PENTAIR

FLECK 9000/9100/9500

SERVICE MANUAL

TABLE OF CONTENTS

CALIFORNIA PROPOSITION 65 WARNING

⚠ WARNING: This product contains chemicals known to the State of California to cause cancer or birth defects or other reproductive harm.

JOB SPECIFICATION SHEET

Job Number: _____

Model Number: _____

Water Test: _____

Capacity Per Unit: _____

Mineral Tank Size: _____ Diameter: _____Height: _____

Brine Tank Size and 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- inch Std Range (125 - 2,100 gallon setting)
   - B. 3/4-inch Ext Range (625 - 10,625 gallon setting)
   - C. 1-inch Std Range (310 - 5,270 gallon setting)
   - D. 1-inch Ext Range (1,150 - 26,350 gallon setting)
   - E. 1-1/2 inches Std Range (625 - 10,625 gallon setting)
   - F. 1-1/2 inches 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

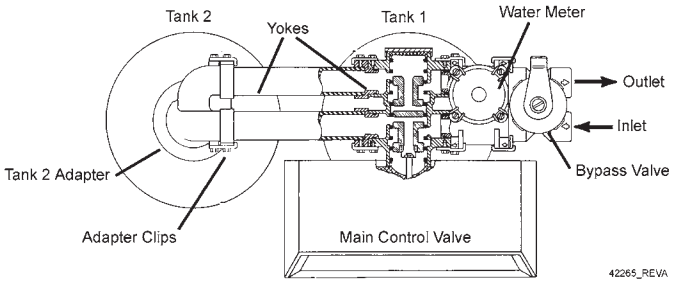


Figure 1 9000/9100 Equipment Configuration

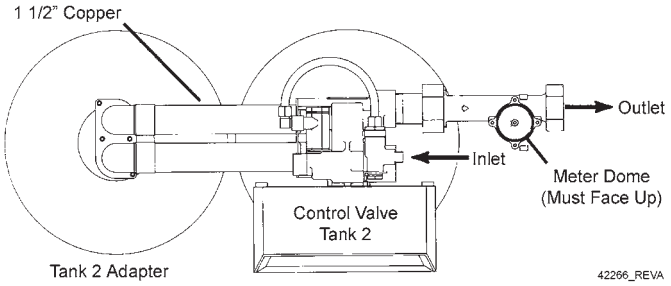


Figure 2 9500 Equipment Configuration

INSTALLATION & START-UP

Water Pressure

A minimum of 25 pounds (1.7 bar) 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 to prevent air breaks and back flow.

Bypass Valves

Always provide for the installation of a bypass 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.

Installation Instructions

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, the installer should warm the valve to room temperature before operating.
3. Perform all plumbing according to local plumbing codes.
   - Use a 1/2-inch minimum pipe size for the drain.
   - Use a 3/4-inch drain line for backwash flow rates that exceed 7 gpm or length that exceeds 20 feet (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 inch distance between tanks on final assembly.

7. **⚠ IMPORTANT:** For valves equipped with electromechanical timers and stainless steel meters, refer to the Meter Dome and Union Orientation section.
8. Solder joints near the drain must be done before connecting the Drain Line Flow Control fitting (DLFC). Leave at least 6 inches (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.
9. Use only plumber tape on the drain fitting.
10. Be sure the floor under the salt storage tank is clean and level.
11. Place approximately 1 inch (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.
12. On units with a bypass, place in Bypass position.
13. Turn on the main water supply.
14. 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.
15. 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.
16. Make all electrical connections according to codes. Plug the valve into an approved power source. Do not insert meter cable into the meter yet.
17. Tank one has control valve and tank two has adapter.
18. 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.

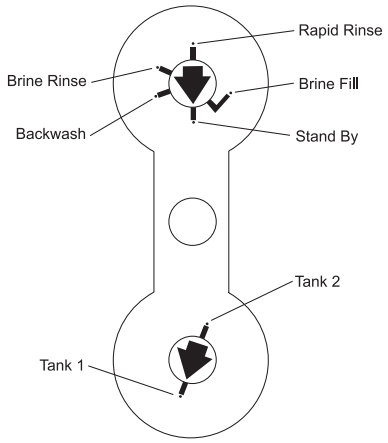
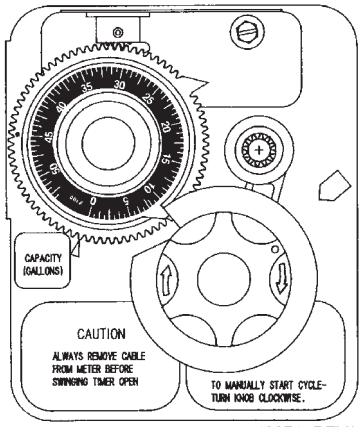
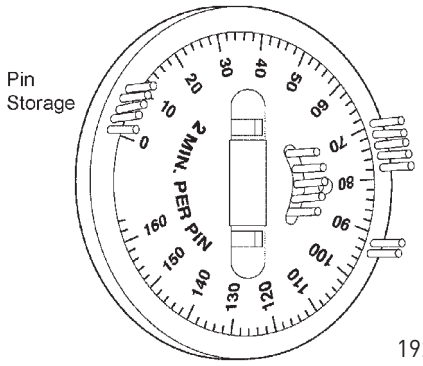


Figure 3 Control Valve Position Indicators



61591 Rev A

Figure 4 Timer



19210 Rev D

Figure 5 Program Wheel

19. 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.

20. 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.

21. 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 1/4-turn and 1/2-turn (see "Figure 6").

NOTE: If lubricant is required, a silicone compound is strongly recommended. Dow Corning® Silicone Compound (available from Pentair), is recommended for best possible results. Dow Corning® 7 Release Compound is used in the manufacture of Pentair 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

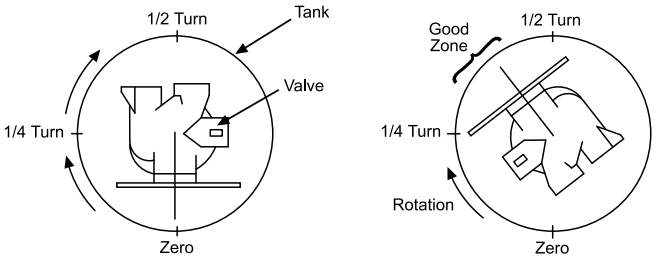


Figure 6

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.

INSTALLATION & STARTUP *CONTINUED*

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.

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:

$$\frac{\text{(capacity per ft}^3\text{ x ft}^3\text{ of resin per tank)}}{\text{compensated hardness of H2O}} = \text{gallons available}$$

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 inches
Compensated Hardness	=	35 grains per gallon (tested sample)
ft³ Resin (based on flow rate)	=	4
lbs of Salt per ft³	=	8
Capacity per ft³	=	24,000
$\frac{\text{(24,000 x 4 ft}^3\text{ of resin per tank)}}{\text{35 grains}}$	=	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-inch diameter tank with 4 ft³ of resin and salted at 8 lbs. per ft³, 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.

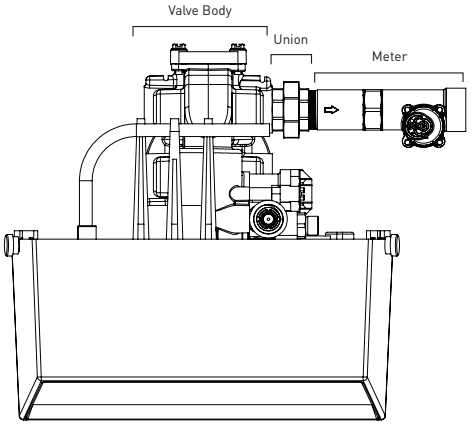
INSTALLATION *CONTINUED*

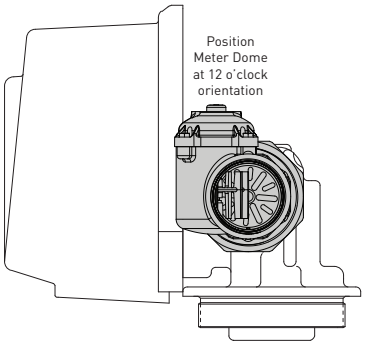
Meter Dome and Union Orientation

Control valves outfitted with an electromechanical timer and stainless steel water meter include a special male x female threaded stainless steel union to insure proper installation and operation of the water meter.

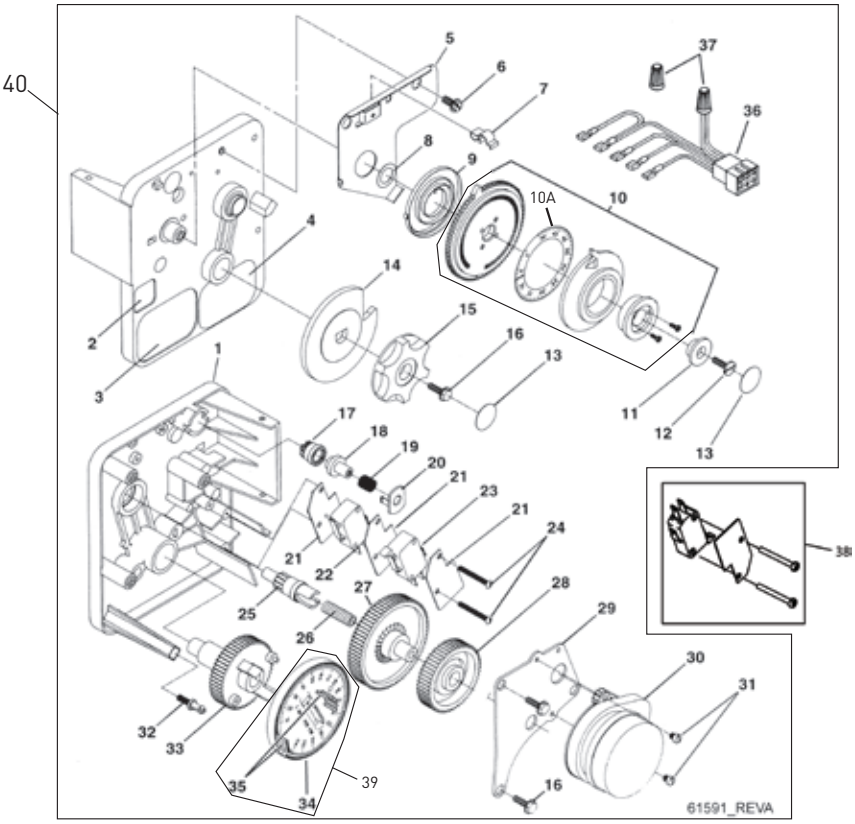
⚠ WARNING: The location of this union in relation to the control valve and water meter is critical for proper operation. DO NOT omit or substitute this special union; it positions the meter dome at the correct distance from the control valve and allows re-positioning the water meter dome for proper operation.

1. Apply a suitable thread sealant to the male threads of the union and meter body.
2. Thread the union into the OUTLET port of the control valve, then thread the meter into the union. See illustrations below.
3. Rotate the water meter body so the meter dome is at the 12 o'clock position. Loosen the nut on the union to facilitate this if required. Once in position, tighten the union nut.
4. Connect the meter cable to the open port in the center of the meter dome.
5. Continue with the installation of the control valve.





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

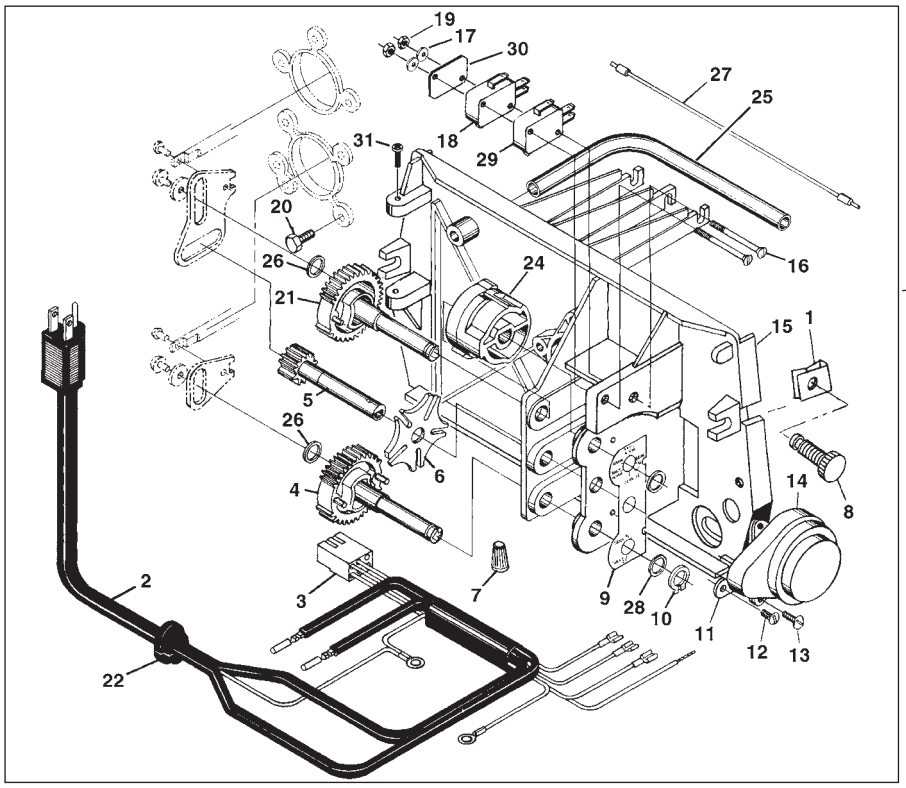


9000/9100/9500 (3200 SERIES) ELECTRO MECHANICAL TIMER ASSEMBLY *CONTINUED*

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

POWER HEAD ASSEMBLY

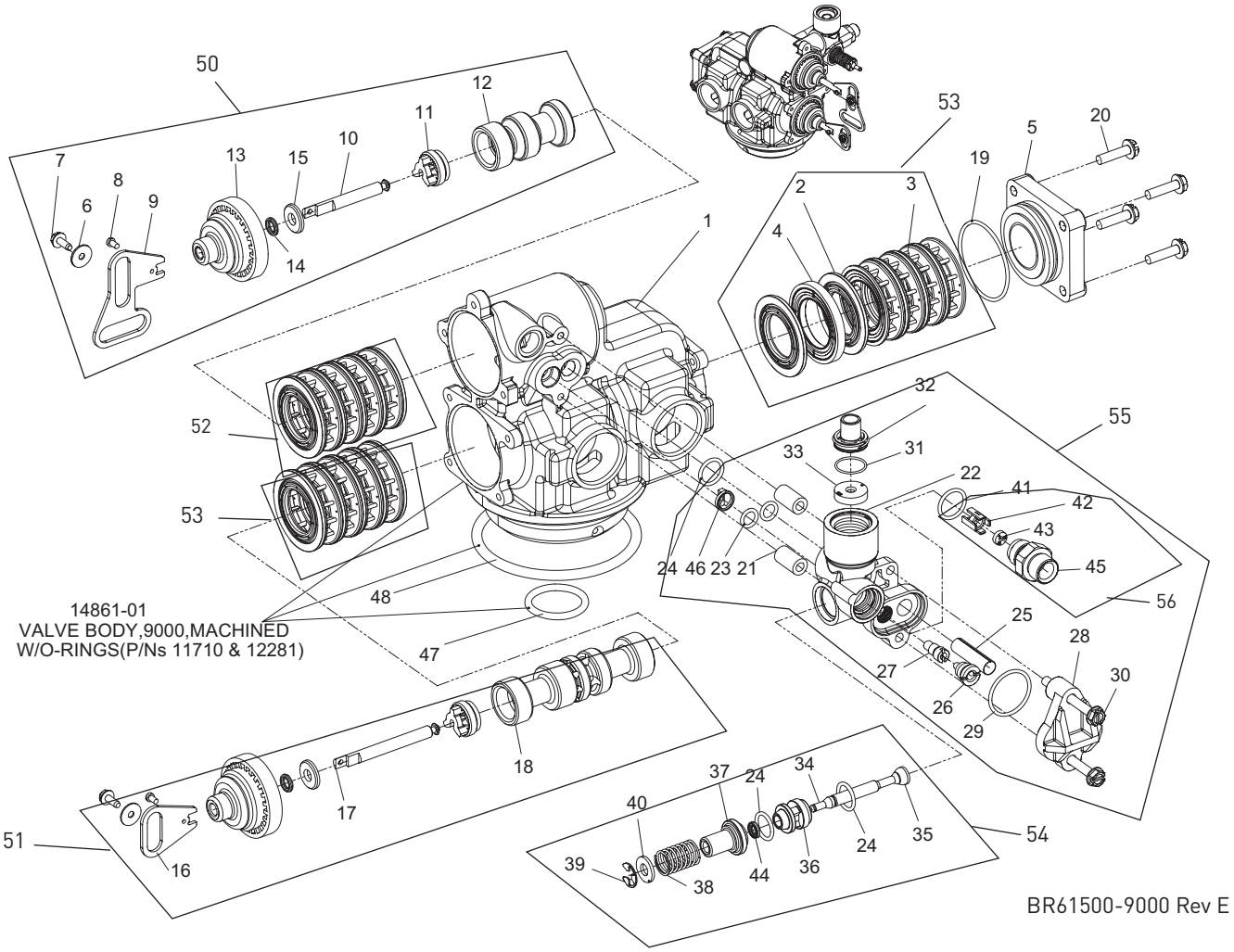


POWER HEAD ASSEMBLY *CONTINUED*

Item No.	QTY	Part No.	Description
1	2	18728	Nut, Tinnerman, U Type, 8-32
2	1	11838	Power Cord, 6' Fleck
		11839	Power Cord, 12' Fleck
		40084-12	Power Cord, 12' U.S., Round, 120V Sys 5, 6, 7 & 2900/3150/3900 #4
		19885-01	Power Cord Assy, Japanese
		11545-01	Power Cord Assy, 4' Black, Euro w/Terminals
		14678	Power Cord, U.S., 220/60
		19303-01	Power Cord Assy, Australian w/Terminals
		40085-12	Power Cord, 12' US, Round, 240V
		44147	Transformer, US, 24V, 9.6VA, Lvl6
		41475	Transformer, 24V, 9.6VA, European
3	1	15202	Harness, 9000/9500, Drive
		14822	Harness, 2900
4	1	15134	Gear Assy, Drive, 1/2-inch Stroke 9000/9500
5	1	15135	Gear, Drive, 9000
6	1	14896	Wheel, Geneva
7	2	40422	Nut, Wire, Tan
8	2	19367	Screw, Designer Cover, Thumb 8-32 Blank UV Stable Material
9	1	15175	Label, Shaft Position
10	2	14917	Ring, Retaining
11	1	42296	Plate, Ground, 9000/9500
12	1	14430	Screw, Hex Washer St, 6 x 1/4 Type "B"
13	2	19160	Screw, Phil Pan, Thread 6-32 x 3/8 Type 23 Zinc
14	1	18737	Motor, 24V, 50/60 Hz, 1 RPM
		18738	Motor, 120V, 50/60 Hz 1 RPM
		18739	Motor, 220V, 50/60 Hz 1 RPM
15	1	15131	Backplate, 9000, Mechanical, SXT
		17784-05	Panel, Control, 9000/9500 XT
		17784-02	Panel, Control, 9000, 9500 w/Terminal Block
16	2	15172	Screw, Flt Hd Mach, 4-40 x 1 3/8 Steel Zinc Plate
17	2	10340	Washer, Lock #4, Zinc
18	2	16433	Switch, Miniature
19	1	10339	Nut, Hex, 4-40 Zinc Plated
20	1	15331	Screw, Hex Washer Mach, 10-24 x 3/4 410 S.S.
21	1	15133	Gear Assy, Drive, 3/4-inch Stroke
22	1	13547	Strain Relief, Flat Cord Heyco #30-1
	1	13547-01	Strain Relief, Round Cord
23	1	15810	Ring, Retaining
24	1	17331	Cam, 9000, 9100, 9500
		17765	Cam Assy, Aux Switch, 9000, 9100, 9500
25	1	15368	Tube, Cable Guide, 2-Tank, 9000/9100
		17337	Tube, Cable Guide, 9500
26	2	15372	Washer, Thrust, 3/8
27	1	15425	Meter Cable Assy, 13.25 inches 9000/9100 3/4-inch STD & EXT
		15216	Meter Cable Assy, 15.25 inches 9000/9100 1-inch STD & EXT
		17744	Meter Cable Assy, 20.75 inches 9500 1.5-inch STD & EXT
28	2	15692	Washer, Plain, 3/8-inch
30	1	10302	Insulator, Limit Switch
31	2	15173	Screw, Slot Rd Hd Mach, 5-20 x 3/8
32		*	Complete 9000/9100/9500 Powerhead Assy
Not Shown			
	1	60232-110	Cover, Designer, 1 Pc Black
	1	60232-112	Cover, Designer, 1 Pc Black w/Left Window, Electric
	1	60320-10	Switch Assy, Drive Cam, 9000, 9100, 9500

*Call your distributor for Part Number

9000 CONTROL VALVE ASSEMBLY



BR61500-9000 Rev E

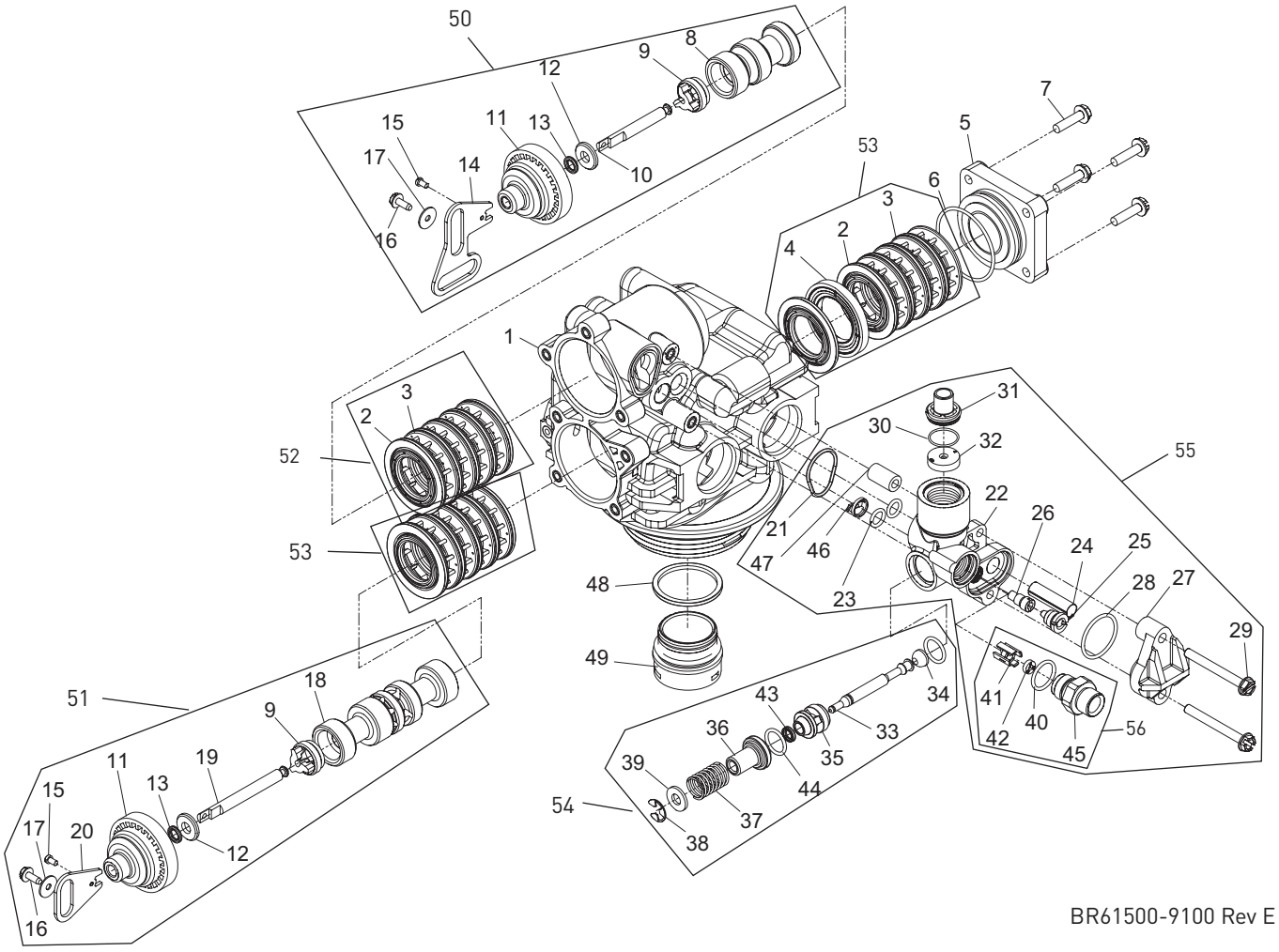
9000 CONTROL VALVE ASSEMBLY *CONTINUED*

Item No.	QTY	Part No.	Description
1	1	14861	Valve Body, 9000
2	16	13242-02	Seal, 5600,9000, 9100
3	12	14241	Spacer, 5600,9000, 9100
4	1	16595	Spacer, 9000, 9100
5	1	43458	End Cap, Plastic, 9000/9100
6	2	13363	Washer, Plain
7	2	17020	Screw, STL. Hex Washer, 6-20 x 3/8
8	2	11335	Screw, #4-40
9	1	14921	Link, Piston Rod
10	1	14919	Piston, Rod, Upper
11	2	14309	Retainer, Piston Rod
12	1	14914	Piston, 9000, 9100 Upper
13	2	13243	Plug, End, 5600, 9000, 9100
14	2	10209	Quad Ring, -010
15	2	13008	Retainer, End Plug Seal
16	1	15019	Link, Piston Rod, 9000/9500, 9100
17	1	14920	Rod, Piston, Lower, 9000, 9100
18	1	14905	Pistion, 9000, 9100 Lower
19	1	40952	O-ring, -030
20	4	15331	Screw, Hex Washer Head
21	2	13361	Spacer, 4600, 9000, 9100
22	1	15215	Body, Injector, 9000, 9100
23	2	13301	O-ring, -011
24	3	13302	O-ring, -014
25	1	10227	Screen, Injector
26	1	10913-000	Nozzle, Injector, #000, Brown
		10913-00	Nozzle, Injector, #00, Violet
		10913-0	Nozzle, Injector, #0, Red
		10913-1	Nozzle, Injector, #1, White
		10913-2	Nozzle, Injector, #2, Blue
		10913-3	Nozzle, Injector, #3, Yellow
		10913-4	Nozzle, Injector, #4, Green
27	1	10914-000	Throat, Injector, #000, Brown
		10914-00	Throat, Injector, #00, Violet
		10914-0	Throat, Injector, #0, Red
		10914-1	Throat, Injector, #1, White
		10914-2	Throat, Injector, #2, Blue
		10914-3	Throat, Injector, #3, Yellow
		10914-4	Throat, Injector, #4, Green
28	1	13166	Cap, Injector, 5600, 9000, 9100
29	1	13303	O-ring, -021
30	2	13387	Screw, Hex Washer Head
31	1	15348	O-ring, -563
32	1	13173	Retainer, DLFC Button
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
		19149	Washer, Flow, 1.7 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
34	1	14925	Brine Valve Stem, 9000, 9100
35	1	12626	Seat, Brine Valve
36	1	13167	Spacer, Brine Valve
37	1	13165	Cap, Brine Valve
38	1	11973	Spring, Brine Valve
39	1	11981-01	Ring, Retaining, SS
40	1	16098	Washer, Nylon Brine
41	1	12977	O-ring, -015
42	1	13245	Retainer, BLFC
43	1	17307	Washer, Flow, 0.125 GPM
		12094	Washer, Flow, 0.25 GPM
		12095	Washer, Flow, 0.50 GPM
		12097	Washer, Flow, 1.0 GPM
44	1	12550	Quad Ring, -009
45	1	13244	Adapter, BLFC
46	1	13497	Air Disperser, Injector
47	1	11710	O-ring, -215
48	1	12281	O-ring, -338
50		60400	Piston Assy, 9000, 9100 Upper
		60400-01	Piston Assy, 9000 Upper, HW
		60400-001	Piston Assy, 9000, 9100 Upper, 560CD
51		60401	Piston Assy, 9000, 9100 Lower
		60401-01	Piston Assy, 9000 Lower, HW
		60401-001	Piston Assy, 9000, 9100 Lower, 560CD
52		60125	Seal & Spacer Kit, 5600/9000/9100 Upper
		60125-15	Seal & Spacer Kit, 5600/9000/9100 Upper Blue
		60125HW	Seal & Spacer Kit, 9000 Upper

9000 CONTROL VALVE ASSEMBLY *CONTINUED*

Item No.	QTY	Part No.	Description
53	.....	60421	.....Seal & Spacer Kit, 9000/9100 Lower
	.....	60421HW	.....Seal & Spacer Kit, 9000 Lower
	.....	60421-50	.....Seal & Spacer Kit, 9000/9100 Lower, 559PE
54	.....	60350	.....Brine Valve Assy, 9000, 9100
	.....	60350-01	.....Brine Valve Assy, 9000, 560CD, Hot Water
55	.....	60385-0011	.....Injector Drain, 9000, 9100, 0.25 BLFC #0 INJ, 1.2 DLFC
	.....	60385-0111	.....Injector Drain, 9000, 9100, 0.25 BLFC #1 INJ, 1.2 DLFC
	.....	60385-0121	.....Injector Drain, 9000, 9100, 0.25 BLFC #1 INJ, 1.5 DLFC
	.....	60385-0131	.....Injector Drain, 9000, 9100, 0.25 BLFC #1 INJ, 2.0 DLFC
	.....	60385-0141	.....Injector Drain, 9000, 9100, 0.25 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 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	12128	.....Label, 0.25 GPM BLFC
	1	13333	.....Label, Injector
	1	10760	.....Label, 1 GPM, 3 lbs salt/min
	.....	10759	.....Label, 0.5 GPM, 1.5 lbs Salt
	.....	19654	.....Label, 0.125 GPM Brine Refill Flow

9100 CONTROL VALVE ASSEMBLY



BR61500-9100 Rev E

Item No.	QTY	Part No.	Description
1	1	40688	Valve Body Assy, 9100
2	16	13242-02	Seal, 5600,9000, 9100
3	12	14241	Spacer, 5600,9000, 9100
4	1	16595	Spacer, 9000, 9100
5	1	43458	End Cap, Plastic, 9000/9100
6	1	40952	O-ring, -030
7	4	15331	Screw, Hex Washer Head
8	1	14914	Piston, 9000, 9100 Upper
9	2	14309	Retainer, Piston Rod
10	1	14919	Piston, Rod, Upper
11	2	13243	Plug, End, 5600, 9000, 9100
12	2	13008	Retainer, End Plug Seal
13	2	10209	Quad Ring, -010
14	1	14921	Link, Piston Rod
15	2	11335	Screw, #4-40
16	2	17020	Screw, STL. Hex Washer, 6-20 x 3/8
17	2	13363	Washer, Hague Drive
18	1	14905	Piston, 9000, 9100 Lower
19	1	14920	Rod, Piston, Lower, 9000, 9100
20	1	15019	Link, Piston, Rod, 9000/9500
21	1	41500	O-ring, 9100 Drain
22	1	15215	Body, Injector, 9000, 9100
23	2	13301	O-ring, -011
24	1	10227	Screen, Injector
25	1	10913-000	Nozzle, Injector, #000, Brown
		10913-00	Nozzle, Injector, #00, Violet
		10913-0	Nozzle, Injector, #0, Red
		10913-1	Nozzle, Injector, #1, White
		10913-2	Nozzle, Injector, #2, Blue
		10913-3	Nozzle, Injector, #3, Yellow
		10913-4	Nozzle, Injector, #4, Green

9100 CONTROL VALVE ASSEMBLY *CONTINUED*

Item No.	QTY	Part No.	Description
26	1	10914-000	Throat, Injector, #000, Brown
		10914-00	Throat, Injector, #00, Violet
		10914-0	Throat, Injector, #0, Red
		10914-1	Throat, Injector, #1, White
		10914-2	Throat, Injector, #2, Blue
		10914-3	Throat, Injector, #3, Yellow
		10914-4	Throat, Injector, #4, Green
27	1	13166	Cap, Injector, 5600, 9000, 9100
28	1	13303	O-ring, -021
29	2	13387	Screw, Hex Washer Head
30	1	15348	O-ring, -563
31	1	13173	Retainer, DLFC Button
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
		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
33	1	14925	Brine Valve Stem, 9000, 9100
34	1	12626	Seat, Brine Valve
35	1	13167	Spacer, Brine Valve
36	1	13165	Cap, Brine Valve
37	1	11973	Spring, Brine Valve
38	1	11981-01	Ring, Retaining, SS
39	1	16098	Washer, Nylon Brine
40	1	12977	O-ring, -015
41	1	13245	Retainer, BLFC
42	1	17307	Washer, Flow, 0.125 GPM
		12094	Washer, Flow, 0.25 GPM
		12095	Washer, Flow, 0.50 GPM
		12097	Washer, Flow, 1.0 GPM
43	1	12550	Quad Ring, -009
44	2	13302	O-ring, -014
45	1	13244	Adapter, BLFC
46	1	13497	Air Disperser, Injector
47	1	13361	Spacer, 4600, 9100
48	1	40538	Retainer, 32 mm, O-ring DIST, 7000
49	1	61419	Kit, 1.05-inch Distributor Adapter
50		60400	Piston Assy, 9000, 9100 Upper
		60400-001	Piston Assy, 9000, 9100 Upper, 560CD
51		60401	Piston Assy, 9000, 9100 Lower
		60401-01	Piston Assy, 9000 Lower, HW
		60401-001	Piston Assy, 9000, 9100 Lower, 560CD
52		60125	Seal & Spacer Kit, 5600/9000/9100 Upper
		60125-15	Seal & Spacer Kit, 5600/9000/9100 Upper Blue Silicone
53		60421	Seal & Spacer Kit, 9000/9100 Lower
		60421-50	Seal & Spacer Kit, 9000/9100 Lower, 559PE
54		60350	Brine Valve Assy, 9000, 9100
55		60385-0011	Injector Drain, 9000, 9100, 0.25 BLFC #0 INJ, 1.2 DLFC
		60385-0111	Injector Drain, 9000, 9100, 0.25 BLFC #1 INJ, 1.2 DLFC
		60385-0121	Injector Drain, 9000, 9100, 0.25 BLFC #1 INJ, 1.5 DLFC
		60385-0131	Injector Drain, 9000, 9100, 0.25 BLFC #1 INJ, 2.0 DLFC
		60385-0141	Injector Drain, 9000, 9100, 0.25 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,

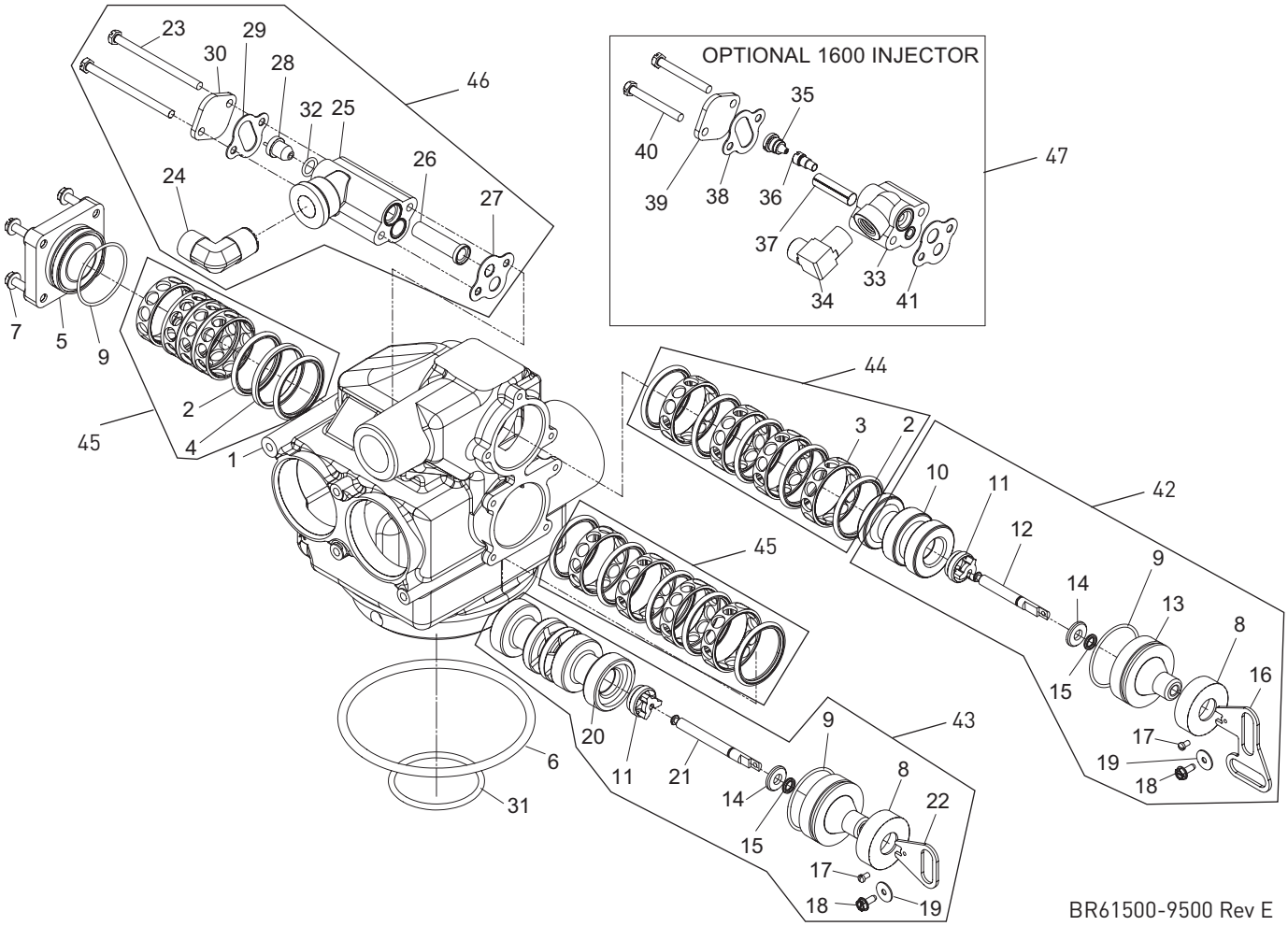
9100 CONTROL VALVE ASSEMBLY *CONTINUED*

Item No.	QTY	Part No.	Description
			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 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	16919-01	Valve Body, 9500, Machining
2	16	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	43458-01	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

Item No.	QTY	Part No.	Description
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
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

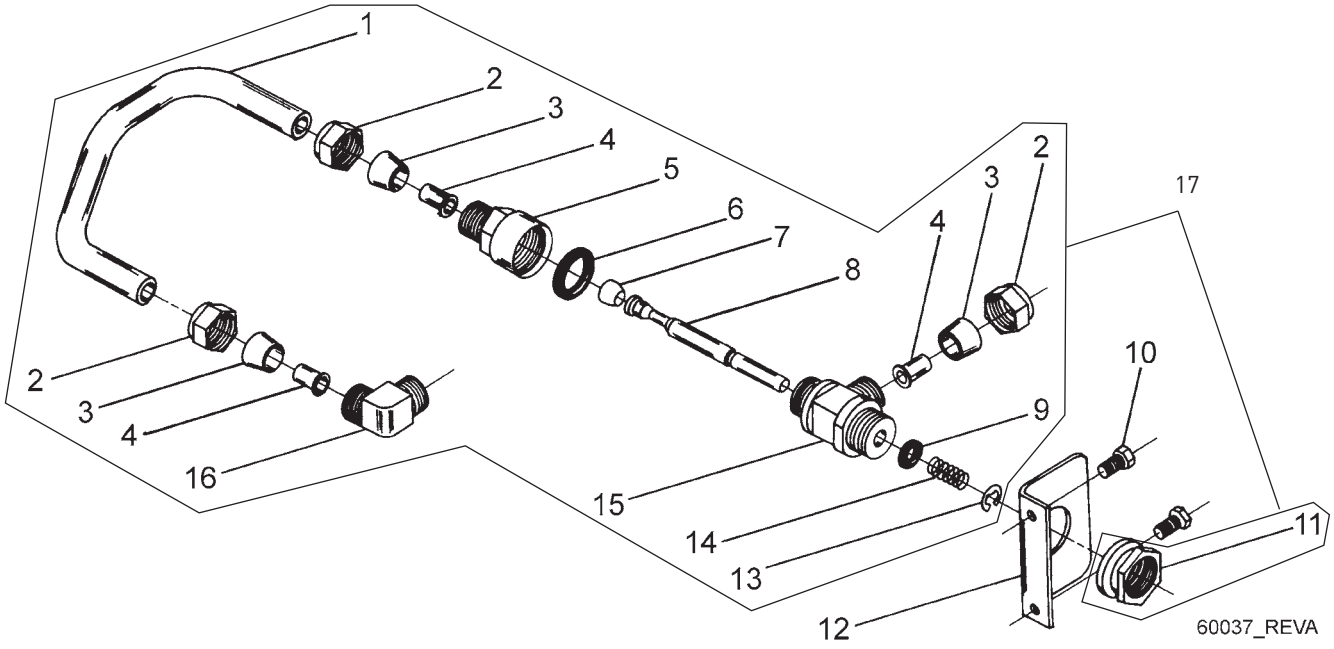
9500 CONTROL VALVE ASSEMBLY *CONTINUED*

Item No.	QTY	Part No.	Description
		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
32	1	13771	O-ring, -012
Optional (1600) Injector Part Number			
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
42		60108	Piston Assy, 9500, Upper
		60108-01	Piston Assy, 9500, Upper, HW
		60108-02	Piston Assy, 9500, Upper, 560CD
43		60109	Piston Assy, 9500, Lower
		60109-01	Piston Assy, 9500, HW, Lower
		60109-02	Piston Assy, 9500, Lower, 560CD
44		60134	Seal & Spacer Kit, 9500, Upper, Hot & Cold
		60134-20	Seal & Spacer Kit, 9500, Upper, Plastic Spacers, Chemical Resistent Seals
45		60133-01	Seal & Spacer Kit, 9500, Lower, Hot & Cold
		60133-20	Seal & Spacer Kit, 9500, Lower, Plastic Spacers, Chemical Resistent Seals
46		60381-03	Injector Assy, 1700, #3C
		60381-04	Injector Assy, 1700, #4C
		60381-05	Injector Assy, 1700, #5C
		60381-06	Injector Assy, 1700, #6C
47		60480-00	Injector Assy, 1600, #0, Plastic
		60480-01	Injector Assy, 1600, #1, Plastic
		60480-02	Injector Assy, 1600, #2, Plastic
		60480-03	Injector Assy, 1600, #3, Plastic
		60480-04	Injector Assy, 1600, #4, Plastic
		60481-21	Injector Assy, 1600, #1, S.S. Brass, HW
		60481-22	Injector Assy, 1600, #2, S.S. Brass, HW
		60481-23	Injector Assy, 1600, #3, S.S. Brass, HW
		60080-11	Injector Assy, 1600, #1, PVC
		60080-12	Injector Assy, 1600, #2, PVC
		60080-14	Injector Assy, 1600, #4, PVC
Not Shown			
		60366-00	DLFC, 1 inch F x 3/4 inch F, NPT, No Button
		60366-06	DLFC, 1 inch F x 3/4 inch F, NPT, 0.6 GPM
		60366-08	DLFC, 1 inch F x 3/4 inch F, NPT, 0.8 GPM
		60366-10	DLFC, 1 inch F x 3/4 inch F, NPT, 1.0 GPM
		60366-12	DLFC, 1 inch F x 3/4 inch F, NPT, 1.2 GPM
		60366-13	DLFC, 1 inch F x 3/4 inch F, NPT, 1.3 GPM
		60366-15	DLFC, 1 inch F x 3/4 inch F, NPT, 1.5 GPM
		60366-17	DLFC, 1 inch F x 3/4 inch F, NPT, 1.7 GPM
		60366-20	DLFC, 1 inch F x 3/4 inch F, NPT, 2.0 GPM
		60366-24	DLFC, 1 inch F x 3/4 inch F, NPT, 2.4 GPM
		60366-30	DLFC, 1 inch F x 3/4 inch F, NPT, 3.0 GPM
		60366-35	DLFC, 1 inch F x 3/4 inch F, NPT, 3.5 GPM
		60366-40	DLFC, 1 inch F x 3/4 inch F, NPT, 4.0 GPM
		60366-45	DLFC, 1 inch F x 3/4 inch F, NPT, 4.5 GPM
		60366-50	DLFC, 1 inch F x 3/4 inch F, NPT, 5.0 GPM
		60366-60	DLFC, 1 inch F x 3/4 inch F, NPT, 6.0 GPM
		60366-70	DLFC, 1 inch F x 3/4 inch F, NPT, 7.0 GPM
		60708-00	DLFC, 1 inch F x 3/4 inch F, NPT, No Button
		60708-8.0	DLFC, 1 inch F x 3/4 inch F, NPT, 8.0 GPM
		60708-9.0	DLFC, 1 inch F x 3/4 inch F, NPT, 9.0 GPM
		60708-10	DLFC, 1 inch F x 3/4 inch F, NPT, 10.0 GPM

9500 CONTROL VALVE ASSEMBLY *CONTINUED*

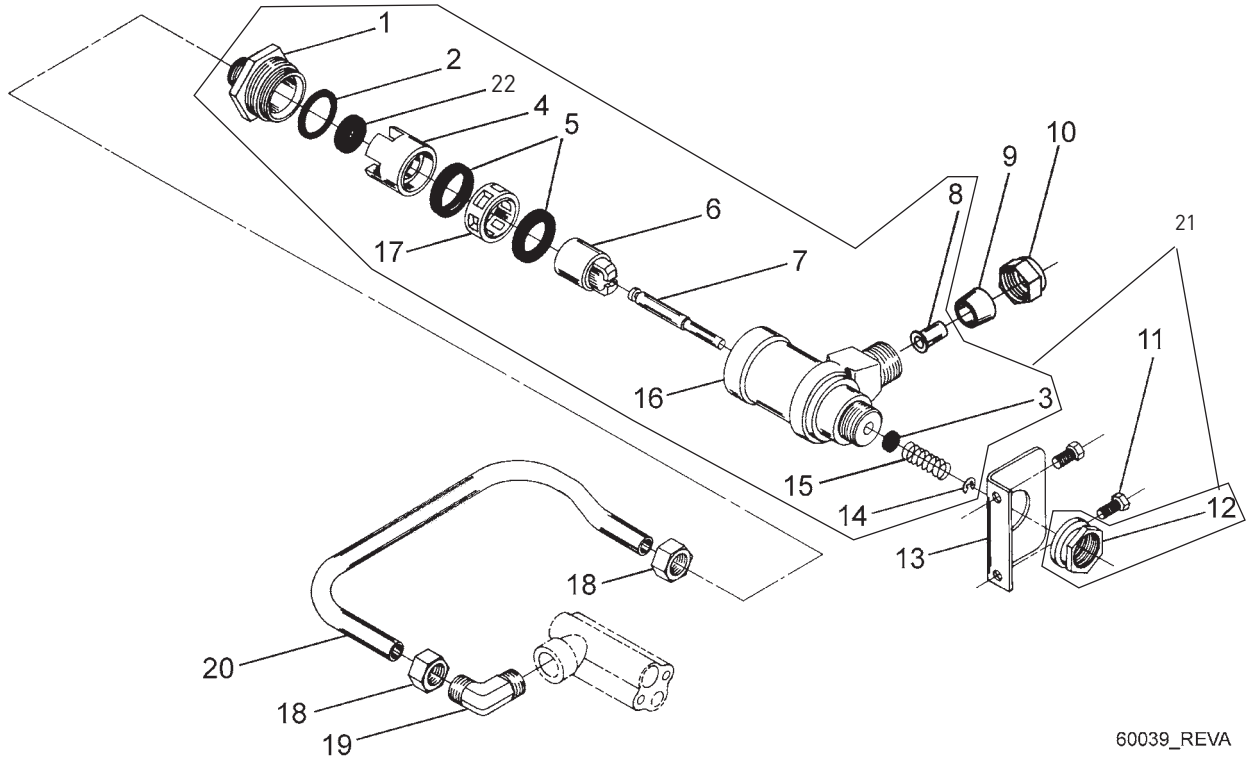
Item No.	QTY	Part No.	Description
	.....	60708-12.....	DLFC, 1 inch F x 3/4 inch F, NPT, 12.0 GPM
	.....	60708-15.....	DLFC, 1 inch F x 3/4 inch F, NPT, 15.0 GPM
	.....	60721-00.....	DLFC, 1 inch F x 1 inch F, NPT, No Button
	.....	60721-06.....	DLFC, 1 inch F x 1 inch F, NPT, 0.06 GPM
	.....	60721-08.....	DLFC, 1 inch F x 1 inch F, NPT, 0.08 GPM
	.....	60721-10.....	DLFC, 1 inch F x 1 inch F, NPT, 1.0 GPM
	.....	60721-12.....	DLFC, 1 inch F x 1 inch F, NPT, 1.2 GPM
	.....	60721-13.....	DLFC, 1 inch F x 1 inch F, NPT, 1.3 GPM
	.....	60721-15.....	DLFC, 1 inch F x 1 inch F, NPT, 1.5 GPM
	.....	60721-00.....	DLFC, 1 inch F x 1 inch F, NPTF, No Button
	.....	60721-17.....	DLFC, 1 inch F x 1 inch F, NPTF, 1.7 GPM
	.....	60721-20.....	DLFC, 1 inch F x 1 inch F, NPTF, 2.0 GPM
	.....	60721-24.....	DLFC, 1 inch F x 1 inch F, NPTF, 2.4 GPM
	.....	60721-30.....	DLFC, 1 inch F x 1 inch F, NPTF, 3.0 GPM
	.....	60721-35.....	DLFC, 1 inch F x 1 inch F, NPTF, 3.5 GPM
	.....	60721-40.....	DLFC, 1 inch F x 1 inch F, NPTF, 4.0 GPM
	.....	60721-45.....	DLFC, 1 inch F x 1 inch F, NPTF, 4.5 GPM
	.....	60721-50.....	DLFC, 1 inch F x 1 inch F, NPTF, 5.0 GPM
	.....	60721-60.....	DLFC, 1 inch F x 1 inch F, NPTF, 6.0 GPM
	.....	60721-70.....	DLFC, 1 inch F x 1 inch F, NPTF, 7.0 GPM
	.....	60702-00.....	DLFC, 1 inch M x 1 inch F, NPT, Brass, No Button
	.....	60702-8.0.....	DLFC, 1 inch M x 1 inch F, NPT, 8.0 GPM
	.....	60702-9.0.....	DLFC, 1 inch M x 1 inch F, NPT, 9.0 GPM
	.....	60702-10.....	DLFC, 1 inch M x 1 inch F, NPT, 10 GPM
	.....	60702-12.....	DLFC, 1 inch M x 1 inch F, NPT, 12 GPM
	.....	60702-15.....	DLFC, 1 inch M x 1 inch F, NPT, 15 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-inch 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

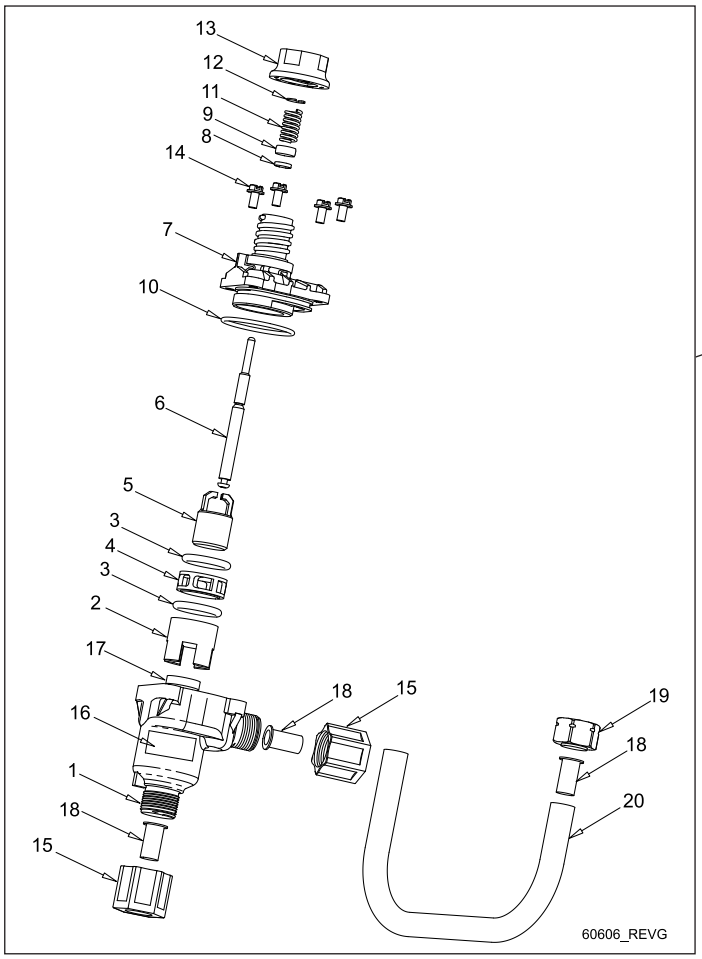
1700 BRINE VALVE SYSTEM (FOR 9500)



Item No.	QTY	Part No.	Description
1	1	14792	Plug, End, Brine Valve
2	1	13201	Quad Ring, -020
		13201-01	Quad Ring, -20, 560CD
3	1	12550	Quad Ring, -009
		12550-01	Quad Ring, -009, 560CD
4	1	14785-01	Retainer, Flow Control
5	2	14811	O-ring, -210, 560CD, Brine
6	1	14795	Piston, Brine Valve
7	1	16929	Brine Valve Stem, Coated
8	1	15415	Fitting, Insert, 1/2-inch Tube
9	1	16124	Fitting, Sleeve, Delrin
10	1	16123	Nut, Brass
11	1	15137	Screw, Hex Washer Mach, 10-24 x 3/8
12	1	10269	Nut, Jam, 3/4 - 16
13	1	16922	Bracket, Brine Valve Mounting
14	2	10250	Ring, Retaining
15	1	15310	Spring, Brine Valve
16	2	14790	Brine Valve Body
17	1	14798	Spacer, 1700, Brine
18	1	15414	Nut, 2900, w/Sleeve
19	1	15413	Fitting, Elbow, Male, 1/2T x 3/8 NPT
20	1	16959	Tube, Brine 9500/1710, 10.6 inches
		16959-01	Tube, Brine Valve 9500/1710, CPVC, Hot Water

Item No.	QTY	Part No.	Description
21		60039-10	Brine Valve Assy. 9500/1700 1.0 GPM
		60039-12	Brine Valve Assy. 9500/1700 1.2 GPM
		60039-15	Brine Valve Assy. 9500/1700 1.5 GPM
		60039-20	Brine Valve Assy. 9500/1700 2.0 GPM
		60039-24	Brine Valve Assy. 9500/1700 2.4 GPM
		60039-30	Brine Valve Assy. 9500/1700 3.0 GPM
		60039-50	Brine Valve Assy. 9500/1700 5.0 GPM
		60039-00	Brine Valve Assy. 9500/1700 Blank
22		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
		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

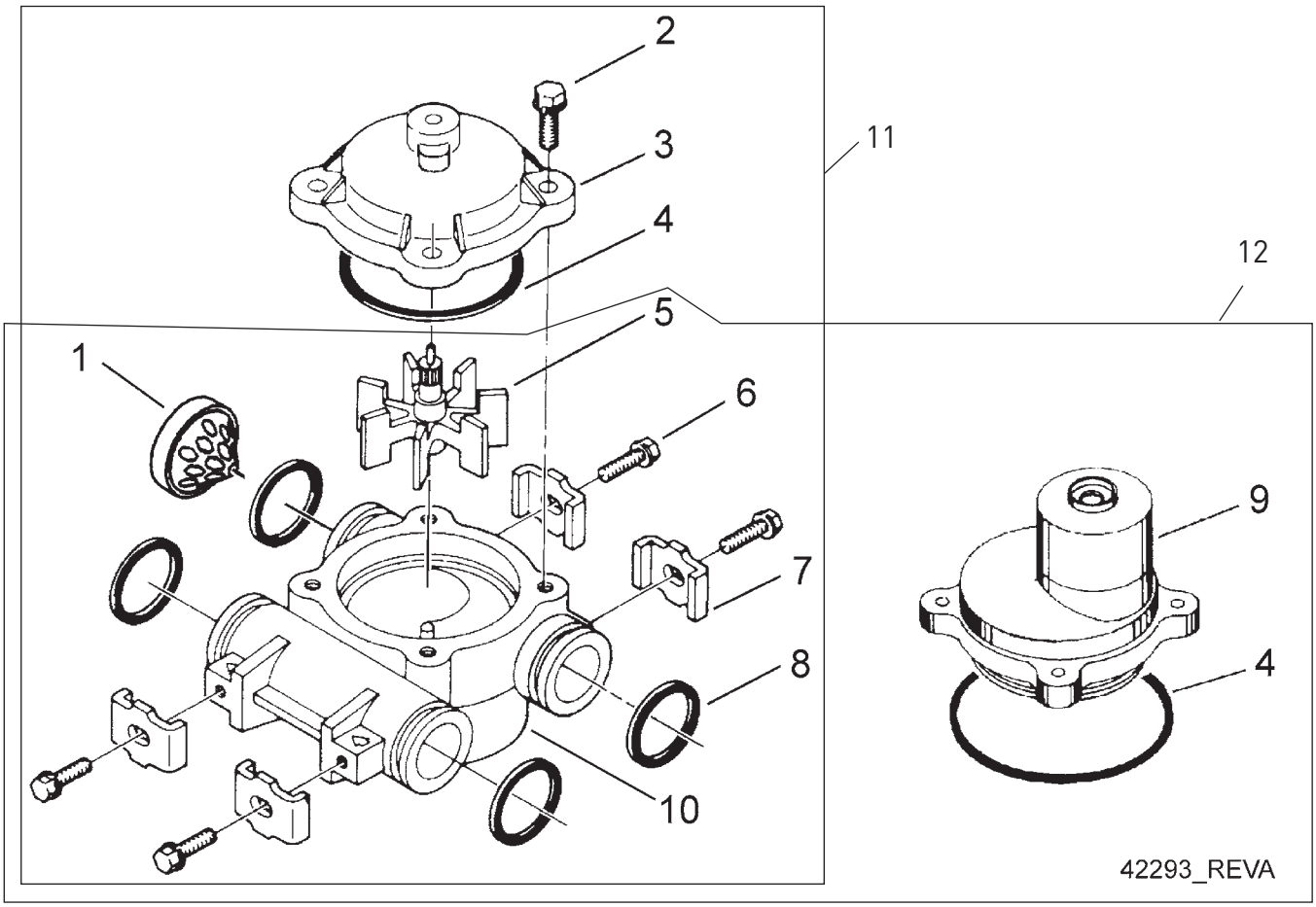
1710 BRINE VALVE SYSTEM (FOR 9500)



Item No.	QTY	Part No.	Description
1	1	41202	Brine Valve, 1700, Plastic, Top
2	1	14785-01	Retainer, Flow Control
3	2	14811	O-ring, -210, 560CD, Brine
4	1	14798	Spacer, 1700, Brine
5	1	14795	Piston, Brine Valve
6	1	41429	Stem, Brine, 1710, Plastic, 9500
7	1	41201	Brine Valve, 1700, Plastic, Bottm
8	1	12550	Ring, Quad, -009
9	1	17908	Sleeve, Brine Valve Stem
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-inch Plastic
16	1	41493-XX	Label, BLFC, 1710 (Specify GPM)

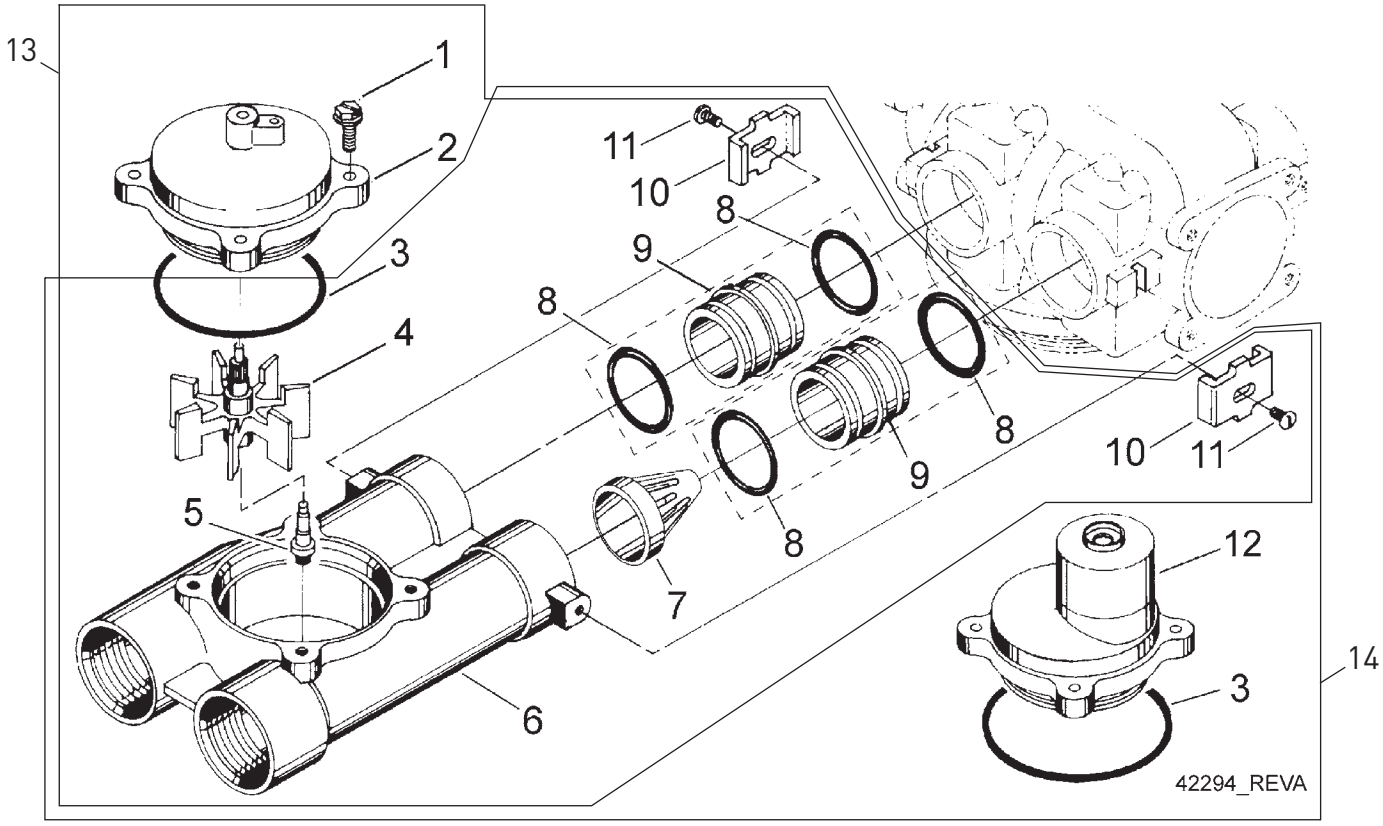
Item No.	QTY	Part No.	Description
17	1		Washer, Flow (Specify GPM)
18	3	15415	Fitting, Insert, 1/2-inch, Tube
19	1	15414	Nut, 2900, w/Sleeve
20	1	16959	Tube, Brine 9500/1700, 10.6 inches
21		60606-10	Brine Valve Assy. 9500/1710 1.0 GPM
		60606-12	Brine Valve Assy. 9500/1710 1.2 GPM
		60606-15	Brine Valve Assy. 9500/1710 1.5 GPM
		60606-20	Brine Valve Assy. 9500/1710 2.0 GPM
		60606-24	Brine Valve Assy. 9500/1710 2.4 GPM
		60606-30	Brine Valve Assy. 9500/1710 3.0 GPM
		60606-40	Brine Valve Assy. 9500/1710 4.0 GPM
		60606-50	Brine Valve Assy. 9500/1710 5.0 GPM
		60606-00	Brine Valve Assy. 9500/1710 Blank

3/4-INCH METER ASSEMBLY



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-inch Dual Port, Slip, STD, Plastic, Paddlewheel, w/Clips
12	1	60087	Meter Assy, 3/4-inch Dual Port, Slip, EXT, Plastic, Paddlewheel, w/Clips

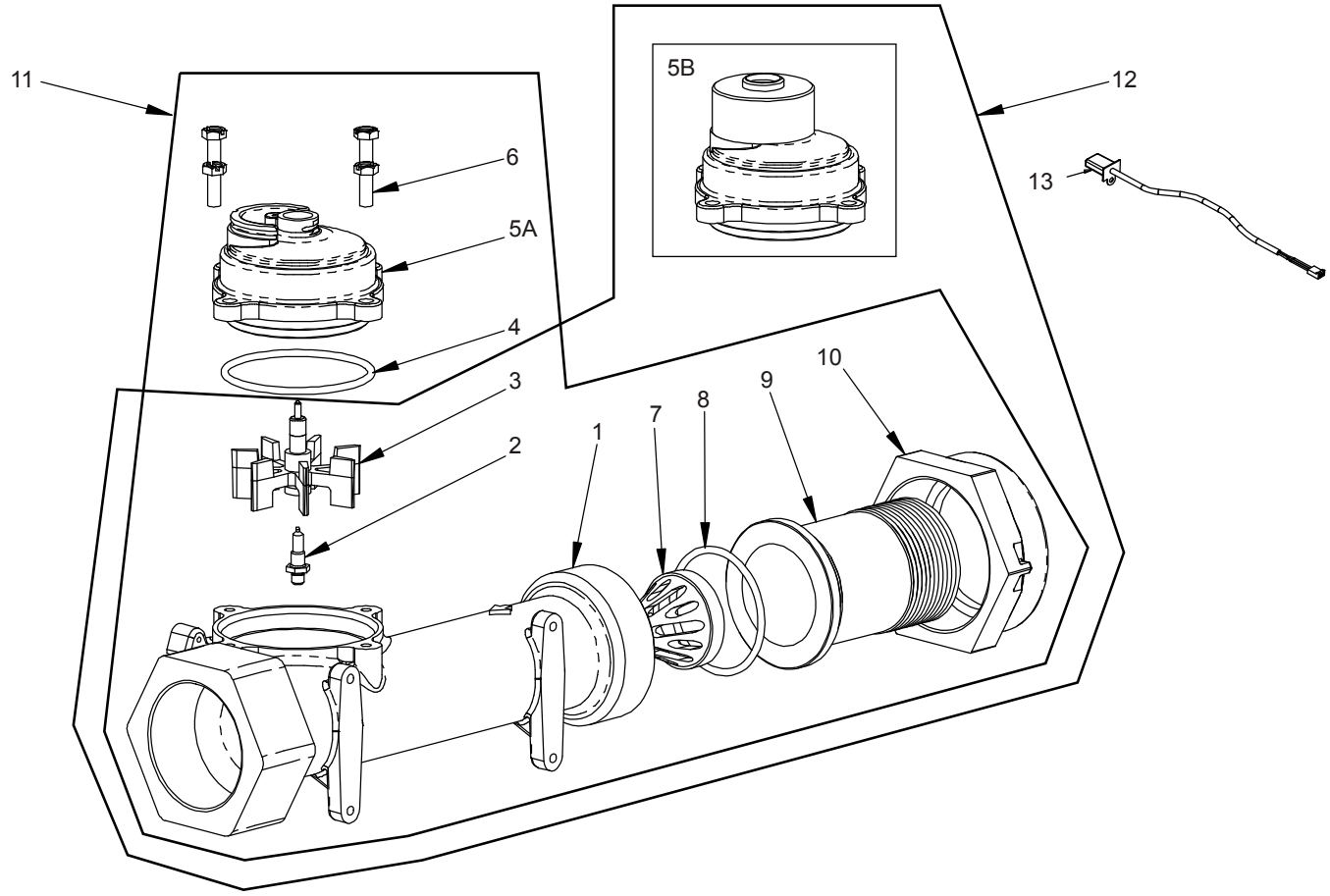
1-INCH METER ASSEMBLY



1-INCH METER ASSEMBLY

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

1-1/2 INCH BRASS METER ASSEMBLY

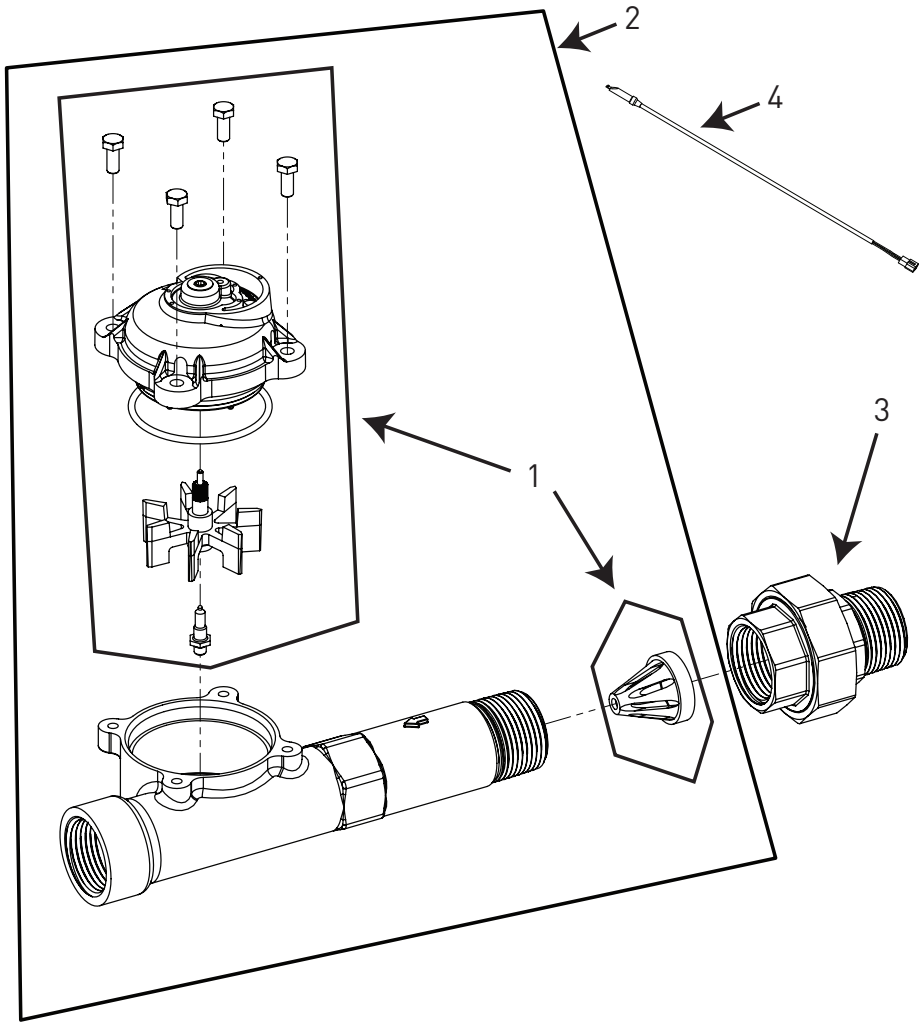


Item No.	QTY	Part No.	Description
1	1	17569	Body, Meter, 2850/9500
2	1	13882	Post, Meter Impeller
3	1	13509	Impeller, Meter
	1	13509-01	Impeller, Celcon, Hot Water
4	1	13847	O-Ring, -137, Std/560CD, Meter
5A	1	14038	Meter Cap Assy, STD Range, Plastic
5B	1	15150	Meter Cap Assy, Ext Range, Plastic
6	4	12112	Screw, Hex Hd Mach, 10-24 x 1/2 18-8 Stainless Steel
7	1	17542	Flow Straightener, 1-1/2 inches
8	1	12733	O-Ring, -132
9	1	17544	Fitting, 1-1/2 inch Quick Connector
10	1	17543	Nut, 1-1/2-inch, Q/C
11		60610-01	Meter Assy, 1-1/2 inch, NPT, STD, Brass, Paddlewheel
		60610-21	Meter Assy, 1-1/2 inch, BSP, STD, Brass, Paddlewheel
12		60610-02	Meter Assy, 1-1/2 inch, NPT, STD, Brass Paddlewheel
		60610-22	Meter Assy, 1-1/2 inch, BSP, EXT, Brass Paddlewheel
13	1	19121	Meter Cable Assembly,
		19121-08	Meter Cable Assembly, 35 inch long with connector
		19121-09	Meter Cable Assembly, 100 inch long with connector
		19121-10	Meter Cable Assembly 304 inch long with connector

Not Shown

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

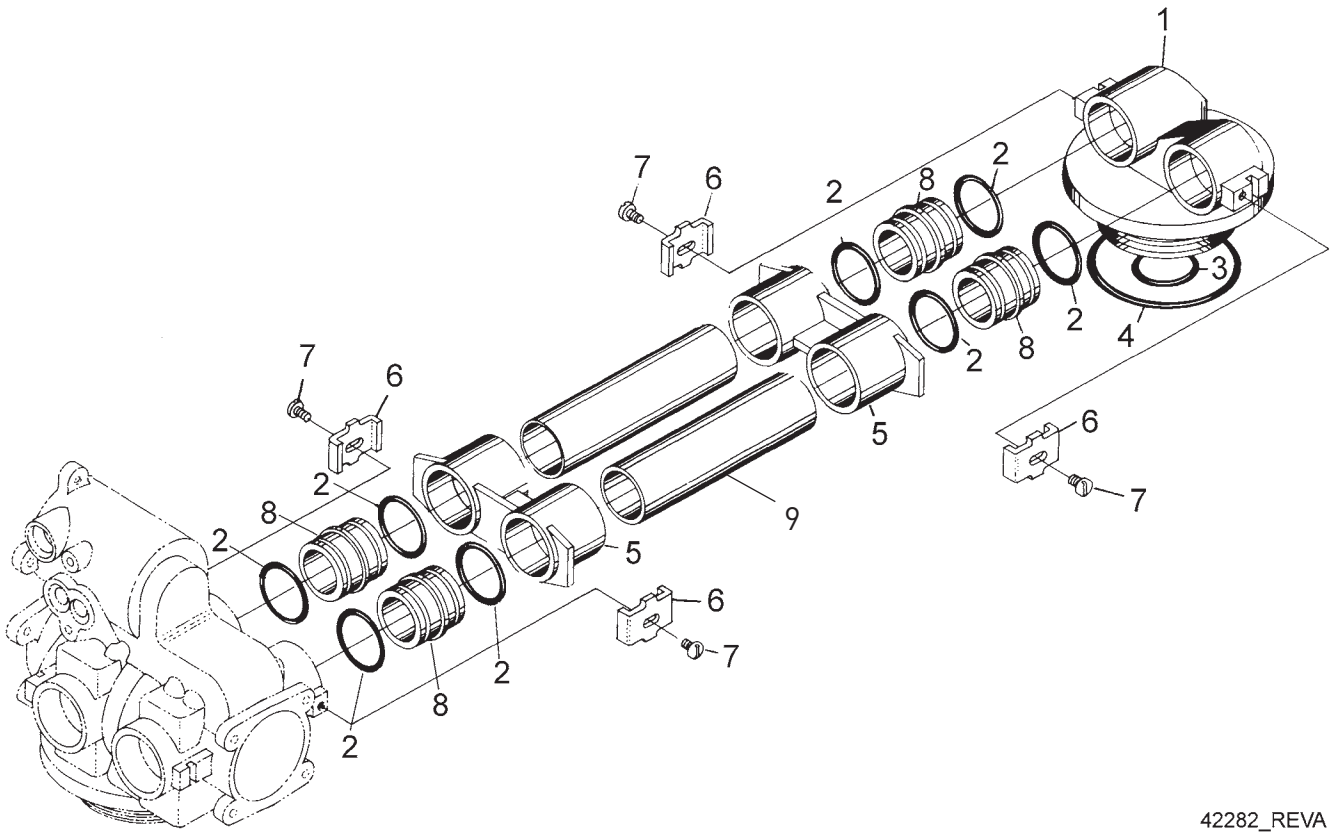
1-1/2 INCH STAINLESS STEEL METER ASSEMBLY



⚠ IMPORTANT: For valves equipped with electromechanical timers and stainless steel meters, refer to the Meter Dome and Union Orientation section.

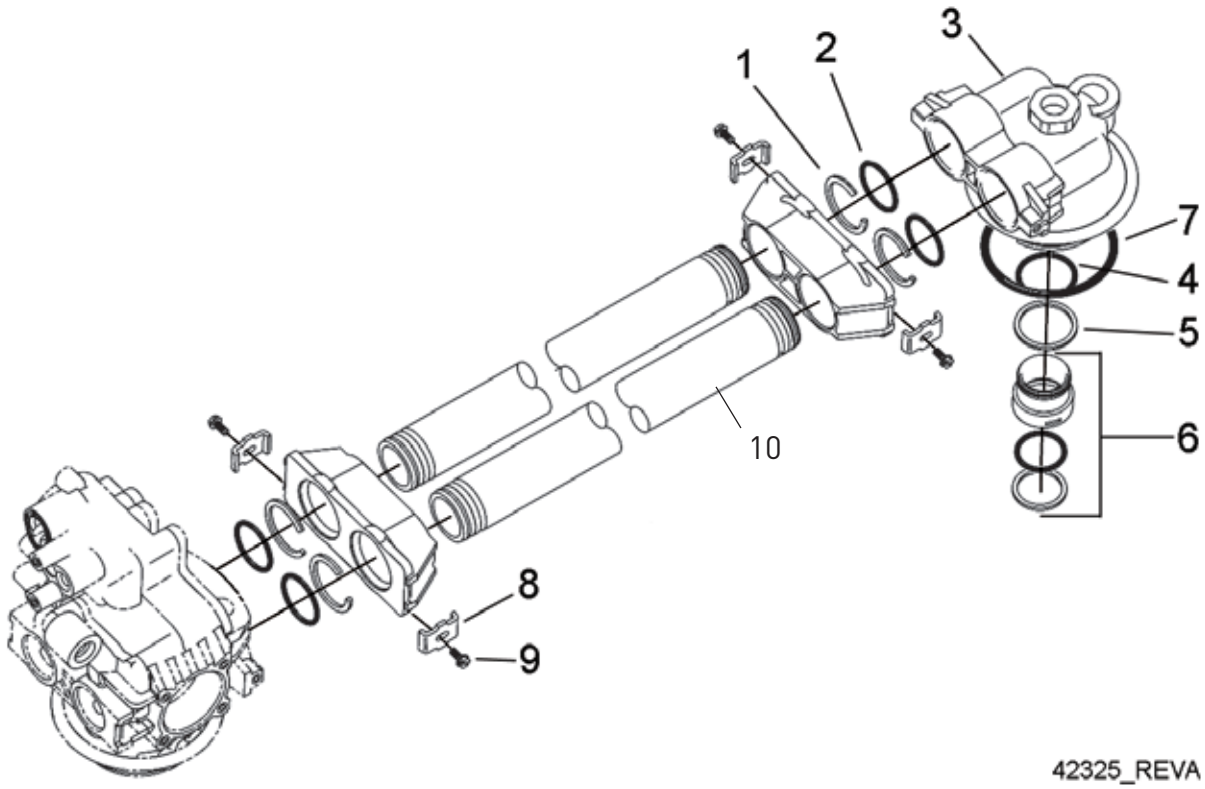
Item No.	QTY	Part No.	Description
1	1	62049-01	Service Kit, 1 inch & 1-1/2 inch Meter, Standard Range
	1	62049-02	Service Kit, 1 inch & 1-1/2 inch Meter, Extended Range
2	1	61933-10	Meter Assy, 1-1/2 inch, Inline, Stainless Steel, NPT, Standard Range
	1	61933-11	Meter Assy, 1-1/2 inch, Inline, Stainless Steel, NPT, Extended Range
	1	61933-20	Meter Assy, 1-1/2 inch, Inline, Stainless Steel, BSP, Standard Range
	1	61933-21	Meter Assy, 1-1/2 inch, Inline, Stainless Steel, BSP, Extended Range
3	1	44024	Union, 1-1/2 inch, NPT Optional on models with electronic controls)
	1	44025	Union, 1-1/2 inch, BSP (Optional on models with electronic controls)
4	1	19121	Meter Cable Assembly,
		19121-08	Meter Cable Assembly, 35 inch long with connector
		19121-09	Meter Cable Assembly, 100 inch long with connector
		19121-10	Meter Cable Assembly 304 inch long with connector
Not Shown (optional)			
	1	44061	Meter Sleeve, 1-1/2 inch to 1 inch (optional)

9000 SECOND TANK ASSEMBLY



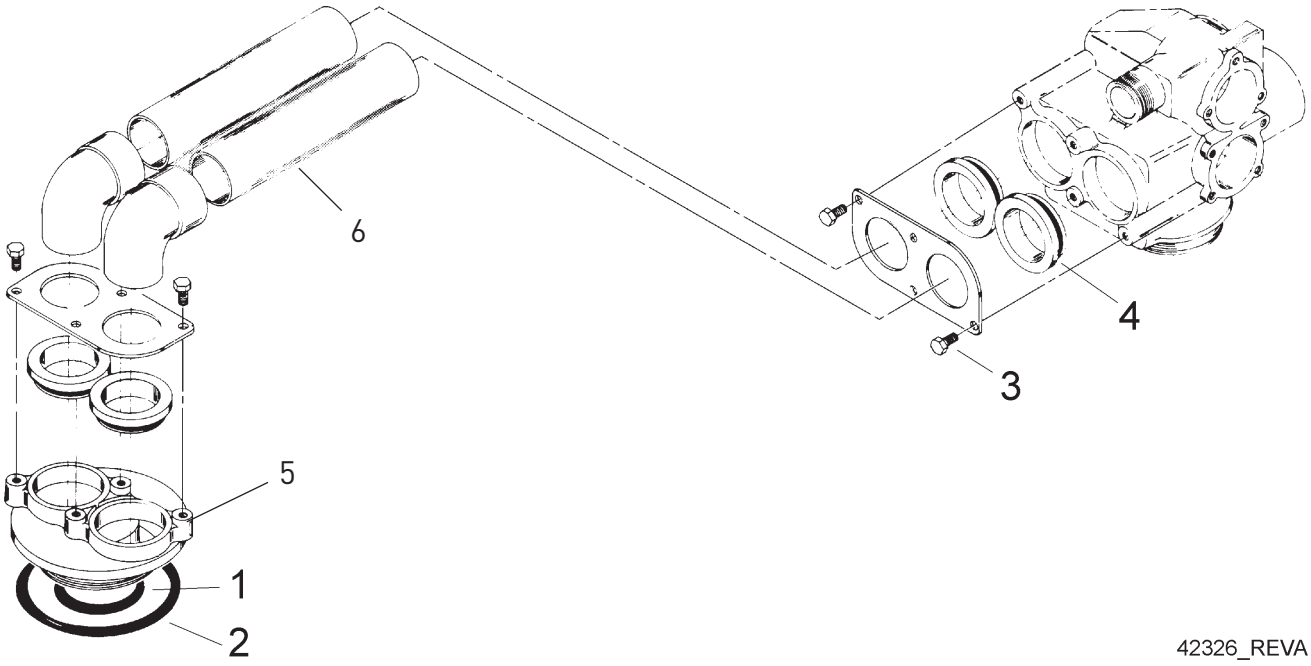
Item No.	QTY	Part No.	Description
1	1	14864-01	Adapter, 9000, 2nd Tank, Machd w/O-rings
2	8	13305	O-ring, -119
3	1	11710	O-ring, -215
4	1	12281	O-ring, -338
5	2	13708-40	Yoke, 1-inch Sweat
	1	15823-XX	Yoke Assy. Specify Tank Size
6	4	13255	Clip, Mounting
7	4	14202-01	Screw, Hex Washer Mach, 8-32 x 5/16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

9100 SECOND TANK ASSEMBLY



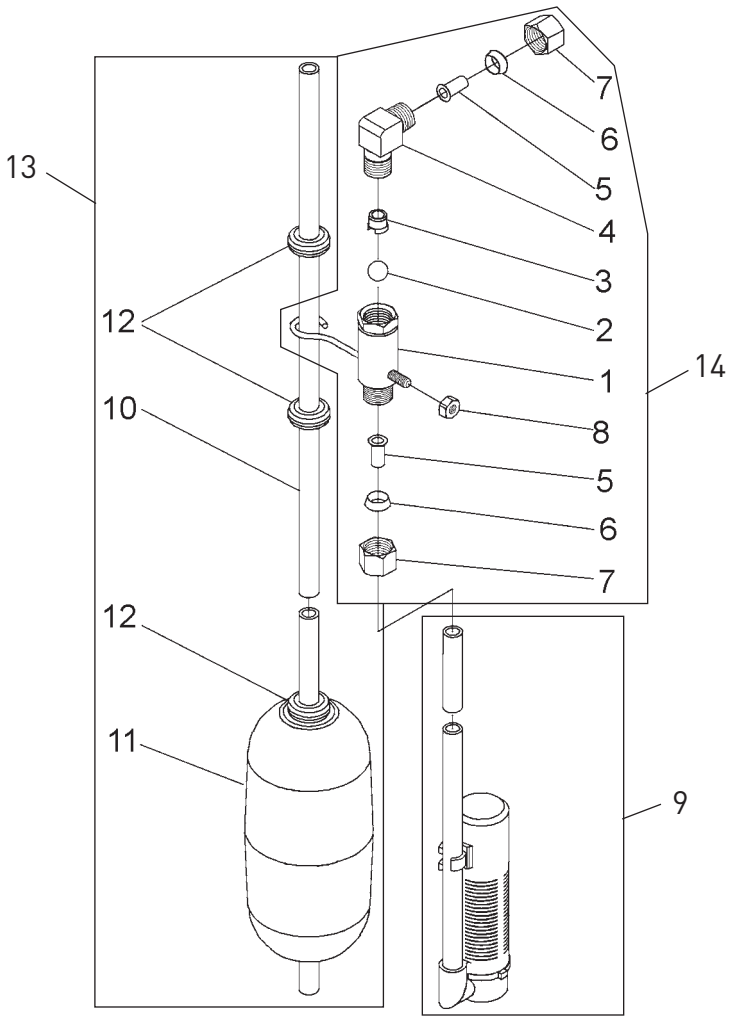
Item No.	QTY	Part No.	Description
1	4	40678	Ring, 9100, Yoke Retainer
2	4	13287	O-ring, -123
3	1	14865	Adapter Assy, 2nd Tank, 9100
4	1	19054	O-ring, -124
5	1	40538	Retainer, 32mm, O-ring Dist, 7000
6	1	61419	Kit, 1.05-inch Distributor, Adapter
7	1	18303	O-ring, -336
8	4	13255	Clip, Mounting
9	4	14202-01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

9500 SECOND TANK ASSEMBLY



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-inch 9500
		17465-16NP	Tube Assy, 2nd Tank, 16-inch 9500 Nickel Plated
		17465-20	Tube Assy, 2nd Tank, 20-inch 9500
		17465-24	Tube Assy, 2nd Tank, 24-inch 9500
		17465-24NP	Tube Assy, 2nd Tank, 24-inch 9500 Nickel Plated

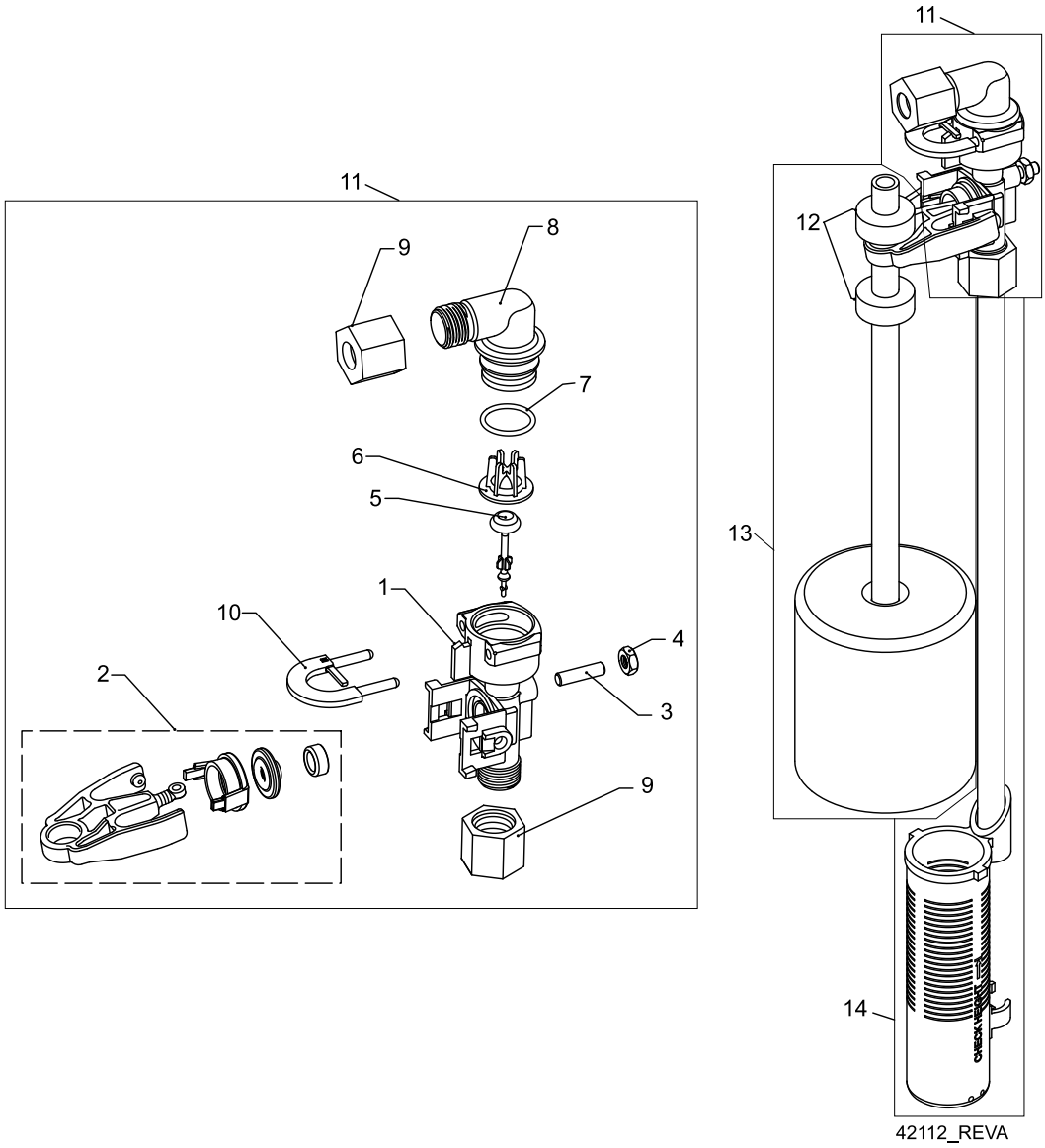
2300 SAFETY BRINE VALVE



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-inch, 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 inches Long
		60002-24	Air Check, #500, 24 inches Long
		60002-27	Air Check, #500, 27 inches Long
		60002-32	Air Check, #500, 32 inches Long
		60002-34	Air Check, #500, 34 inches Long
		60002-36	Air Check, #500, 36 inches Long
		60002-48	Air Check, #500, 48 inches Long
		60002-26.25	Air Check, #500, 26.25 inches Long
		60002-33.25	Air Check, #500, 33.25 inches Long
10	1	10149	Rod, Float, 30 inches
11	1	10700	Float Assy, White
12	3	10150	Grommet, .30 Dia
13	1	60028-30	Float Assy, 2300, 30 inches White
14	1	60027-FFA	Safety Brine Valve, 2300, Fitting Facing Arm
	1	60027-FFS	Safety Brine Valve, 2300 Fitting Facing Stud

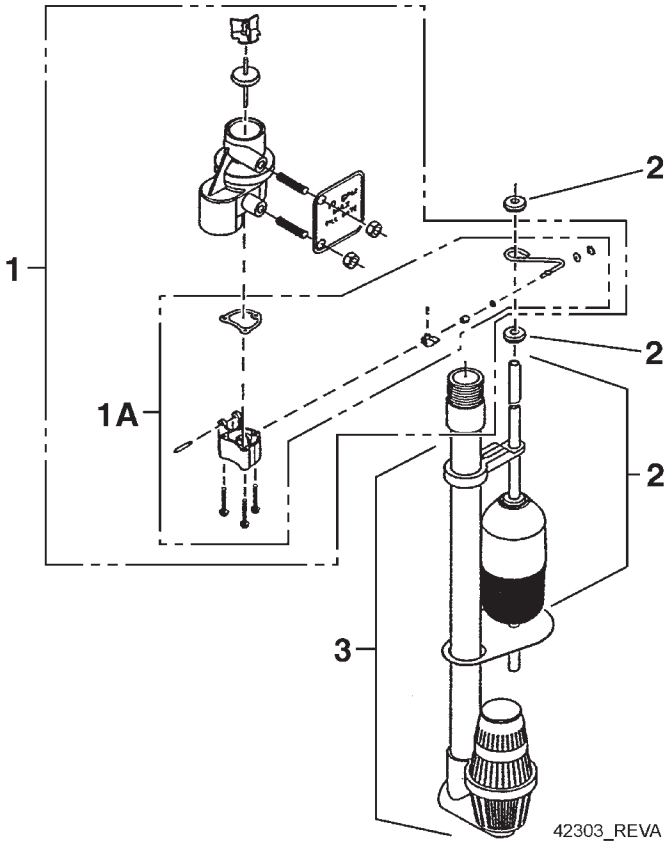
2310 SAFETY BRINE VALVE



2310 SAFETY BRINE VALVE

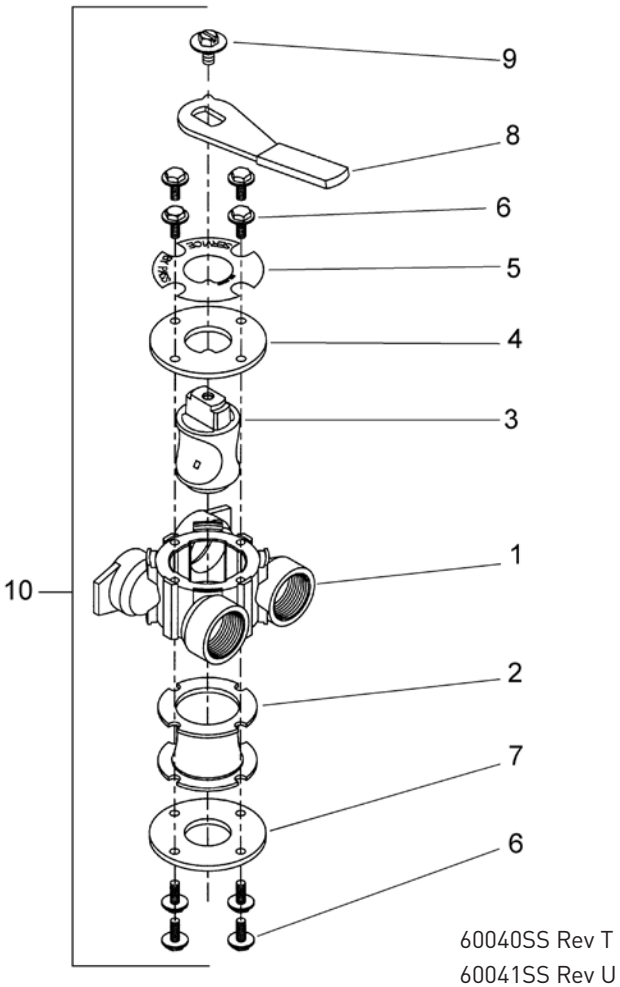
Item No.	QTY	Part No.	Description
1	1	19645	Body, Safety Brine Valve, 2310
2	1	19803	Safety Brine Valve Assy
3	1	19804	Screw, Sckt Hd, Set, 10-24 x .75
4	1	19805	Nut, Hex, 10-24, Nylon Black
5	1	19652-01	Poppet Assy, SBV w/O-ring
6	1	19649	Flow Dispenser
7	1	11183	O-ring, -017
8	1	19647	Elbow, Safety Brine Valve
9	2	19625	Nut Assy, 3/8-inch 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-inch Rod
		60068-10.5	Float Assy, 2310, w/10.5-inch Rod
		60068-11.5	Float Assy, 2310, w/11.5-inch Rod
		60068-20	Float Assy, 2310, w/20-inch Rod
		60068-30	Float Assy, 2310, w/30-inch Rod
14	1	60002-10	Air Check, #500, American Hydro
		60002-11.38	Air Check, #500, 11.38 inches Long
		60002-24	Air Check, #500, 24 inches Long
		60002-27	Air Check, #500, 27 inches Long
		60002-32	Air Check, #500, 32 inches Long
		60002-34	Air Check, #500, 34 inches Long
		60002-36	Air Check, #500, 36 inches Long
		60002-48	Air Check, #500, 48 inches Long
		60002-26.25	Air Check, #500, 26.25 inches Long
		60002-33.25	Air Check, #500, 33.25 inches 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-inch Wht
	1	60026-30SAN	Float Assy, 2350, 30-inch 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)

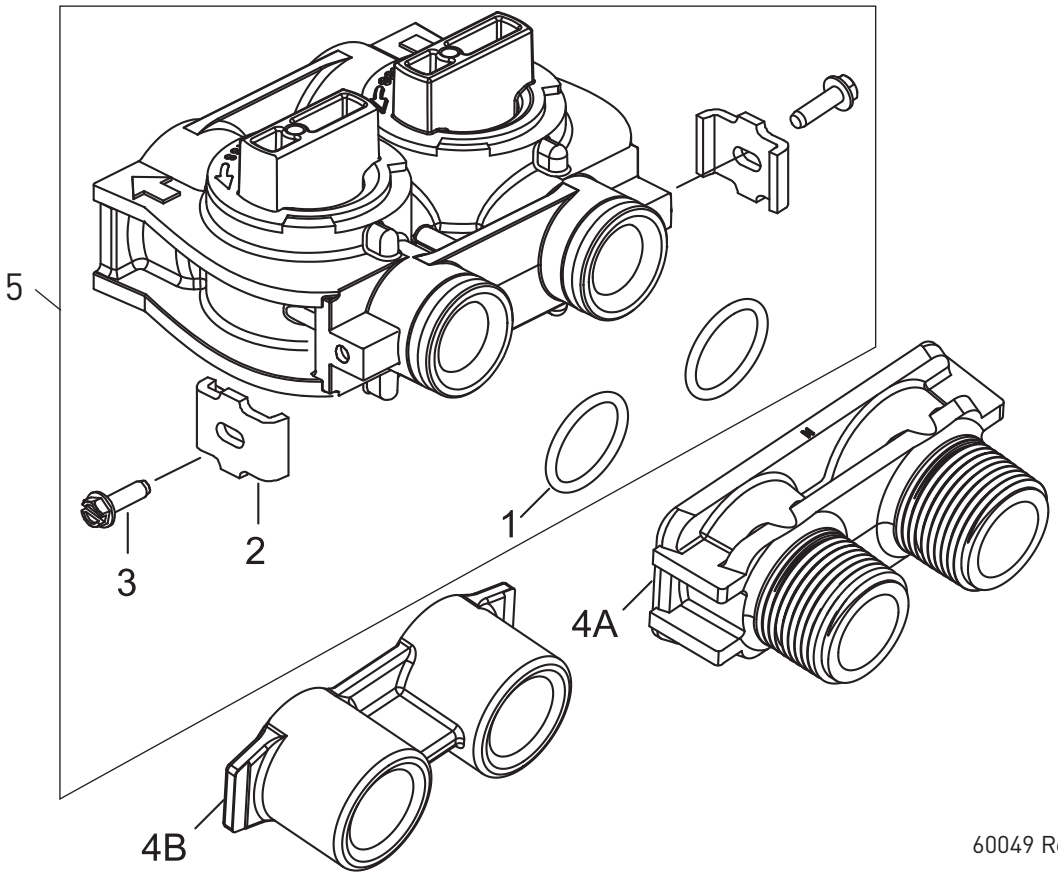


60040SS Rev T
60041SS Rev U

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
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
*	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	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
		13708-45	Yoke, 3/4-inch, Sweat
		19275	Yoke, Angle 90 Deg, 3/4-inch, NPT
		19275-45	Yoke, Angle 90 Deg, 3/4-inch Sweat
		19620-01	Yoke Assy, 3/4-inch, R/ Angle, 90 Deg w/O-rings, Clips & Screws
		40636	Yoke, 1-1/4 inch, NPT
		40636-49	Yoke, 1-1/4 inch, Sweat
		41027-01	Yoke, 3/4-inch, NPT, Cast, Machined
		41026-01	Yoke, 1-inch, NPT, Cast, Machined, SS
		41026-02	Yoke, 1-inch, BSP, Cast, MACHD, SS
		18706-10	Yoke, 1-inch, BSP, Plastic
		41027-02	Yoke, 3/4-inch, BSP, Cast, MACHD
		18706-12	Yoke, 3/4-inch, BSP, Plastic
		19620-01	Yoke Assy, 3/4-inch, R/Angle, 90 Deg
5	1	60049	Bypass Plastic
*	2	19228-01	Adapter Assy, Coupling, w/O-rings

*Not Shown

GENERAL SERVICE HINTS FOR METER CONTROL

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.

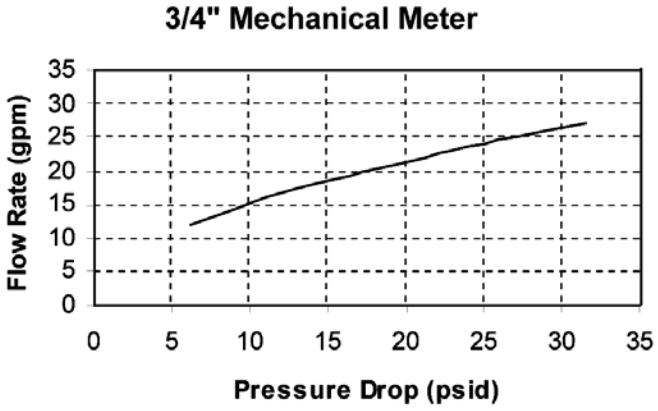
Correction: Check meter with meter checker.

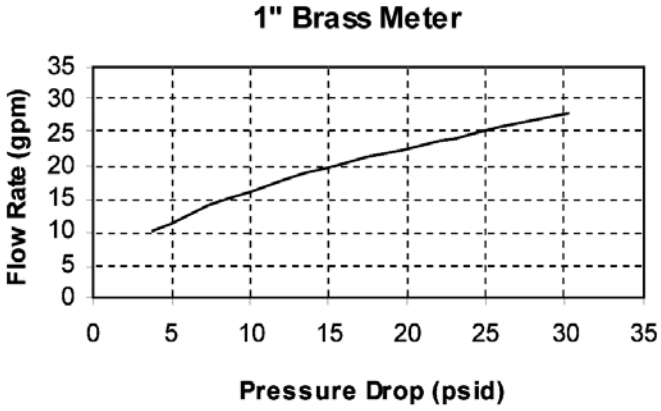
TROUBLESHOOTING

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





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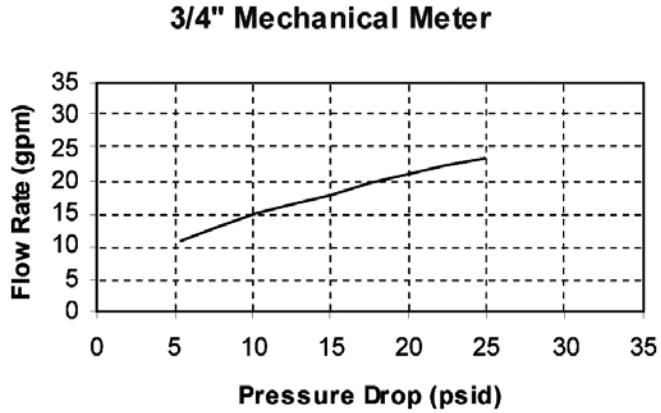
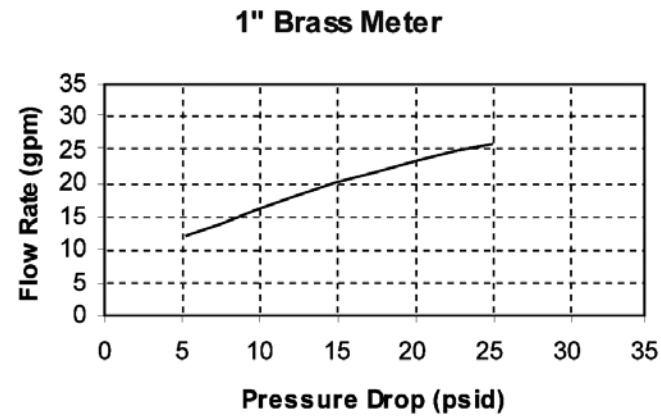
9100 Meter Flow Data





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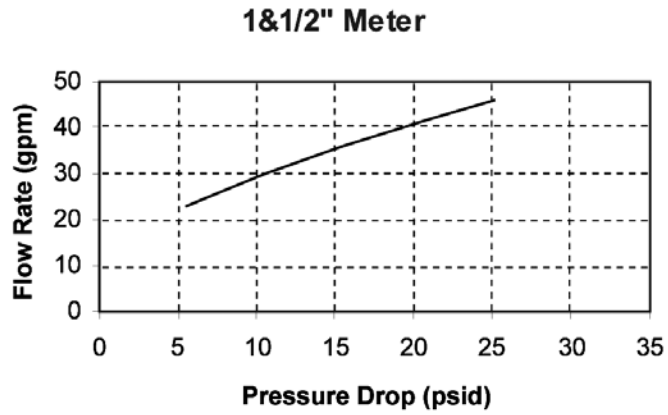
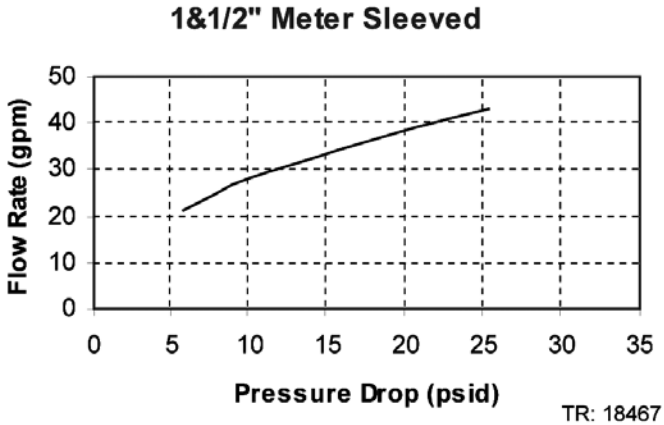
9500 Meter Flow Data





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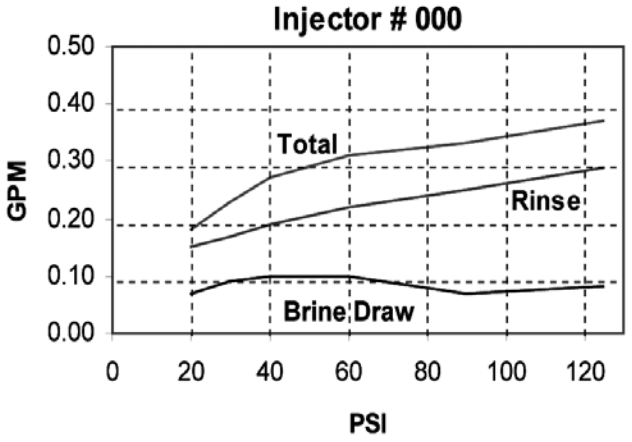
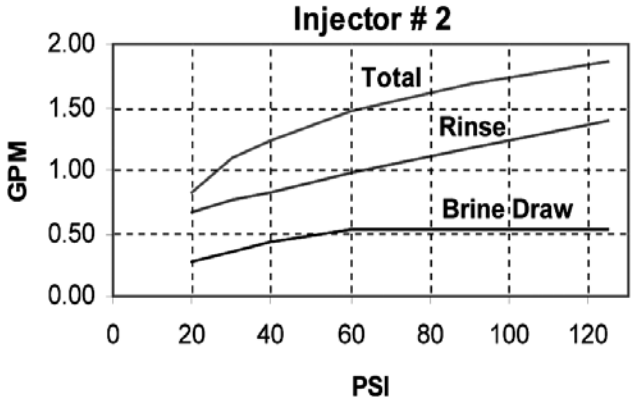
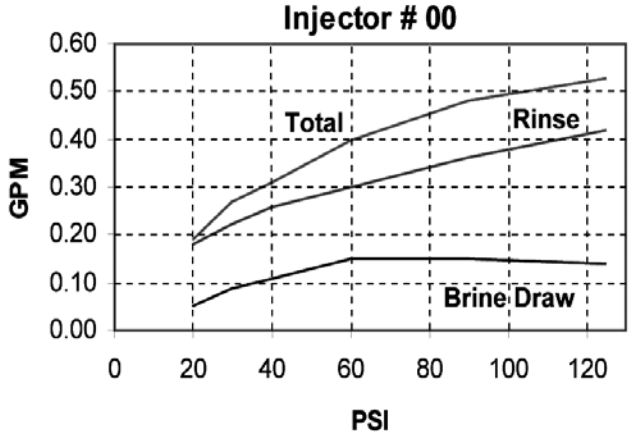
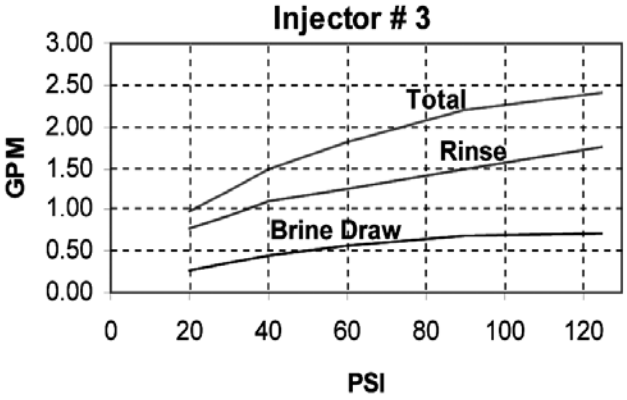
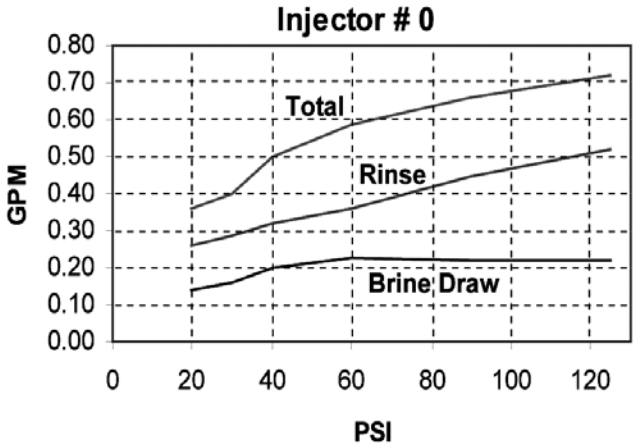
9000/9100/9500 INJECTOR FLOW DATA (1600 SERIES INJECTORS)

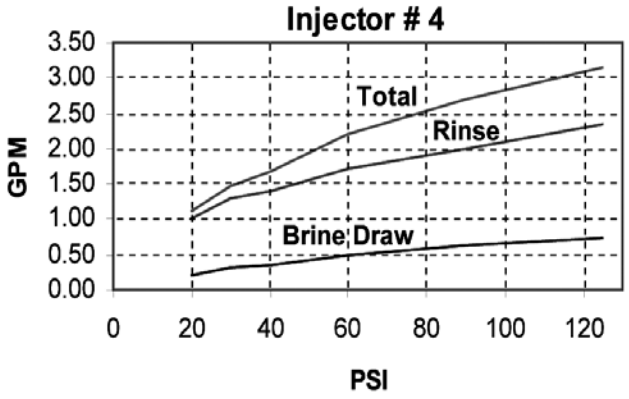


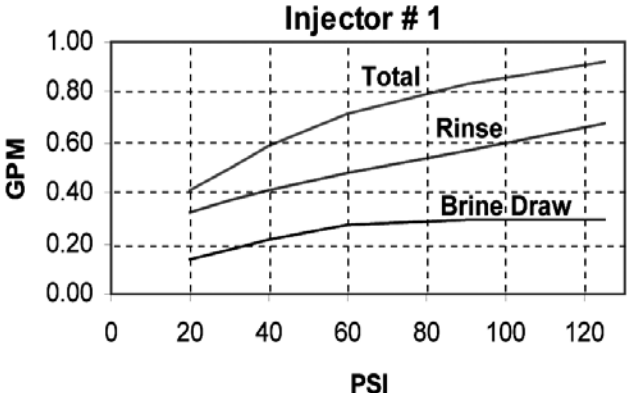












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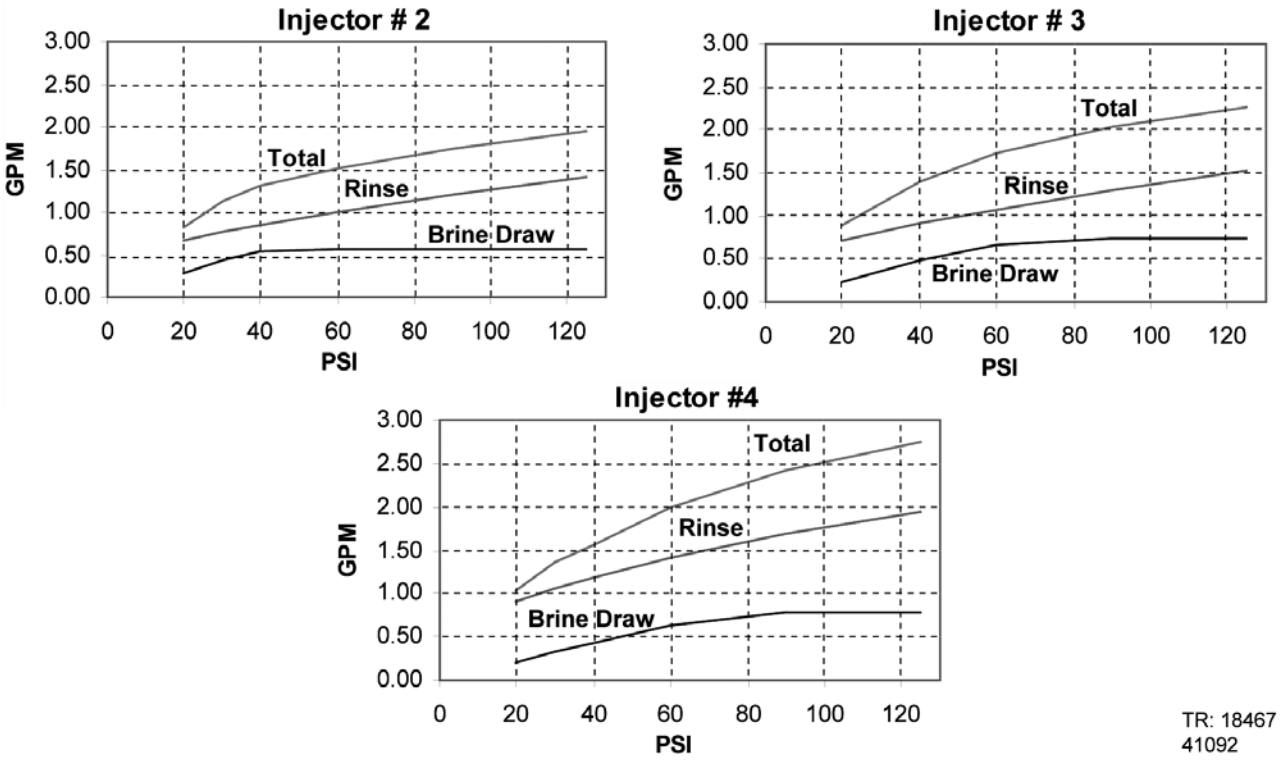
9500 INJECTOR FLOW DATA (1600 &1700 SERIES INJECTORS)

1600 Series Injectors



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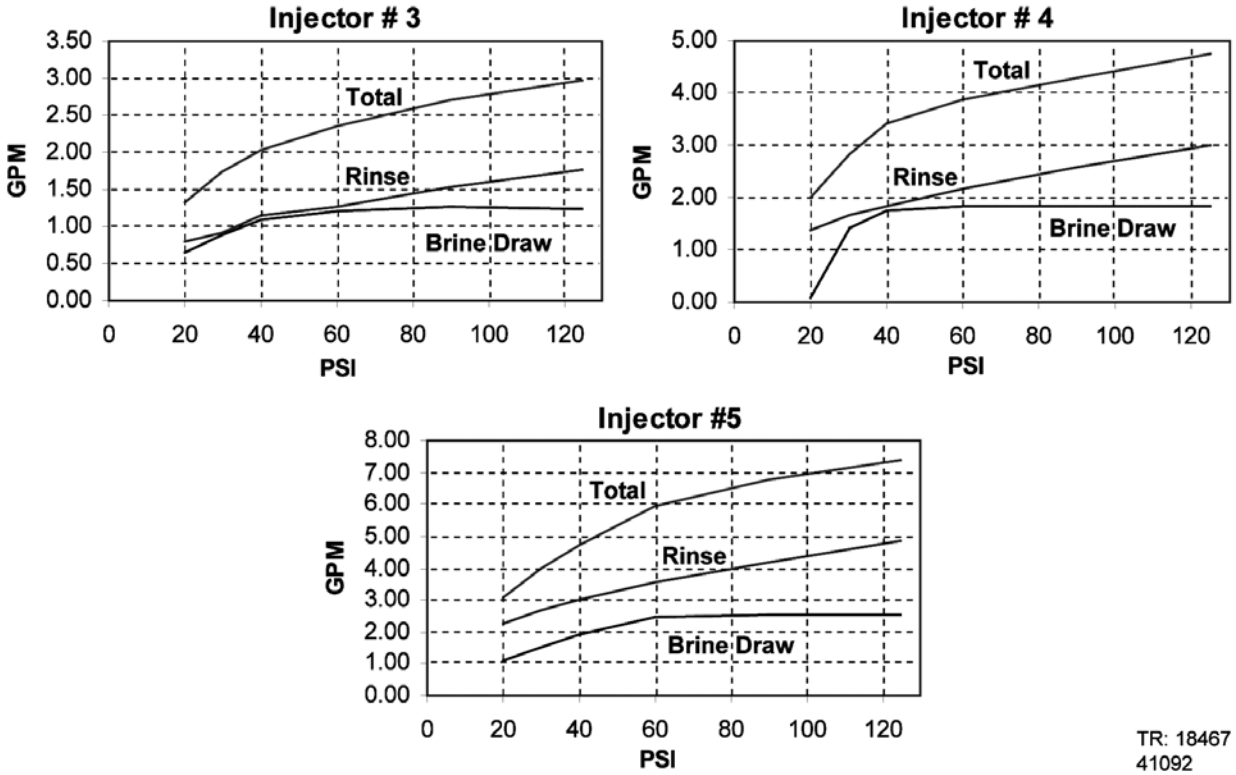
1700 Series Injectors



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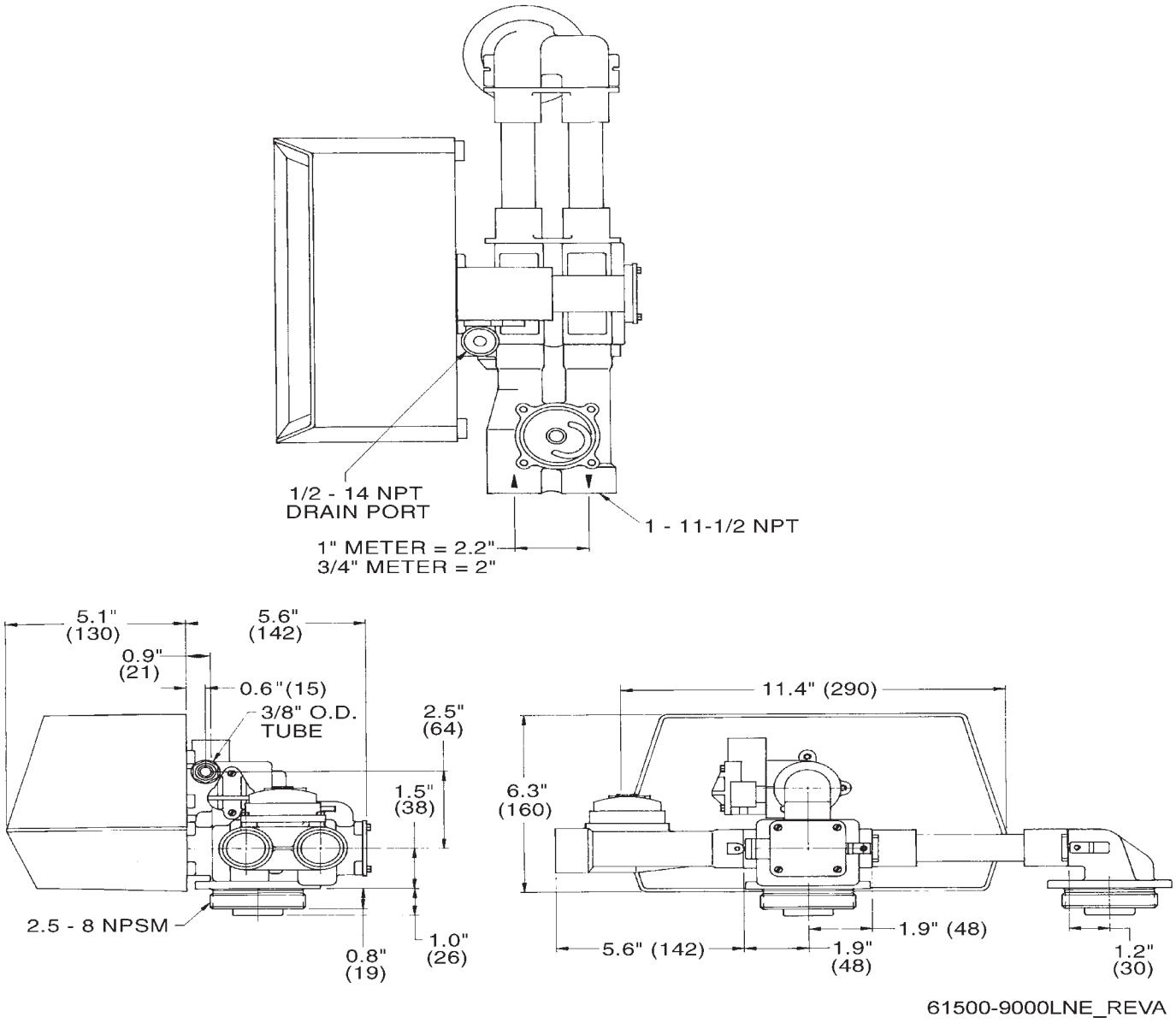
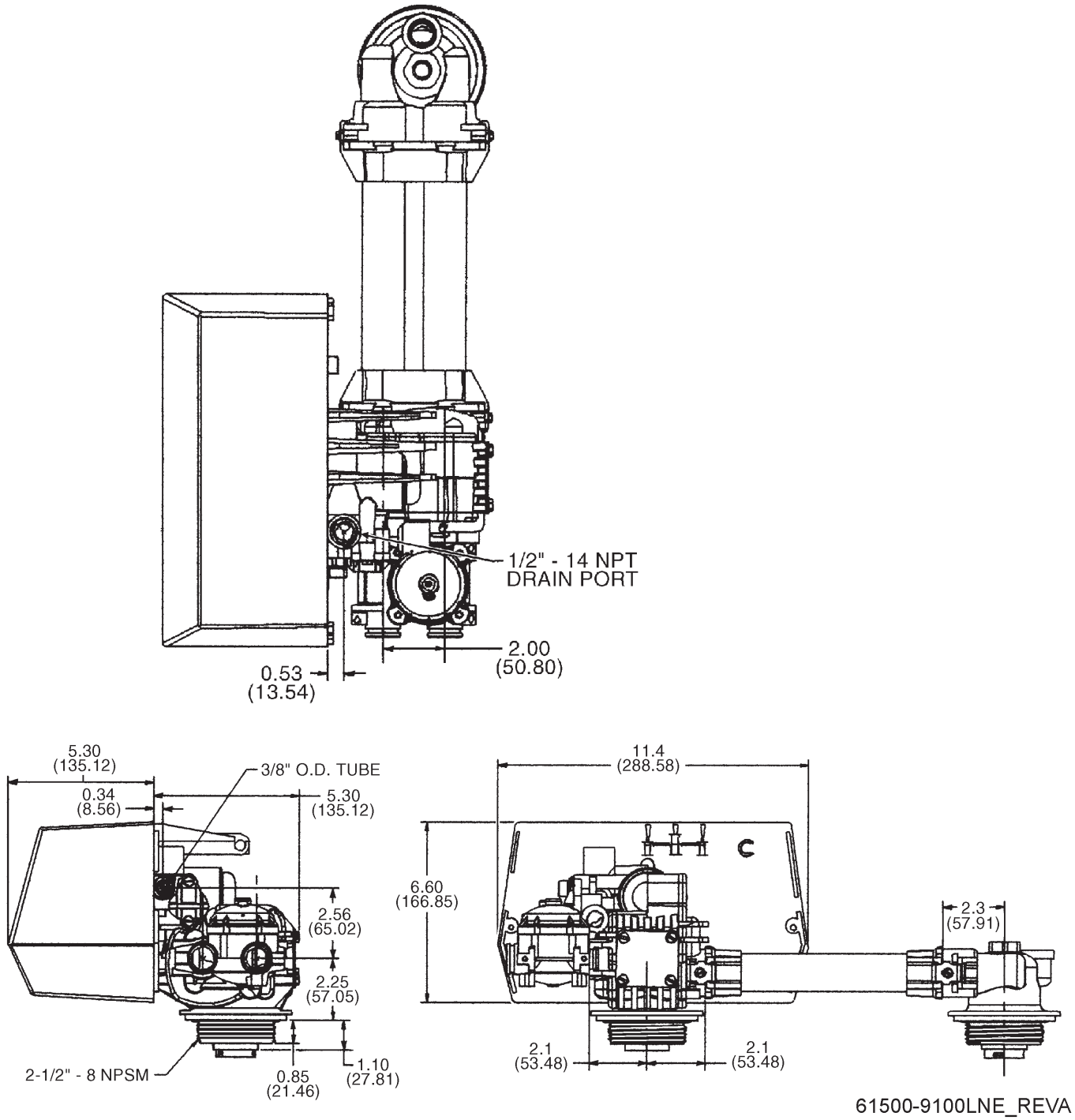
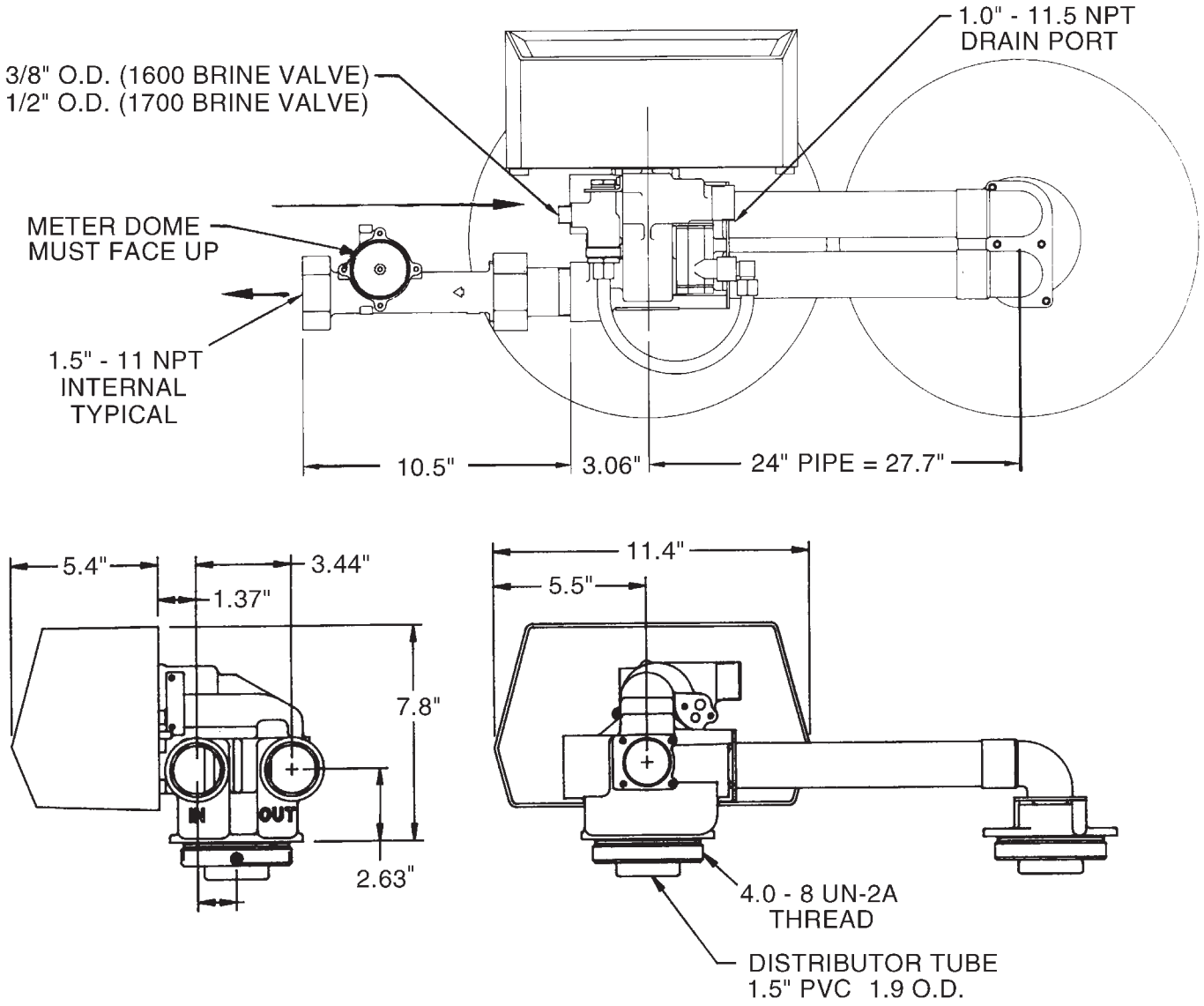
9000 CONTROL DIMENSIONS



9100 CONTROL DIMENSIONS



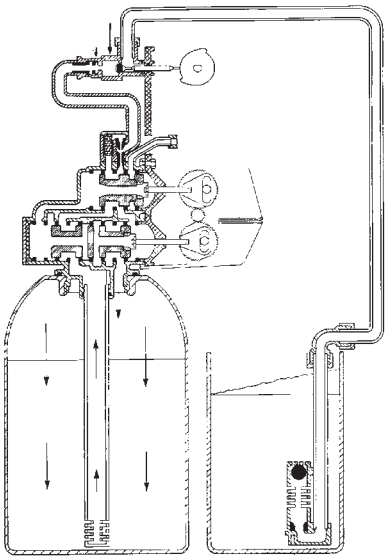
9500 CONTROL DIMENSIONS



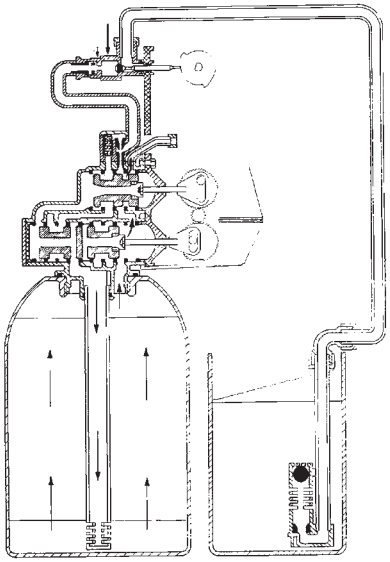
61500-9500LNE_REVA

WATER CONDITIONER FLOW DIAGRAMS

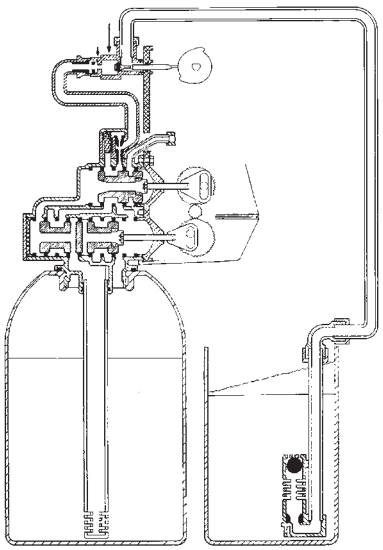
1 In Service Position



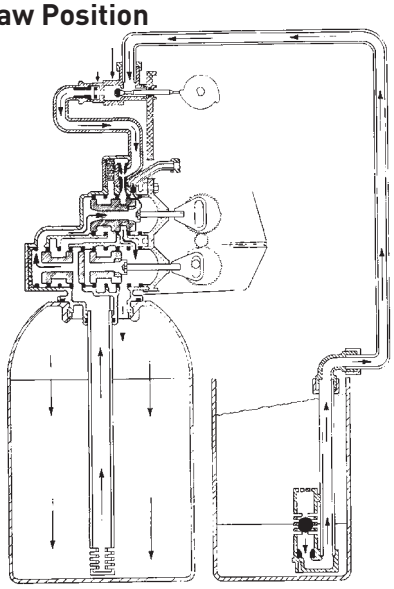
2 Backwash Position



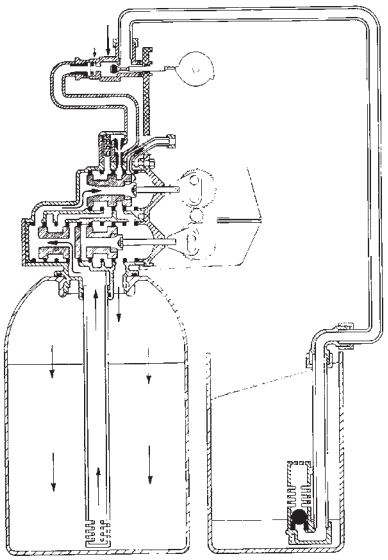
3 Tanks Switching Position (Meter Initiated Regeneration)



4 Brine Draw Position



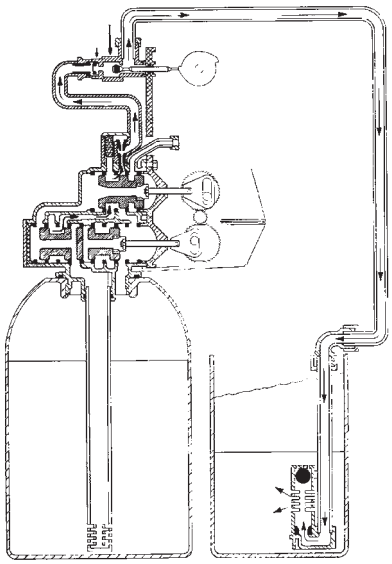
5 Slow Rinse



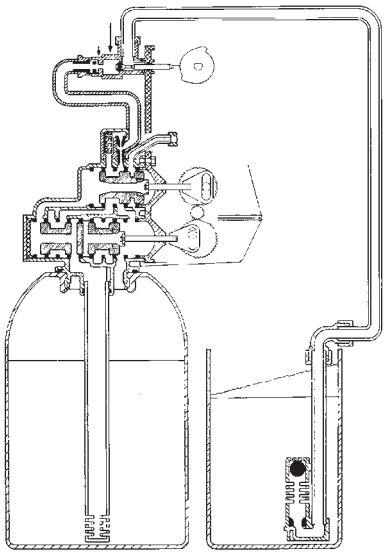
WATER CONDITIONER FLOW DIAGRAMS

CONTINUED

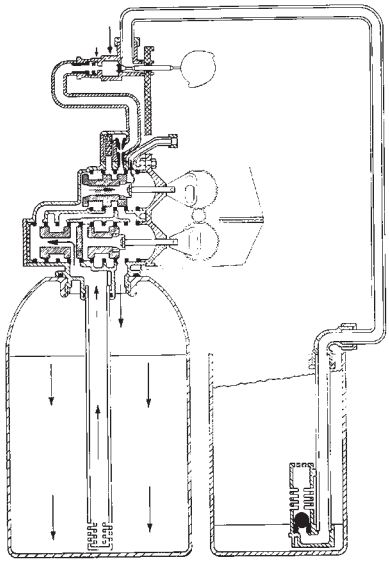
6 Brine Tank Fill Position



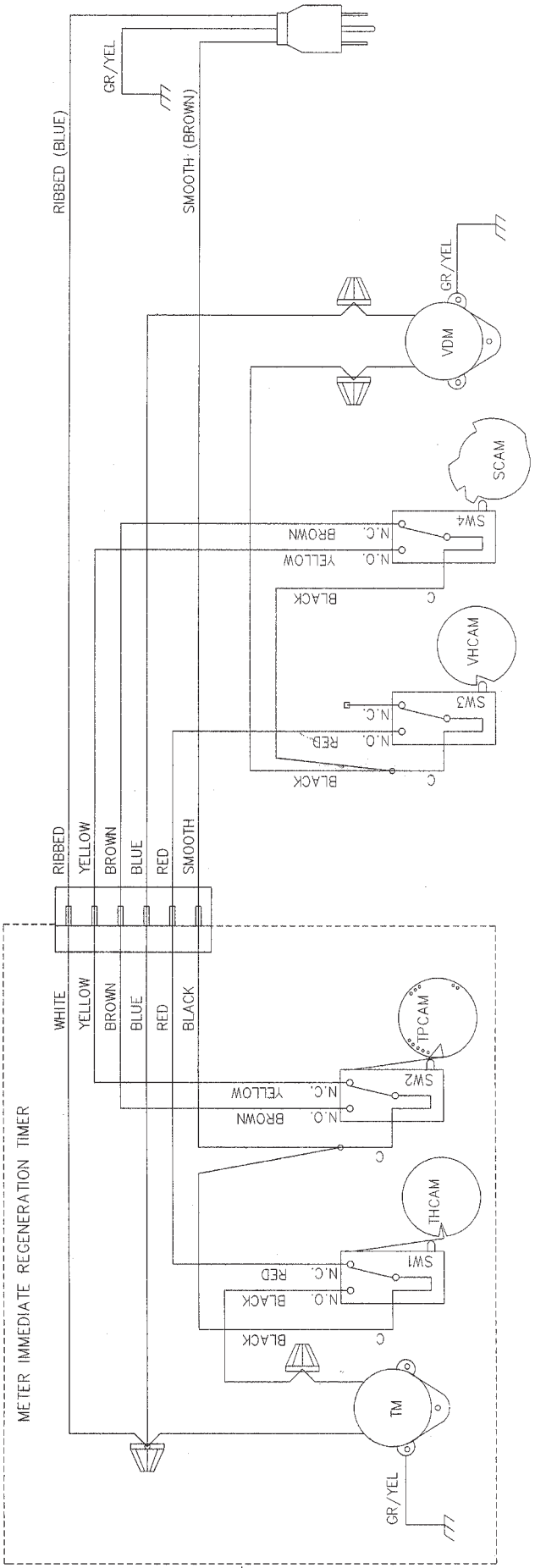
8 In Service Position, Tanks Switched



7 Rapid Rinse Position



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
HCAM - 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 Assembies (9500):

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

Bypass Assemblies:

60040SS ..... Bypass Valve, 5600, 3/4-inch NPT
60041SS ..... Bypass Valve, 5600, 1-inch 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-inch Coupling
60086..... Meter Assy, 5600/9000/9100, 3/4-inch Std/Range
60087..... Meter Assy, 5600/9000/9100, 3/4-inch, Ext
60389..... Meter Assy, 9000/9100, 1-inch
60389NP..... Meter Assy, 9000/9100, 1-inch, N/P
60389-20 ..... Meter Assy, 9000/9100, 1-inch, BSP/Metric
60390..... Meter Assy, 9000/9100, 1-inch, Ext
60390NP..... Meter Assy, 9000/9100, 1-inch, Ext, N/P
60390-20 ..... Meter Assy, 9000/9100, 1-inch, Ext/BSP/Metric
60612..... Meter Assy, 9000/9100, 1-inch, Std Range, HW 150°
60612NP..... Meter Assy, 9000/9100, 1-inch, 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°

Meter Assemblies (9500):

60610-01 ..... Meter, 2850/9500, 1-1/2 inch Std
60610-01HW ..... Meter, 2850/9500, 1-1/2 inch Std, HW 150°
60610-01NP ..... Meter, 2850/9500, 1-1/2 inch Std, N/P
60610-02 ..... Meter, 2850/9500, 1-1/2 inch Ext
60610-02HW ..... Meter, 2850/9500, 1-1/2 inch Ext, HW 150°
60610-02NP ..... Meter, 2850/9500, 1-1/2 inch Ext, N/P
60610-21 ..... Meter, 2850/9500, 1-1/2 inch Std/BSP Metric
60610-21NP ..... Meter, 2850/9500, 1-1/2 inch Std/BSP Metric, Nickel Plated

SERVICE ASSEMBLIES *CONTINUED*

60610-22 ..... Meter, 2850/9500, 1-1/2 inch Ext/BSP Metric
60610-22NP ..... Meter, 2850/9500, 1-1/2 inch Ext/BSP Metric/Nickel Plated
60611-01HW ..... Meter, 2850/9500, 1-inch Sleeve, 1-1/2 inch Std, HW 150°
60611-01 ..... Meter, 2850/9500, 1-inch Sleeve, 1-1/2 inch Std Meter
60611-01NP ..... Meter, 2850/9500, 1-inch Sleeve, NP 1-1/2 inch Std Meter
60611-02 ..... Meter, 2850/9500, 1-inch Sleeve, 1-1/2 inch Ext Meter
60611-02NP ..... Meter, 2850/9500, 1-inch Sleeve, NP 1-1/2 inch Ext Meter
17790 ..... Sleeve, Meter, 1-1/2 inch x 1-inch (NOTE: when reducing a 1-1/2 inch meter to a 1-inch meter, the program wheel and timer settings must be changed to a 1-inch meter size)
61933-10 ..... Meter Assy, 1-1/2 inch SS NPT Std
61933-11 ..... Meter Assy, 1-1/2 inch SS NPT Ext
61933-20 ..... Meter Assy, 1-1/2 inch SS BSP Std
61933-21 ..... Meter Assy, 1-1/2 inch SS BSP Ext

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
60134 ..... Seal & Spacer Kit, 9500, Upper, Cold & HW 180°
60134-20 ..... 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-inch 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-inch Tank & 6-inch Tube
15823-06NP ..... Yoke Assy, 6-inch Tank, NP 6-inch Tubes
15823-12 ..... Yoke Assy, 6-inch - 12-inch Tank, 8-1/2 inch Tube
15823-12NP ..... Yoke Assy, 6-inch - 12" Tank, NP 8-1/2 inch Tubes
15823-14 ..... Yoke Assy, 14-inch Tank, 10-1/2 inch Tube
15823-14NP ..... Yoke Assy, 14-inch Tank, NP 10-1/2 inch Tube
15823-16 ..... Yoke Assy, 16-inch Tank, 12-1/2 inch Tube
15823-16NP ..... Yoke Assy, 16-inch Tank, NP 12-1/2 inch Tube

Second Tank Assemblies (9100):

60425-12 ..... Tube Assy, 9100, 6-inch - 12-inch Tanks
60425-16 ..... Tube Assy, 9100, 13-inch - 16-inch Tanks
14865 ..... Adapter Assy, 2nd Tank, 9100
61419 ..... Kit, 1.05-inch 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-inch to 16-inch Tanks
60715-16NP ..... Tube Assy, 9500, 2nd Tank, NP for 14-inch to 16-inch Tanks
60715-20 ..... Tube Assy, 9500, 2nd Tank for 20-inch Tanks
60715-24 ..... Tube Assy, 9500, 2nd Tank for 20-inch and 24-inch Tanks
60715-24NP ..... Tube Assy, 9500, 2nd Tank, Nickel for 20-inch -24-inch 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

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