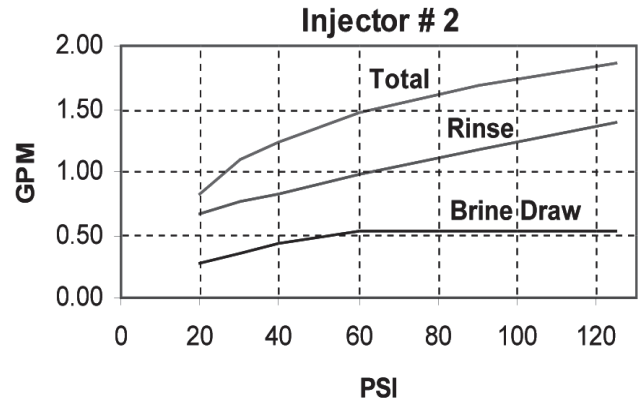
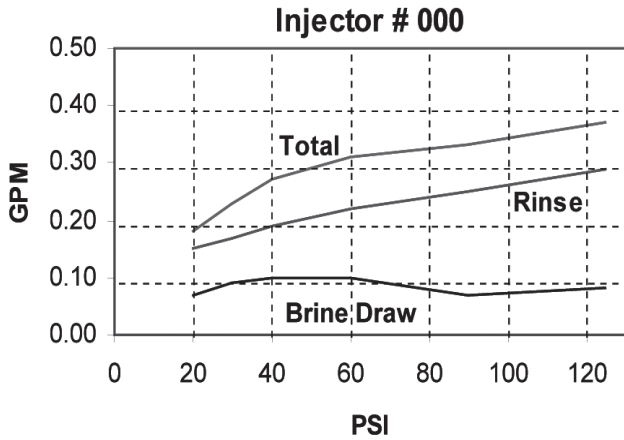


### 1&1/2" Meter Sleeved



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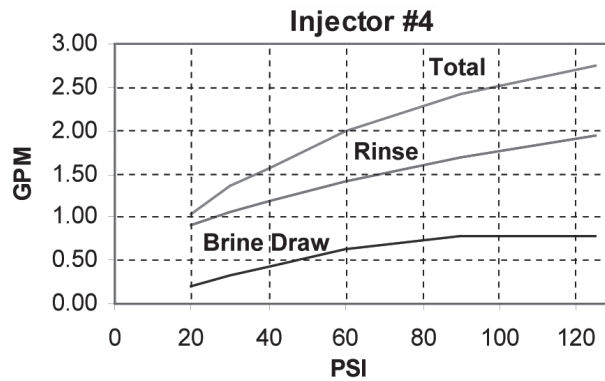
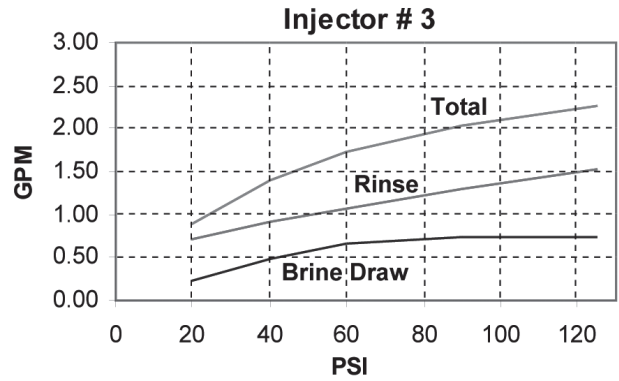
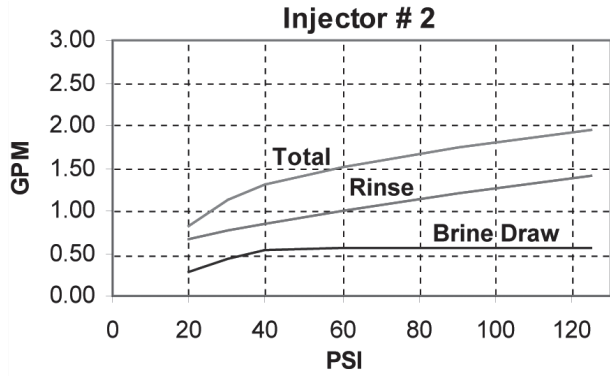
**9000/9100/9500 INJECTOR FLOW DATA  
(1600 SERIES INJECTORS)**



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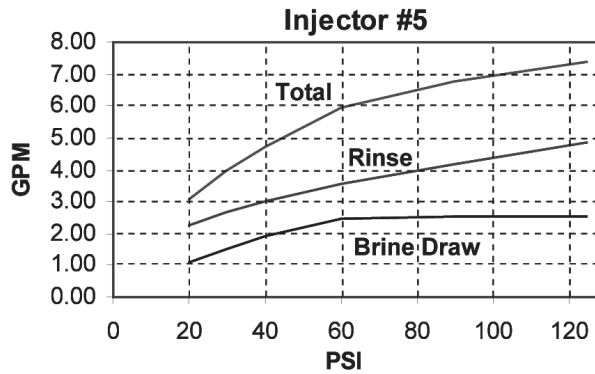
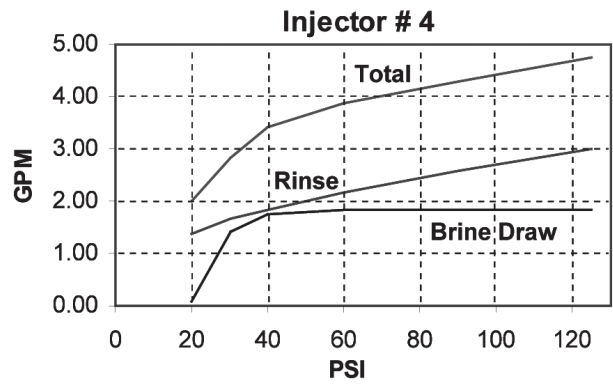
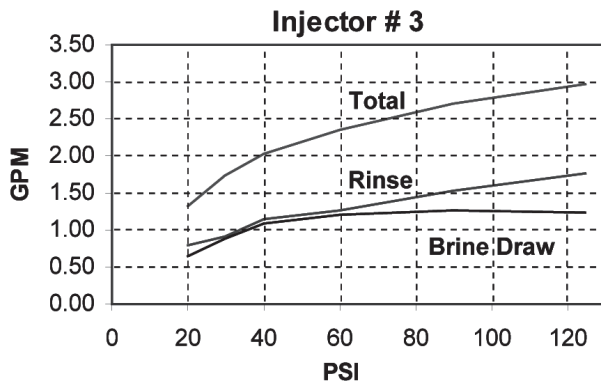
# 9500 INJECTOR FLOW DATA (1600 & 1700 SERIES INJECTORS)

1600 Series Injectors



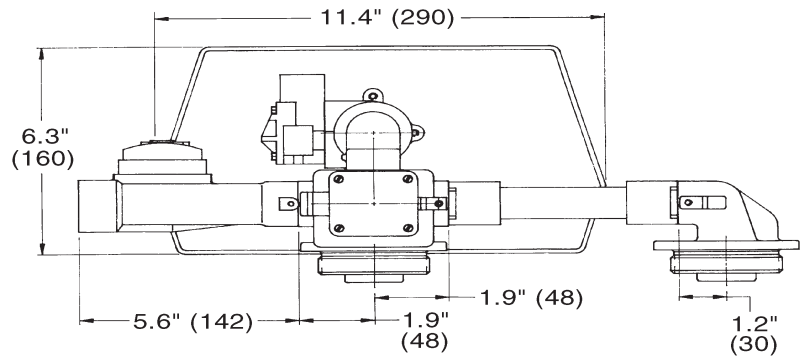
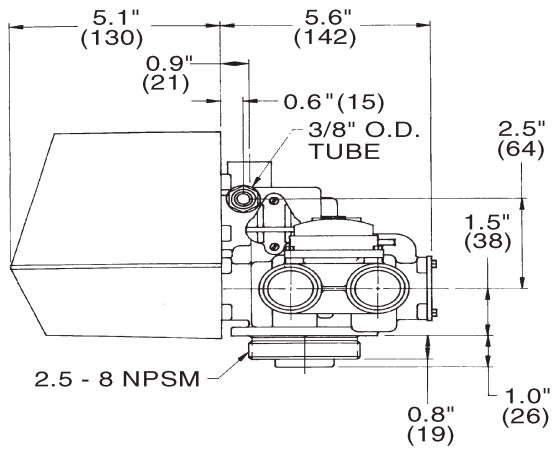
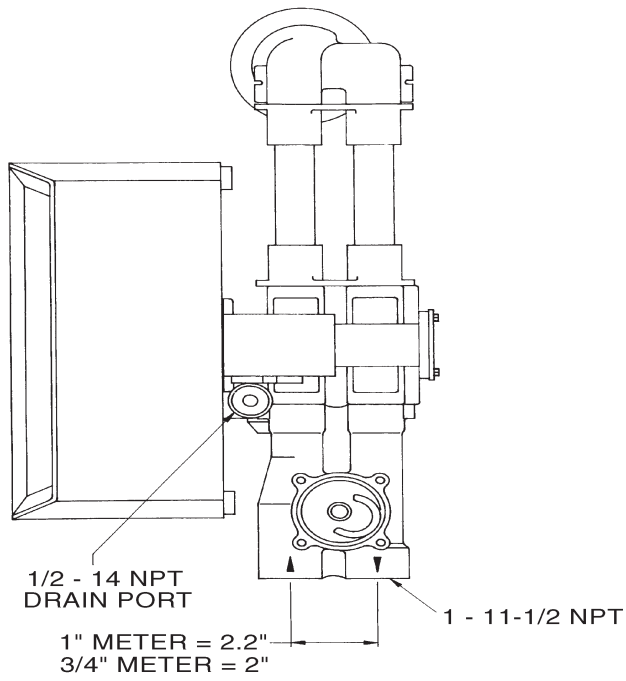
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1700 Series Injectors



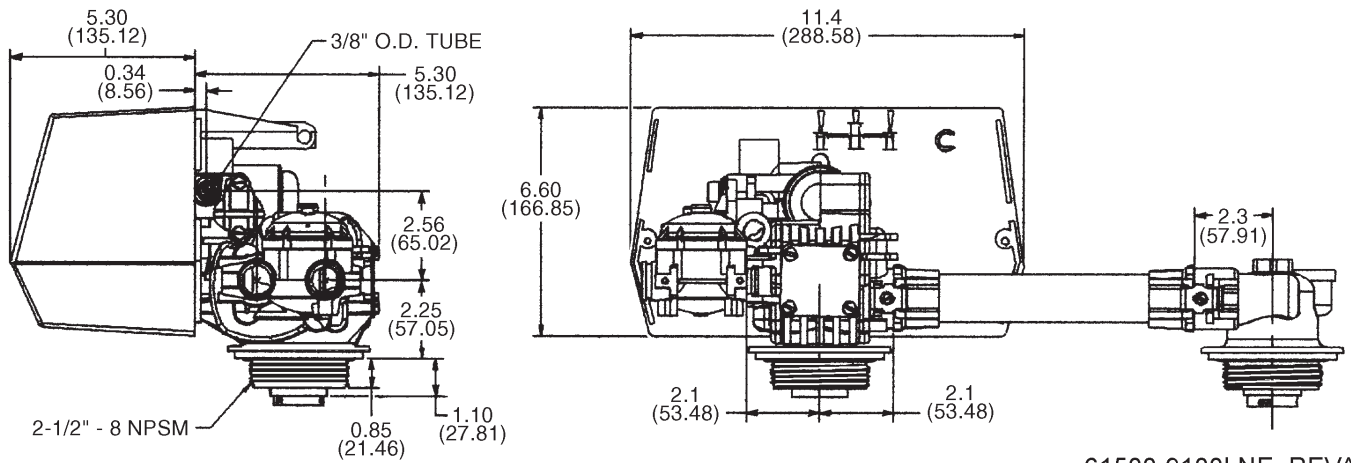
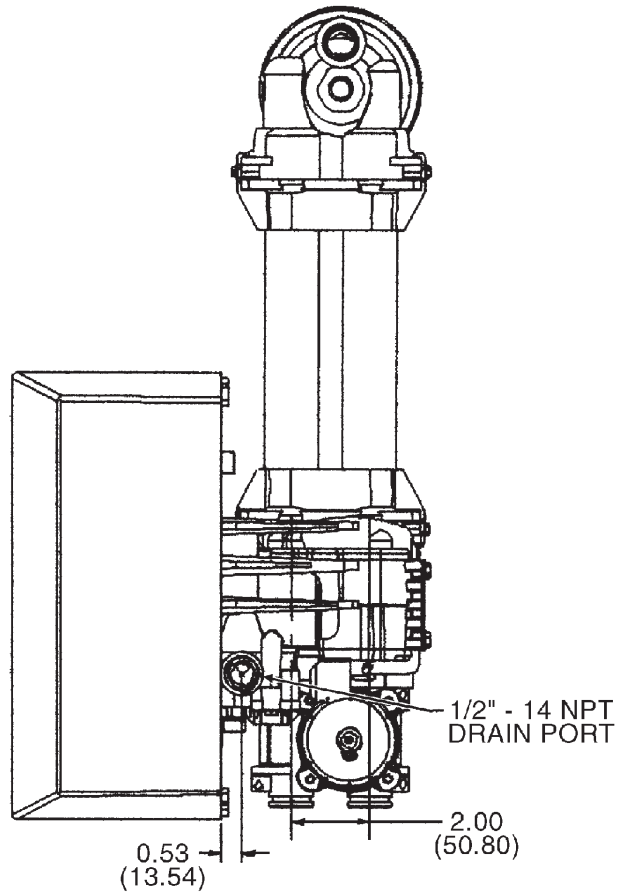
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# 9000 CONTROL DIMENSIONS



61500-9000LNE\_REVA

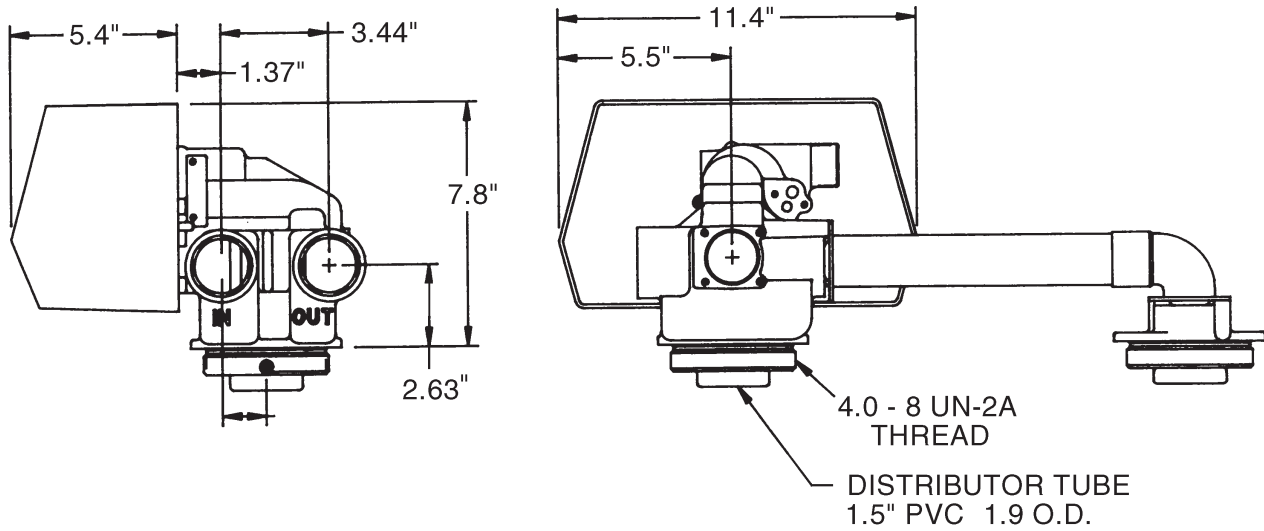
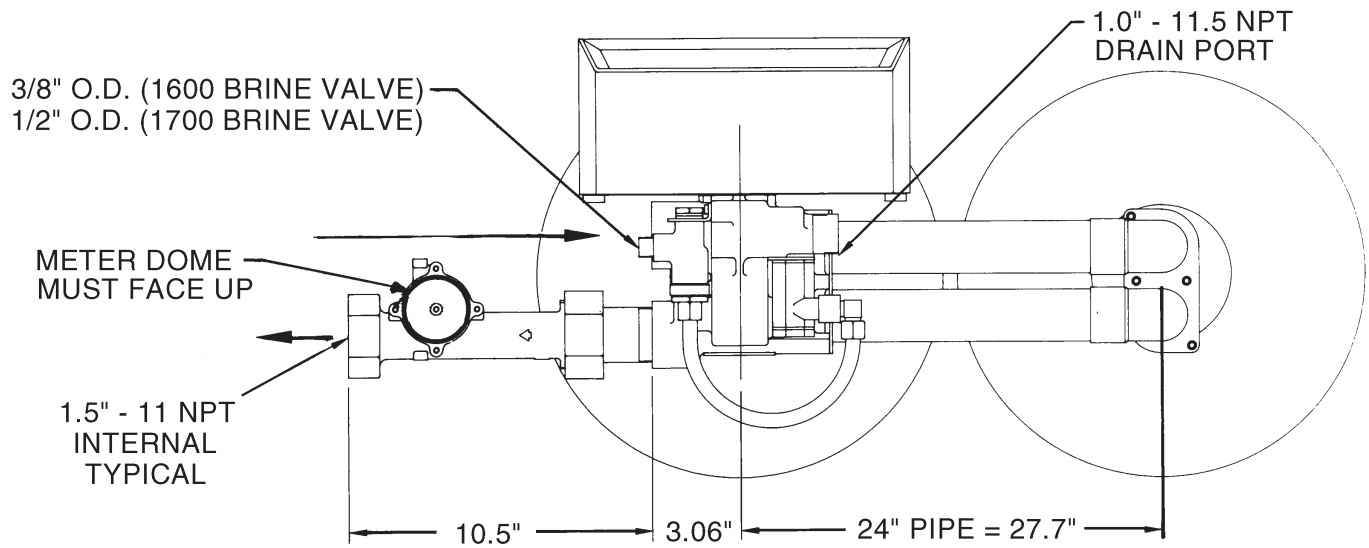
# 9100 CONTROL DIMENSIONS



61500-9100LNE\_REVA



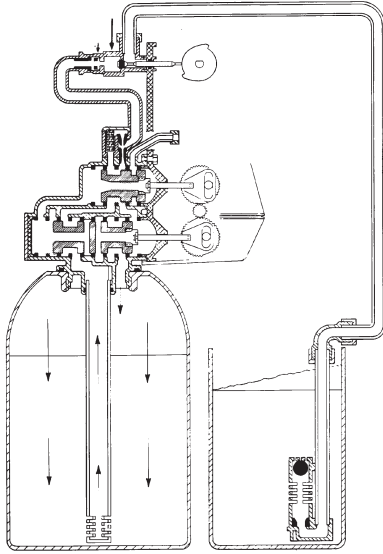
# 9500 CONTROL DIMENSIONS



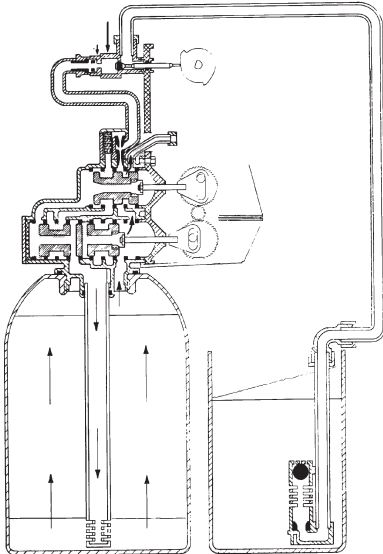
61500-9500LNE\_REVA

# WATER CONDITIONER FLOW DIAGRAMS

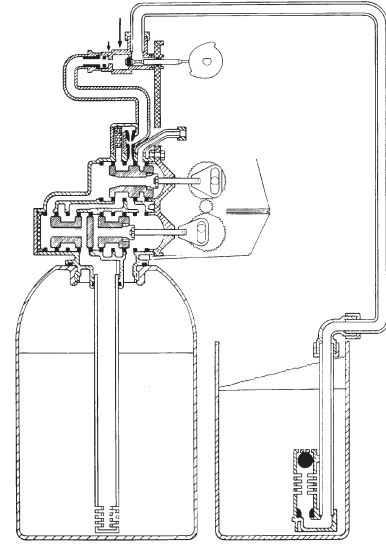
## 1 In Service Position



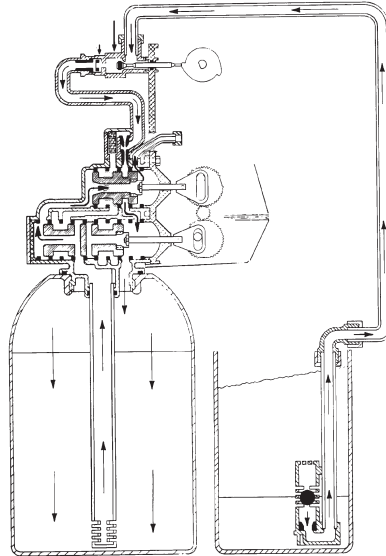
## 2 Backwash Position



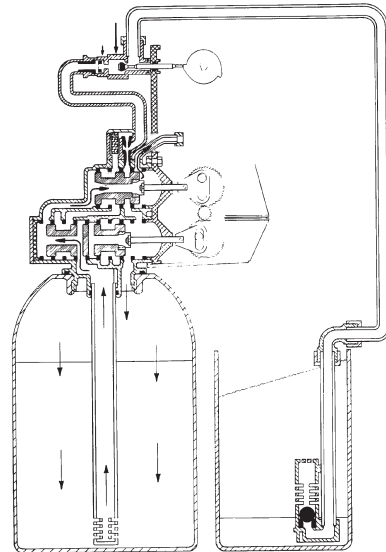
## 3 Tanks Switching Position (Meter Initiated Regeneration)



## 4 Brine Draw Position



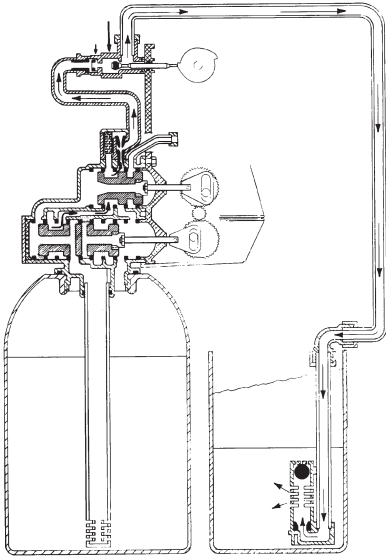
## 5 Slow Rinse



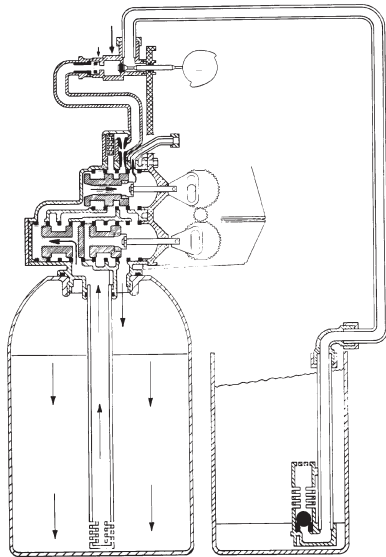
# WATER CONDITIONER FLOW DIAGRAMS *continued*

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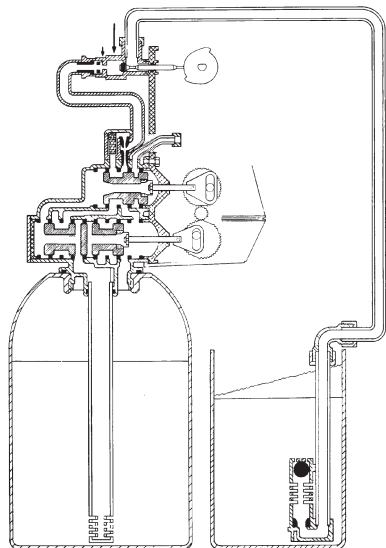
## 6 Brine Tank Fill Position



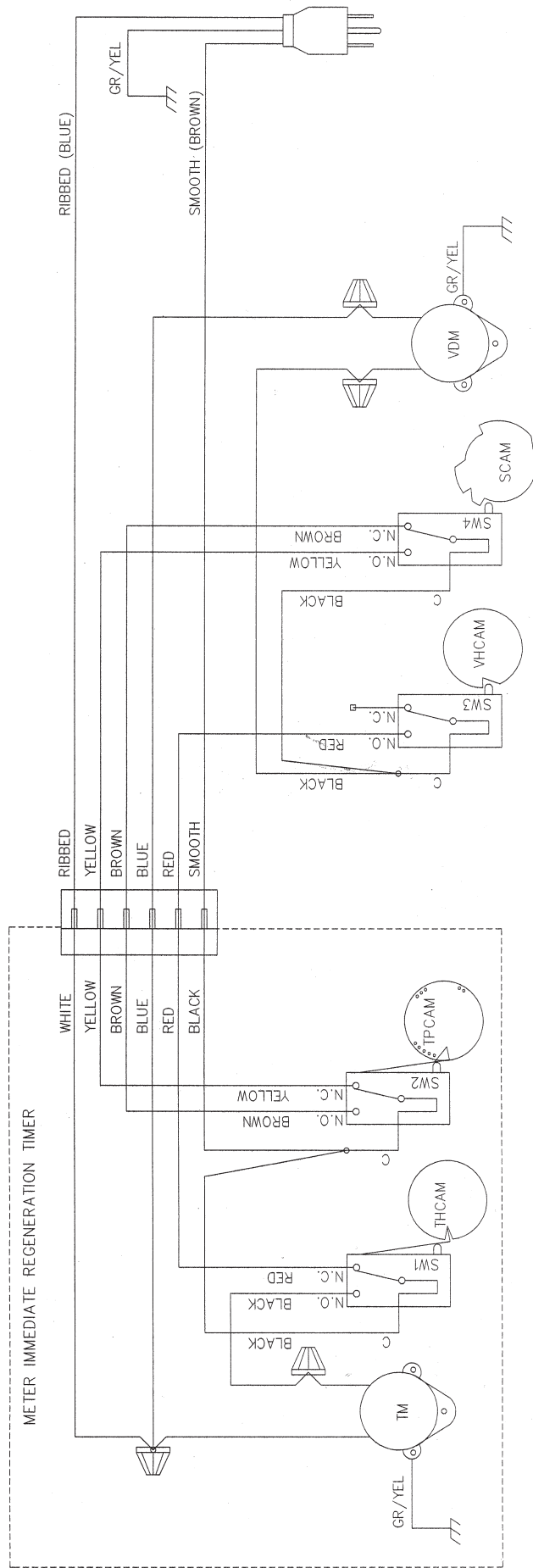
## 7 Rapid Rinse Position



## 8 In Service Position, Tanks Switched



# 9000/9500 WIRING DIGRAM



- TM - TIMER MOTOR
- VDM - VALVE DRIVE MOTOR
- SW1 - TIMER HOMING SWITCH
- SW2 - TIMER PROGRAM SWITCH
- SW3 - VALVE HOMING SWITCH
- SW4 - VALVE PROGRAM SWITCH
- THCAM - TIMER HOMING CAM
- TPCAM - TIMER PROGRAM CAM
- HCCAM - VALVE HOMING CAM
- SCAM - VALVE STEP CAM

NOTE:  
 1. TWIN TANK METER IMMEDIATE ALTERN REGENERATION.  
 2. VALVE SHOWN IN SERVICE POSITION.

19752 Rev B

## SERVICE ASSEMBLIES

### Brine Line Flow Controls (9000/9100):

60022-12 .....BLFC, .125 GPM, 5000/5600/9000/9100  
 60022-25 .....BLFC, .25 GPM, 5000/5600/9000/9100  
 60022-50 .....BLFC, .50 GPM, 5000/5600/9000/9100  
 60022-100 .....BLFC, 1.0 GPM, 5000/5600/9000/9100  
 60350.....Brine Valve Assy, 9000/9100

### Brine Line Flow Controls (9500):

60020-25 .....BLFC, .25 GPM, 1600  
 60020-50 .....BLFC, .50 GPM, 1600  
 60020-100 .....BLFC, 1.0 GPM, 1600

### Brine Valve Assemblies:

60037-610 .....Brine Valve, 9500/1600, .25 GPM,  
 Cold & HW 180°  
 60037-620 .....Brine Valve, 9500/1600, .50 GPM,  
 Cold & HW 180°  
 60037-630 .....Brine Valve, 9500/1600, 1.0 GPM,  
 Cold & HW 180°  
 60350.....Brine Valve Assy 9000/9100,  
 Cold & HW 180°  
 60350-01 .....Brine Valve Assy, 9000/9100/Twinfl100,  
 Cold & HW 180°

### 1700 Brine Valve Assemblies (9500):

60039-XX.....Brine Valve, 1700/9500, Cold &  
 HW 180°

### Bypass Assemblies:

60040SS.....Bypass Valve, 5600, 3/4" NPT  
 60041SS.....Bypass Valve, 5600, 1" NPT  
 60049.....Bypass Plastic Assy

### Injector Assemblies (9000/9100):

60385-X.....Injector Assembly (specify size of  
 injector)

Injector	Number	DLFC	Number	BLFC	Number
Red #0	00	Blank	0	Blank	0
White #1	01	1.2	1	0.25	1
Blue #2	02	1.5	2	0.50	2
Yellow #3	03	2.0	3	1.00	3
Green #4	04	2.4	4		
		3.0	5		
		3.5	6		
		4.0	7		
		5.0	8		
		7.0	9		

### Injector Assemblies (9500):

60381-03 .....Injector Assy, 1700, #3, Cold & HW 150°  
 60381-04 .....Injector Assy, 1700, #4, Cold & HW 150°  
 60381-05 .....Injector Assy, 1700, #5, Cold & HW 150°  
 60381-06 .....Injector Assy, 1700, #6, Cold & HW 150°  
 60480-01 .....Injector Assy, 1600, #1, Plastic,  
 Cold Water  
 60480-02 .....Injector Assy, 1600, #2, Plastic,  
 Cold Water  
 60480-03 .....Injector Assy, 1600, #3, Plastic,  
 Cold Water  
 60480-04 .....Injector Assy, 1600, #4, Plastic,  
 Cold Water  
 60481-21 .....Injector Assy, 1600, #1, SS, HW 180°  
 60481-21 .....Injector Assy, 1600, #2, SS, HW 180°  
 60481-21 .....Injector Assy, 1600, #3, SS, HW 180°  
 60481-21 .....Injector Assy, 1600, #4, SS, HW 180°

### Meter Assemblies (9000/9100):

15078-01 .....Adapter, 1" Coupling  
 60086.....Meter Assy, 5600/9000/9100,  
 3/4" Std/Range  
 60087.....Meter Assy, 5600/9000/9100, 3/4", Ext  
 60389.....Meter Assy, 9000/9100, 1"  
 60389NP.....Meter Assy, 9000/9100, 1", N/P  
 60389-20 .....Meter Assy, 9000/9100, 1", BSP/Metric  
 60390.....Meter Assy, 9000/9100, 1", Ext  
 60390NP.....Meter Assy, 9000/9100, 1", Ext, N/P  
 60390-20 .....Meter Assy, 9000/9100, 1",  
 Ext/BSP/Metric  
 60612.....Meter Assy, 9000/9100, 1", Std Range,  
 HW 150°  
 60612NP.....Meter Assy, 9000/9100, 1", Std Range,  
 HW 150°, NP  
 14038.....Meter Cap Assy  
 15150.....Meter Cap Assy, Ext  
 15218.....Meter Cap Assy  
 15218NP.....Meter Cap Assy, Std, NP  
 15237.....Meter Cap Assy, Ext  
 15237NP.....Meter Cap Assy, Ext, NP  
 13509.....Impeller, Meter  
 13509-01 .....Impeller, Celcon, HW 150°

## **SERVICE ASSEMBLIES *continued***

### **Meter Assemblies (9500):**

60610-01	Meter, 2850/9500, 1 1/2" Std
60610-01HW	Meter, 2850/9500, 1 1/2" Std, HW 150°
60610-01NP	Meter, 2850/9500, 1 - 1/2" Std, N/P
60610-02	Meter, 2850/9500, 1 - 1/2" Ext
60610-02HW	Meter, 2850/9500, 1 1/2" Ext, HW 150°
60610-02NP	Meter, 2850/9500, 1 - 1/2" Ext, N/P
60610-21	Meter, 2850/9500, 1 - 1/2" Std/BSP Metric
60610-21NP	Meter, 2850/9500, 1 - 1/2" Std/BSP Metric, Nickel Plated
60610-22	Meter, 2850/9500, 1 - 1/2" Ext/BSP Metric
60610-22NP	Meter, 2850/9500, 1 - 1/2" Ext/BSP Metric/Nickel Plated
60611-01HW	Meter, 2850/9500, 1" Sleeve, 1 1/2" Std, HW 150°
60611-01	Meter, 2850/9500, 1" Sleeve, 1 1/2" Std Meter
60611-01NP	Meter, 2850/9500, 1" Sleeve, NP 1 1/2" Std Meter
60611-02	Meter, 2850/9500, 1" Sleeve, 1 1/2" Ext Meter
60611-02NP	Meter, 2850/9500, 1" Sleeve, NP 1 1/2" Ext Meter
17790	Sleeve, Meter, 1 1/2" x 1" (NOTE: when reducing a 1-1/2" meter to a 1" meter, the program wheel and timer settings must be changed to a 1" meter size)

### **Meter Checker Kits:**

60460	Meter Checker Kit, Std
60461	Meter Checket Kit, Ext

### **Piston Assemblies:**

60108	Piston Assy, 9500, Upper
60108-01	Piston Assy, 9500, Upper, HW 180°
60109	Piston Assy, 9500, Lower
60109-01	Piston Assy, 9500, Lower HW, 180°
60400	Piston Assy, 9000/9100, Top
60400-01	Piston Assy, 9000/9100, HW Upper, 180°
60401	Piston Assy, 9000/9100, Lower
60401-01	Piston Assy, 9000/9100 Lower, HW 180°

### **Seal & Spacer Kits:**

60125	Seal & Spacer Kit, 5600/9000 Top
60125-20	Seal & Spacer Kit, Top, 559 PE Cold and Chloramine
60125HW	Seal & Spacer Kit, 9000/9100, Upper HW 180°
60133-01	Seal & Spacer Kit, 9500, Lower, Cold & HW 180°
60133-20	Seal & Spacer Kit, 9500, Lower
60133-30	Seal & Spacer Kit, 9500, Lower
60134	Seal & Spacer Kit, 9500, Upper, Cold & HW 180°
60134-20	Seal & Spacer Kit, 9500, Upper
60134-30	Seal & Spacer Kit, 9500, Upper
60421	Seal & Spacer Kit, 9000/9100, Bottom
60421-20	Seal & Spacer Kit, 9000/9100, Bottom 559PE
60421HW	Seal & Spacer Kit, 9000/9100, Bottom, HW 180°

### **Second Tank Assemblies (9000):**

14202-01	Screw, Hex Washer Mach, 8-32 x 5/16 18-8 S.S.
13255	Clip, Mounting
15078-01	Adapter Assy, 1" Coupling
14864-01	Adapter, 9000/9100, 2nd Tank, Machd w/O-rings
14864-01NP	Adapter, 9000/9100, 2nd Tank, Machd, NP
15823-06	Yoke Assy, 6" Tank & 6" Tube
15823-06NP	Yoke Assy, 6" Tank, NP 6" Tubes
15823-12	Yoke Assy, 6" - 12" Tank, 8 1/2 Tube
15823-12NP	Yoke Assy, 6" - 12" Tank, NP 8 1/2" Tubes
15823-14	Yoke Assy, 14" Tank, 10 1/2" Tube
15823-14NP	Yoke Assy, 14" Tank, NP 10 1/2" Tube
15823-16	Yoke Assy, 16" Tank, 12 1/2" Tube
15823-16NP	Yoke Assy, 16" Tank, NP 12 1/2" Tube

### **Second Tank Assemblies (9100):**

60425-12	Tube Assy, 9100, 6-12" Tanks
60425-16	Tube Assy, 9100, 13-16" Tanks
14865	Adapter Assy, 2nd Tank, 9100
61419	Kit, 1.05" Distributor Adapter

### **Second Tank Assemblies (9500):**

16919-01	Valve Body, 9500 Machd
16919-01NP	Valve Body, 9500 Machd, NP
16919-21	Valve Body, 9500 BSP, Mtrc, Machd
16919-21NP	Valve Body, 9500 BSP, Mtrc, Machd Nickel Plated
60715-16	Tube Assy, 9500, 2nd Tank for 14" to 16" Tanks
60715-16NP	Tube Assy, 9500, 2nd Tank, NP for 14" to 16" Tanks
60715-20	Tube Assy, 9500, 2nd Tank for 20" Tanks
60715-24	Tube Assy, 9500, 2nd Tank for 20" and 24" Tanks
60715-24NP	Tube Assy, 9500, 2nd Tank, Nickel for 20-24" Tanks

### **Single Piece Plastic End Cap Assemblies**

61701-01	Plug Assy, End Cap 9000/9100
61701-02	Plug Assy, End Cap 9500

### **Tools:**

12763	Stuffer Tool Assy, 5600/9000
13061	Puller Assy, Port Ring
13759	Tool, DLFC Retainer

### **Valve Body Assembly (9100):**

40688	Valve Body Assy, 9100
18303	O-ring, -336
18569	Retainer, Tank Seal







