



FLECK 2750 DOWNFLOW

SERVICE MANUAL

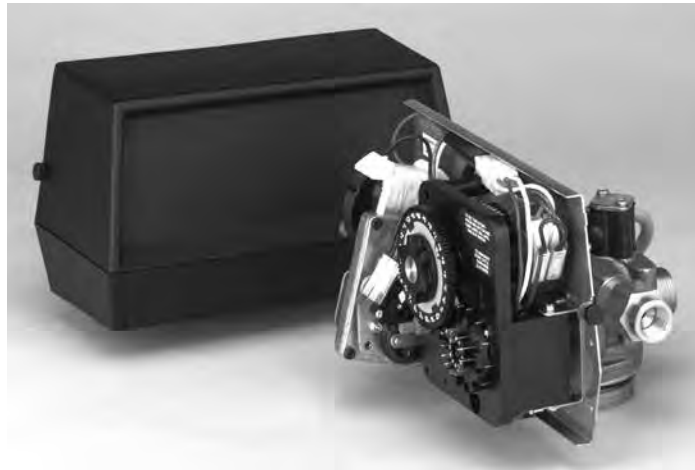


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CALIFORNIA PROPOSITION 65 WARNING

⚠ 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 Hardness: _____ ppm or gpg
 Capacity Per Unit: _____
 Mineral Tank Size: _____ Diameter: _____ Height: _____
 Salt Setting per Regeneration: _____

1. Type of Timer:

- A. 7 Day or 12 Day
- B. Meter Initiated

2. Downflow: Upflow Upflow Variable

3. 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 inch Std Range (625 - 10,625 gallon setting)
- F. 1-1/2 inch Ext Range (3,125 - 53,125 gallon setting)
- G. 2-inch Std Range (1,250 - 21,250 gallon setting)
- H. 2-inch Ext Range (6,250 - 106,250 gallon setting)
- I. 3-inch Std Range (3,750 - 63,750 gallon setting)
- J. 3-inch Ext Range (18,750 - 318,750 gallon setting)
- K. Electronic ____ Pulse Count ____ Meter Size _____

4. System Type:

- A. System #4: 1 Tank, 1 Meter, Immediate, or Delayed Regeneration
- B. System #4: Time Clock
- C. System #4: Twin Tank
- D. System #5: 2-5 Tanks, Interlock Mechanical
2-4 Tanks, Interlock Electronic
Meter per unit for Mechanical and Electronic
- E. System #6: 2-5 Tanks, 1 Meter, Series Regeneration, Mechanical
2-4 Tanks, 1 Meter, Series Regeneration, Electronic
- F. System #7: 2-5 Tanks, 1 Meter, Alternating Regeneration,
Mechanical
2 Tanks only, 1 Meter, Alternating
Regeneration, Electronic
- G. System #9: Electronic Only, 2-4 Tanks, Meter per Valve, Alternating
- H. System #14: Electronic Only, 2-4 Tanks, Meter per Valve. Brings units on and offline based on flow.

5. Timer Program Settings:

- A. Backwash: _____ Minutes
- B. Brine and Slow Rinse: _____ Minutes
- C. Rapid Rinse: _____ Minutes
- D. Brine Tank Refill: _____ Minutes
- E. Pause Time: _____ Minutes
- F. Second Backwash: _____ Minutes

6. Drain Line Flow Control: gpm

7. Brine Line Flow Controller: gpm

8. Injector Size#:

9. Piston Type:

- A. Hard Water Bypass
- B. No Hard Water Bypass

INSTALLATION

Water Pressure

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

Electrical Facilities

An uninterrupted alternating current (A/C) supply is required.

NOTE: Note: sure your voltage supply is compatible with your unit before installation.

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 if unit is not equipped with one.

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

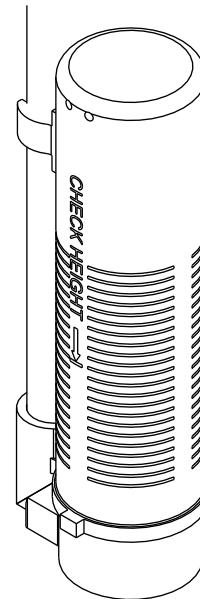
1. Place the softener tank where you want to install the unit making sure the unit is level and on a firm base.
2. During cold weather, the installer should warm the valve to room temperature before operating.
3. All plumbing should be done in accordance with local plumbing codes. The pipe size for residential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

NOTE: Only use silicone lubricant.

6. **⚠ IMPORTANT:** For valves equipped with electromechanical timers and stainless steel meters, refer to the Meter Dome and Union Orientation section.
7. Solder joints near the drain must be done prior to connecting the Drain Line Flow Control fitting (DLFC). Leave at least 6 inches (15 cm) between the DLFC and solder joints when soldering pipes that are connected on the DLFC. Failure to do this could cause interior damage to the DLFC.
8. Plumber tape is the only sealant to be used on the drain fitting. The drain from twin tank units may be run through a common line.
9. Make sure that the floor is clean beneath the salt storage tank and that it is level.

10. 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 (Figure 1) 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. Turn on the main water supply. Open a cold soft water tap nearby and let run a few minutes or until the system is free from foreign material (usually solder) that may have resulted from the installation. Once clean, close the water tap.
12. Slowly place the bypass in service position and let water flow into the mineral tank. When water flow stops, slowly open a cold water tap nearby and let run until the air is purged from the unit.
13. Plug unit into an electrical outlet.

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



60002 Rev E

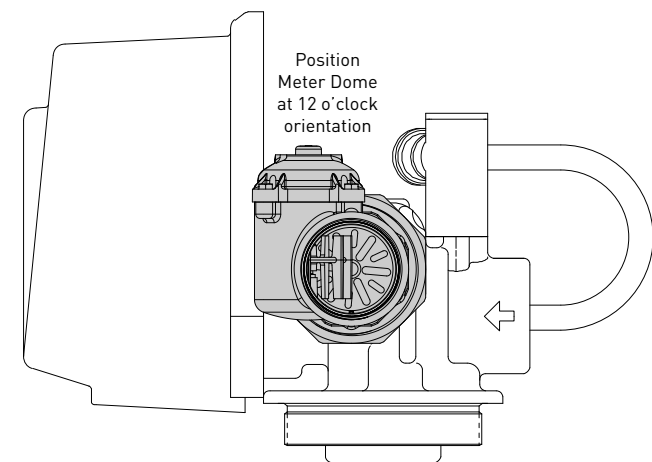
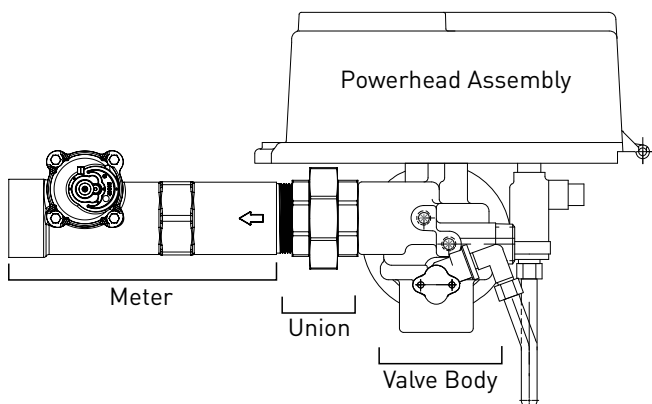
INSTALLATION *CONTINUED*

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.



START-UP INSTRUCTIONS

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

1. Turn the manual regeneration knob slowly in a clockwise direction until the program micro switch lifts on top of the first set of pins. Allow the drive motor to move the piston to the first regeneration step and stop. Each time the program switch position changes, the valve will advance to the next regeneration step. Always allow the motor to stop before moving to the next set of pins or spaces.

NOTE: For electronic valves, please refer to the manual regeneration part of the timer operation section. If the valve came with a separate electronic timer service manual, refer to the timer operation section of the electronic timer service manual.

2. Position the valve to backwash. Ensure the drain line flow remains steady for 10 minutes or until the water runs clear (see above).
3. Position the valve to the brine / slow rinse position. Ensure the unit is drawing water from the brine tank (this step may need to be repeated).
4. Position the valve to the rapid rinse position. Check the drain line flow, and run for 5 minutes or until the water runs clear.
5. Position the valve to the start of the brine tank fill cycle. Ensure water goes into the brine tank at the desired rate. The brine valve drive cam will hold the valve in this position to fill the brine tank for the first regeneration.
6. Replace control box cover.
7. Put salt in the brine tank.

NOTE: Do not use granulated or rock salt.

3200 TIMER SETTING PROCEDURE

How To Set Days On Which Water Conditioner Is To Regenerate (Figure 5)

Rotate the skipper wheel until the number "1" is at the red pointer. Set the days that regeneration is to occur by sliding tabs on the skipper wheel outward to expose trip fingers. Each tab is one day. Finger at red pointer is tonight. Moving clockwise from the red pointer, extend or retract fingers to obtain the desired regeneration schedule.

How To Set The Time Of Day

1. Press and hold the red button in to disengage the drive gear.
2. Turn the large gear until the actual time of day is at the time of day pointer.
3. Release the red button to again engage the drive gear.

How To Manually Regenerate Your Water Conditioner At Any Time

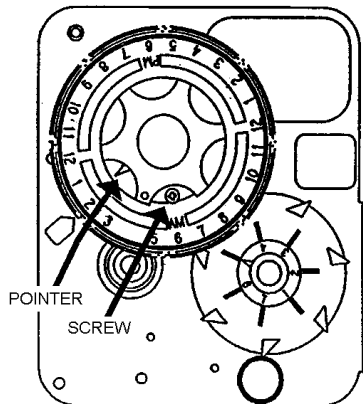
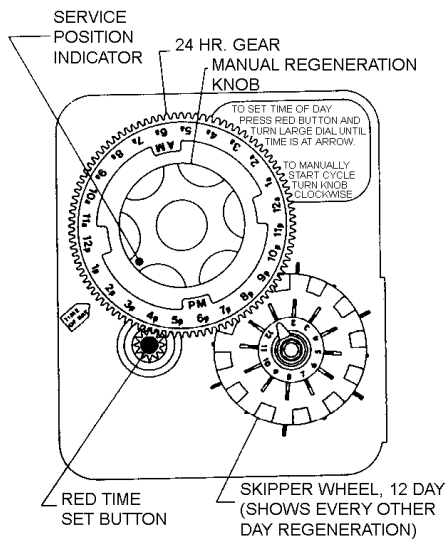
1. Turn the manual regeneration knob clockwise.
2. This slight movement of the manual regeneration knob engages the program wheel and starts the regeneration program.
3. The black center knob will make one revolution in the following approximately three hours and stop in the position shown in the drawing.
4. Even though it takes three hours for this center knob to complete one revolution, the regeneration cycle of your unit might be set for only one half of this time.

STARTUP INSTRUCTIONS *CONTINUED*

- In any event, conditioned water may be drawn after rinse water stops flowing from the water conditioner drain line.

How to Adjust Regeneration Time

- Disconnect the power source.
- Locate the three screws behind the manual regeneration knob by pushing the red button in and rotating the 24 hour dial until each screw appears in the cut out portion of the manual regeneration knob.
- Loosen each screw slightly to release the pressure on the time plate from the 24-hour gear.
- Locate the regeneration time pointer on the inside of the 24 hour dial in the cut out.
- Turn the time plate so the desired regeneration time aligns next to the raised arrow.
- Push the red button in and rotate the 24 hour dial. Tighten each of the three screws.
- Push the red button and locate the pointer one more time to ensure the desired regeneration time is correct.
- Reset the time of day and restore power to the unit.



3200 ADJUSTABLE REGENERATION TIMER

IMPORTANT!
SALT LEVEL MUST ALWAYS BE ABOVE
WATER LEVEL IN BRINE TANK

61502-3200 Rev A

Figure 5

3210 TIMER SETTING PROCEDURE

Typical Programming Procedure

Calculate the gallon capacity of the system, subtract the necessary reserve requirement and set the gallons available opposite the small white dot on the program wheel gear (Figure 6).

NOTE: Drawing shows 8,750 gallon setting. The capacity (gallons) arrow (15) shows zero gallons remaining. The unit will regenerate tonight at the set regeneration time.

How To Set The Time Of Day

- Press and hold the red button in to disengage the drive gear.
- Turn the large gear until the actual time of day is opposite the time of day pointer.
- Release the red button to again engage the drive gear.

How To Manually Regenerate Your Water Conditioner At Any Time

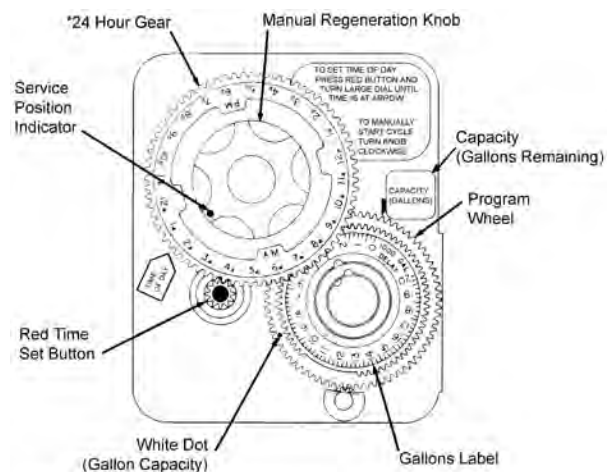
- Turn the manual regeneration knob clockwise.
- This slight movement of the manual regeneration knob engages the program wheel and starts the regeneration program.
- The black center knob will make one revolution in the following approximately three hours and stop in the position shown in the drawing.
- Even though it takes three hours for this center knob to complete one revolution, the regeneration cycle of your unit might be set for only one half of this time.
- In any event, conditioned water may be drawn after rinse water stops flowing from the water conditioner drain line.

Immediate Regeneration Timers

These timers do not have a 24 hour gear. Setting the gallons on the program wheel and manual regeneration procedure are the same as previous instructions. The timer will regenerate as soon as the capacity gallons reaches zero.

NOTE: The program wheel to the left may be different than the program wheel on the product.

NOTE: To set meter capacity rotate manual knob one - 360° revolution to set gallonage.



*Immediate regeneration timers do not have a 24-hour gear. No time of day can be set.

Figure 6

61502-3200 Rev A

3200, 3210, 3220, 3230 REGENERATION CYCLE SETTING PROCEDURE

How To Set The Regeneration Cycle Program

The regeneration cycle program on your water conditioner has been factory preset, however, portions of the cycle or program may be lengthened or shortened in time to suit local conditions.

3200 Series Timers (Figure 7)

1. To expose cycle program wheel, grasp timer in upper left-hand corner and pull, releasing snap retainer and swinging timer to the right.
2. To change the regeneration cycle program, the program wheel must be removed. Grasp program wheel and squeeze protruding lugs toward center, lift program wheel off timer. Switch arms may require movement to facilitate removal.
3. Return timer to closed position engaging snap retainer in back plate. Make certain all electrical wires locate above snap retainer post.

Timer Setting Procedure

How To Change The Length Of The Backwash Time

The program wheel as shown in the drawing is in the service position. As you look at the numbered side of the program wheel, the group of pins starting at zero determines the length of time your unit will backwash.

For example, if there are six pins in this section, the time of backwash will be 12 min. (2 min. per pin). To change the length of backwash time, add or remove pins as required. The number of pins times two equals the backwash time in minutes.

How To Change The Length Of Brine And Rinse Time

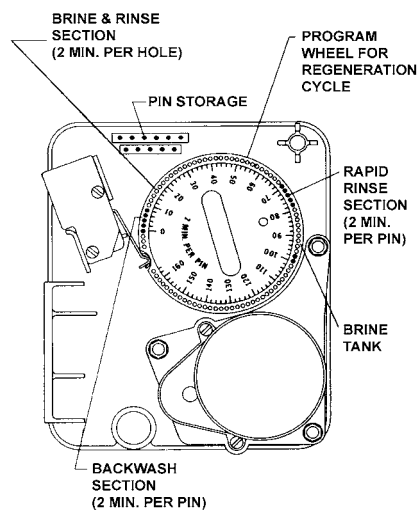
1. The group of holes between the last pin in the backwash section and the second group of pins determines the length of time that your unit will brine and rinse (2 min. per hole).
2. To change the length of brine and rinse time, move the rapid rinse group of pins to give more or fewer holes in the brine and rinse section. Number of holes times two equals brine and rinse time in minutes.

How To Change The Length Of Rapid Rinse

1. The second group of pins on the program wheel determines the length of time that your water conditioner will rapid rinse (2 min. per pin).
2. 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 times two equals the rapid rinse time in minutes.

How To Change The Length Of Brine Tank Refill Time

1. The second group of holes in the program wheel determines the length of time that your water conditioner will refill the brine tank (2 min. per hole).
2. To change the length of refill time, move the two pins at the end of the second group of holes as required.
3. The regeneration cycle is complete when the outer microswitch is tripped by the two pin set at end of the brine tank refill section.
4. The program wheel, however, will continue to rotate until the inner micro switch drops into the notch on the program wheel.

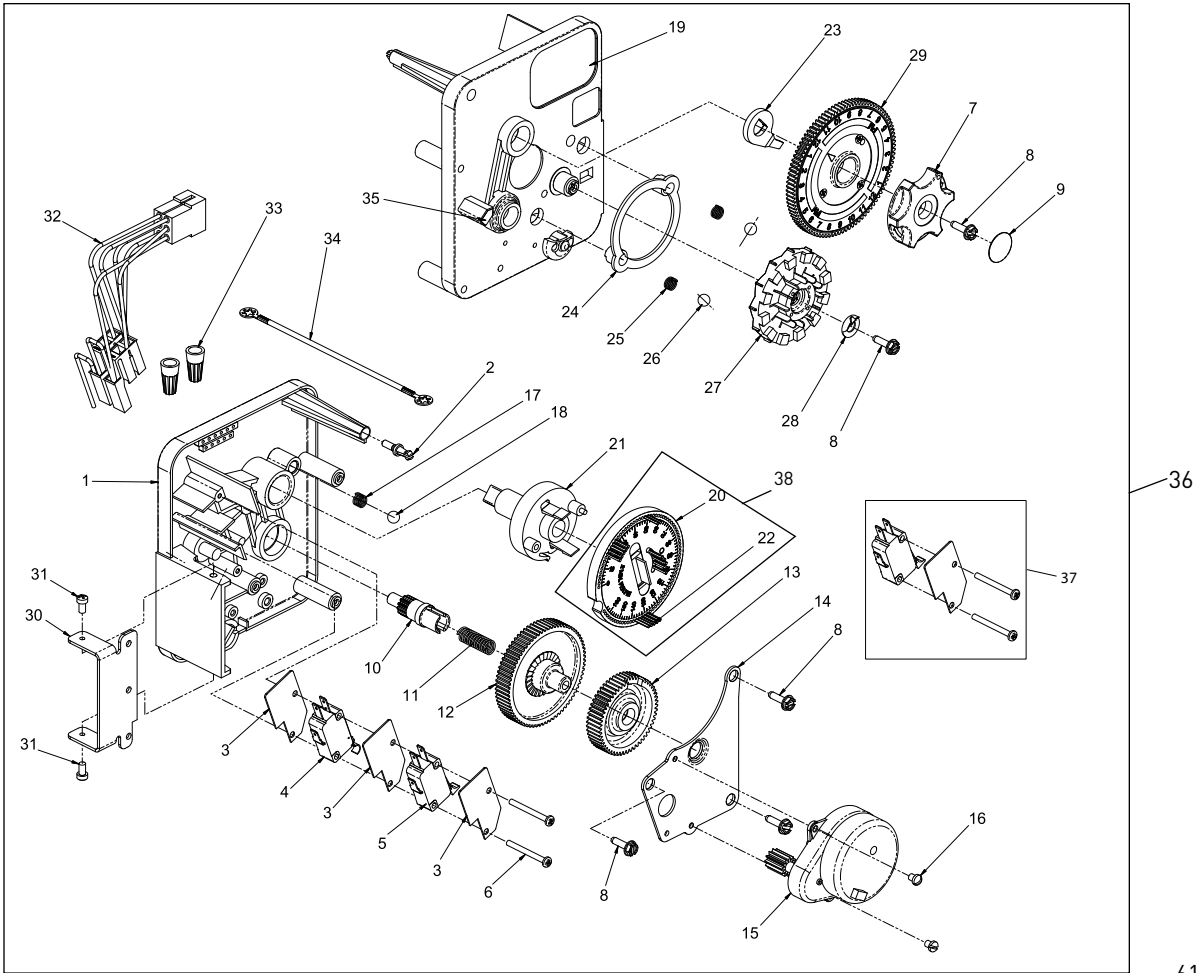


61502-3210 Rev A

Figure 7

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3200 TIME CLOCK TIMER ASSEMBLY



61502-3200 Rev A

3200 TIME CLOCK TIMER ASSEMBLY

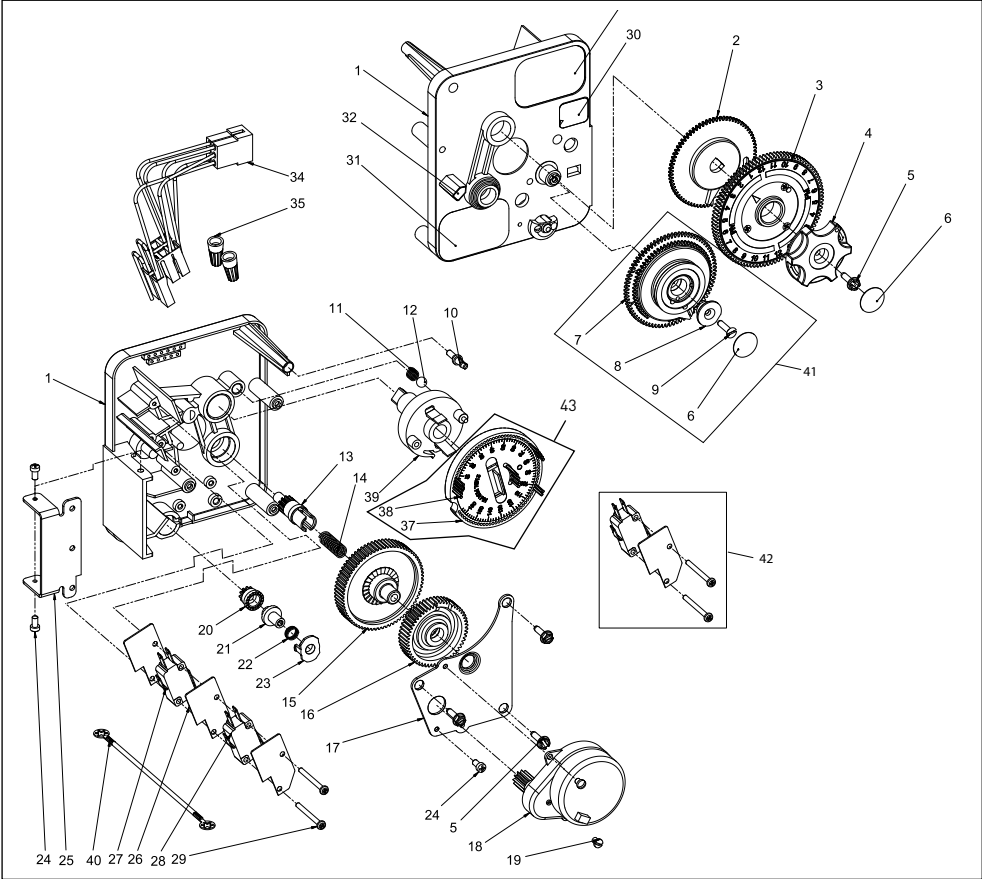
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Item No.	QTY	Part No.	Description
1	1	13870	Housing, Timer, 3200
2	1	14265	Clip, Spring
3	3	14087	Insulator
4	1	10896	Switch, Micro
5	1	15320	Switch, Micro, Timer
6	2	11413	Screw, Pan Hd Mach, 4-40 x 1-1/8
7	1	13886	Knob, 3200
8	5	13296	Screw, Hex Wsh, 6-20 x 1/2
9	1	11999	Label, Button
10	1	13018	Pinion, Idler
11	1	13312	Spring, Idler Shaft
12	1	13017	Gear, Idler
13	1	13164	Gear, Drive
14	1	13887	Plate, Motor Mounting
15	1	18743-1	Motor, 120V, 60Hz, 1/30 RPM
		18752-1	Motor, 100V, 50Hz, 1/30 RPM
		18824-1	Motor, 230V, 50Hz, 1/30 RPM
		18826-1	Motor, 24V, 50Hz, 1/30 RPM
		19659-1	Motor, 24V, 60Hz, 1/30 RPM
		19660-1	Motor, 230V, 60Hz, 1/30 RPM
16	2	13278	Screw, Slt'd Fillister Hd 6-32 x .156
17	1	15424	Spring, Detent, Timer
18	1	15066	Ball, 1/4-inch, Delrin
19	1	15465	Label, Caution
20	1	19210	Program Wheel Assy
21	1	13911	Gear, Main Drive, Timer
22	17	41754	Pin, Spring, 1/16 x 5/8 SS, Timer
23	1	13011	Arm, Cycle Actuator
24	1	13864	Ring, Skipper Wheel
25	2	13311	Spring, Detent, Timer
26	2	13300	Ball, 1/4-inch, SS
27	1	14381	Skipper Wheel Assy, 12 Day
		14860	Skipper Wheel Assy, 7 Day
28	1	13014	Pointer, Regeneration
29	1	40096-24	Dial, 12 AM Regen Assy, Black
		40096-02	Dial, 2 AM Regen Assy, Black

Item No.	QTY	Part No.	Description
30	1	13881	Bracket, Hinger Timer
31	2	11384	Screw, Phil, 6-32 x 1/4 Zinc
32	1	13902	Harness, 3200
33	2	40422	Nut, Wire, Tan
34	1	15354-01	Wire, Ground, 4 inches
35	1	14007	Label, Time of Day
36	1	*	Complete 3200 Time Clock Timer Assembly
37		60320-02	Switch Kit, 3200/9000 Timer Auxiliary, Optional
38		61420-03	Program Wheel, Gear Assy, Filter 2 Min Per Pin
		61420-04	Program Wheel, Gear Assy, Softener, 2 Min Per Pin
		61420-06	Program Wheel, Gear Assy, Soft Immed, 2 Min Per Pin
		61420-42	Program Wheel, Gear Assy, Filter Immed, 2 Min Per Pin

*Call your distributor for Part Number

3210 METER DELAYED TIMER ASSEMBLY



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3210 METER DELAYED TIMER ASSEMBLY

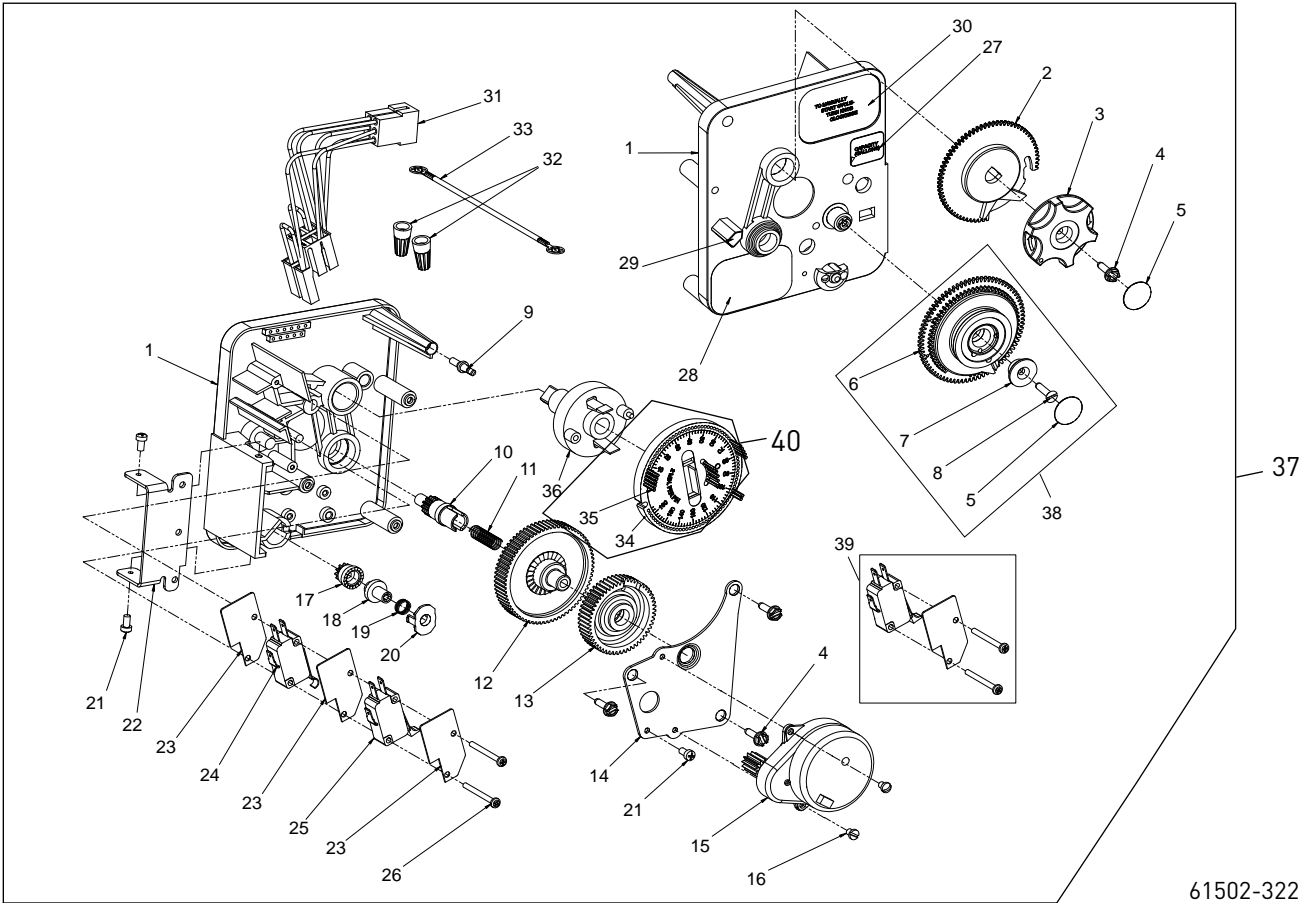
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Item No.	QTY	Part No.	Description
1	1	13870	Housing, Timer, 3200
2	1	13802	Gear, Cycle Actuator
3	1	40096-02	Dial 2 AM Regen Assy, Black
4	1	13886	Knob, 3200
5	4	13296	Screw, Hex Wsh, 6-20 x 1/2
6	2	11999	Label, Button
7	1	13803	Gear, Program Drive Wheel
8	1	13806	Retainer, Program Wheel
9	1	13748	Screw, Flat Head St, 6-20 x 1/2
10	1	14265	Clip, Spring
11	1	15424	Spring, Detent, Timer
12	1	15066	Ball, 1/4-inch Delrin
13	1	13018	Pinion, Idler
14	1	13312	Spring, Idler Shaft
15	1	13017	Gear, Idler
16	1	13164	Gear, Drive
17	1	13887	Plate, Motor Mounting
18	1	18743-1	Motor, 120V, 60Hz, 1/30 RPM
		18752-1	Motor, 100V, 50Hz, 1/30 RPM
		18824-1	Motor, 230V, 50Hz, 1/30 RPM
		18826-1	Motor, 24V, 50Hz, 1/30 RPM
		19659-1	Motor, 24V, 60Hz, 1/30 RPM
		19660-1	Motor, 230V, 60Hz, 1/30 RPM
19	1	13278	Screw, Fillister Hd, 6-32 x .156
20	1	13830	Pinion, Program Wheel Drive
21	1	13831	Clutch, Drive Pinion
22	1	14276	Spring, Meter, Clutch
23	1	14253	Retainer, Clutch Spring
24	3	11384	Screw, Phil, 6-32 x 1/4
25	1	13881	Bracket, Hinge Timer
26	3	14087	Insulator
27	1	10896	Switch, Micro
28	1	15320	Switch, Micro, Timer
29	2	11413	Screw, Pan Hd Mach, 4-40 x 1 1/8
30	1	14198	Label, Indicator
31	1	15465	Label, Caution
32	1	14007	Label, Time of Day
33	1	14045	Label, Instruction

Item No.	QTY	Part No.	Description
34	1	13902	Harness, 3200
35	2	40422	Nut, Wire, Tan
36	1	15354-01	Wire, Ground, 4 inches
37	1	19210	Program Wheel Assy
38	17	41754	Pin, Spring, 1/16 x 5/8 SS, Timer
39	1	13911	Gear, Main Drive, Timer
40	1	*	Complete 3210 Meter Delayed Timer Assembly
41		60405-10	Program Wheel, w/3/4-inch STD Label 0-2,100 gal
		60405-20	Program Wheel, w/3/4-inch EXT Label 0-10,000 gal
		60405-11	Program Wheel, w/3/4-inch STD Metric Label 0-8 m3
		60405-21	Program Wheel, w/3/4-inch EXT Range 0-40 m3
		60405-30	Program Wheel, w/1-inch STD Range Label, 0-5,270
		60405-40	Program Wheel, w/1-inch EXT Range Label 0-26,350
42		60320-02	Switch Kit, 3200/9000 Timer Auxiliary, Optional
43		61420-03	Program Wheel, Gear Assy, Filter 2 Min Per Pin
		61420-04	Program Wheel, Gear Assy, Softener, 2 Min Per Pin
		61420-06	Program Wheel, Gear Assy, Soft Immed, 2 Min Per Pin
		61420-42	Program Wheel, Gear Assy, Filter Immed, 2 Min Per Pin

*Call your distributor for Part Number

3220 METER IMMEDIATE TIMER ASSEMBLY



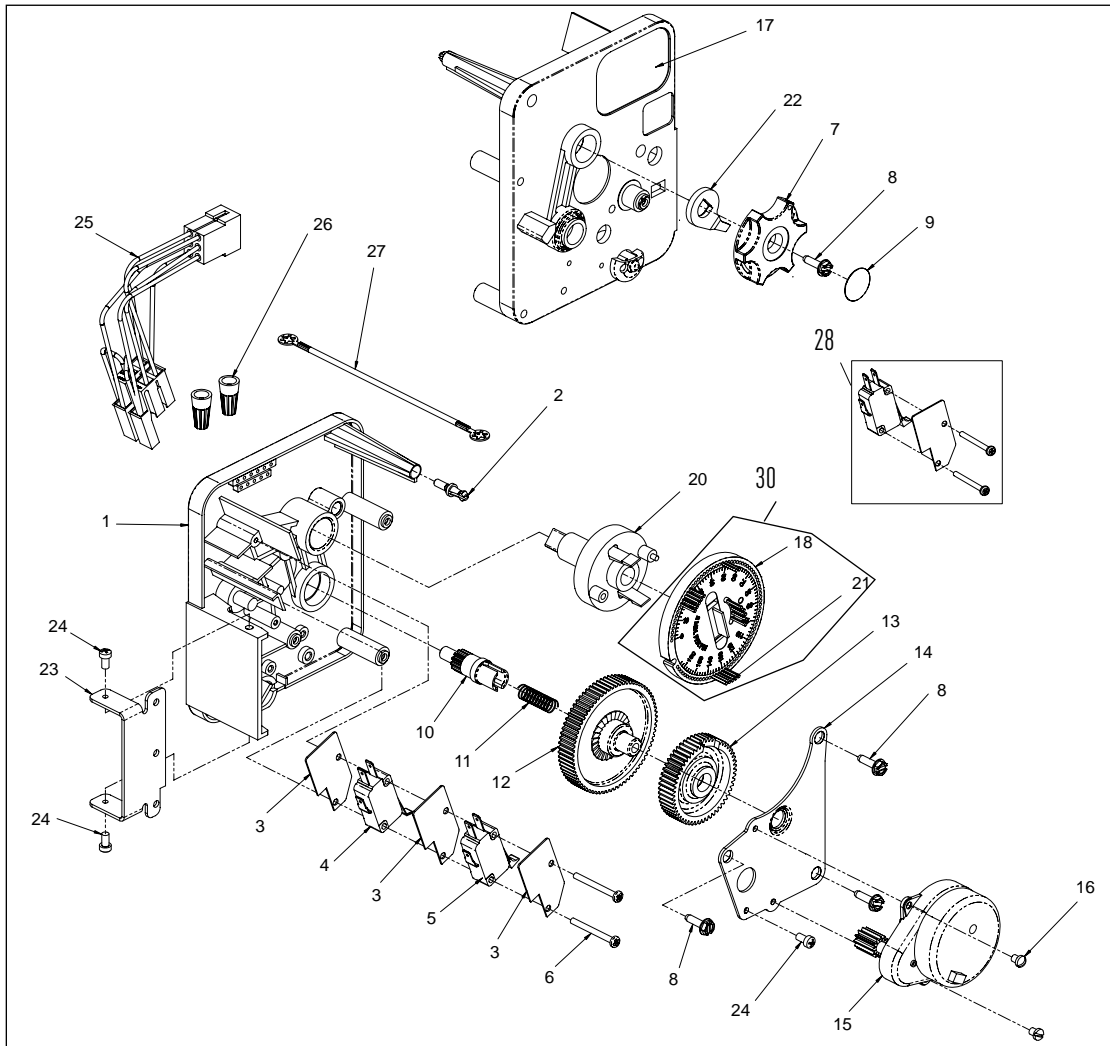
61502-3220 Rev B

3220 METER IMMEDIATE TIMER

ASSEMBLY *CONTINUED*

Item No.	QTY	Part No.	Description	Item No.	QTY	Part No.	Description
1	1	13870	Housing, Timer	35	17	41754	Pin, Spring, 1/16 x 5/8 Stainless Steel, Timer
2	1	15431	Gear, Cycle Actuator, System #5	36	1	15055	Gear, Main Drive
3	1	13886	Knob, 3200	37	1	*	Complete 3220 Meter Immediate Timer Assy
4	4	13296	Screw, Hex Wsh, 6-20 x 1/2	38		60405-10	Program Wheel, w/3/4-inch STD Label 0-2,100 gal
5	2	11999	Label, Button			60405-20	Program Wheel, w/3/4-inch EXT Label 0-10,000 gal
6	1	13807	Gear, Program Drive Wheel			60405-11	Program Wheel, w/3/4-inch STD Metric Label 0-8 m ³
7	1	13806	Retainer, Program Wheel			60405-21	Program Wheel, w/3/4-inch EXT Range 0-40 m ³
8	1	13748	Screw, Flt Hd St, 6-20 x 1/2	39		60320-02	Switch Kit, 3200/9000 Timer Auxiliary, Optional
9	1	14265	Spring Clip	40		61420-06	Program Wheel, Gear Assy, Softener Immediate 2 Min Per Pin
10	1	13018	Pinion, Idler			61420-42	Program Wheel, Gear Assy, Filter Immediate 2 Min Per Pin
11	1	18563	Idler Shaft Spring	*Call your distributor for Part Number			
12	1	13017	Gear, Idler				
13	1	13164	Drive Gear				
14	1	13887	Plate, Motor Mounting				
15	1	18743-1	Motor, 120V, 60 Hz, 1/30 RPM				
		18752-1	Motor, 100V, 50Hz, 1/30 RPM				
		18824-1	Motor, 230V, 50Hz, 1/30 RPM				
		18826-1	Motor, 24V, 50Hz, 1/30 RPM				
		19659-1	Motor, 24V, 60Hz, 1/30 RPM				
		19660-1	Motor, 230V, 60Hz, 1/30 RPM				
16	2	13278	Screw, Sltd Fillister Hd				
17	1	14502	Pinion, Program Wheel				
18	1	14501	Clutch, Drive Pinion				
19	1	14276	Meter Clutch Spring				
20	1	14253	Retainer, Clutch Spring				
21	3	11384	Screw, Phil, 6-32 x 1/4 Zinc				
22	1	13881	Bracket, Hinge Timer				
23	3	14087	Insulator				
24	1	15414-00	Micro Switch				
25	1	15320	Switch, Micro, Timer				
26	2	11413	Screw, Pan Hd Mach, 4-40 x 1-1/8				
27	1	14198	Label, Indicator				
28	1	15465	Label, Caution				
29	1	14007	Label, Time of Day				
30	1	15148	Label, Instruction				
31	1	40617	Harness, 3220				
32	2	40422	Nut, Wire, Tan				
33	1	15354-01	Wire, Ground, 4 inches				
34	1	19210-05	Program Wheel Assembly, 9000/3230				

3230 REMOTE START TIMER ASSEMBLY



61502-3230R REV A

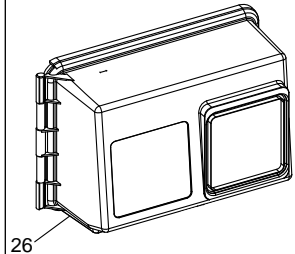
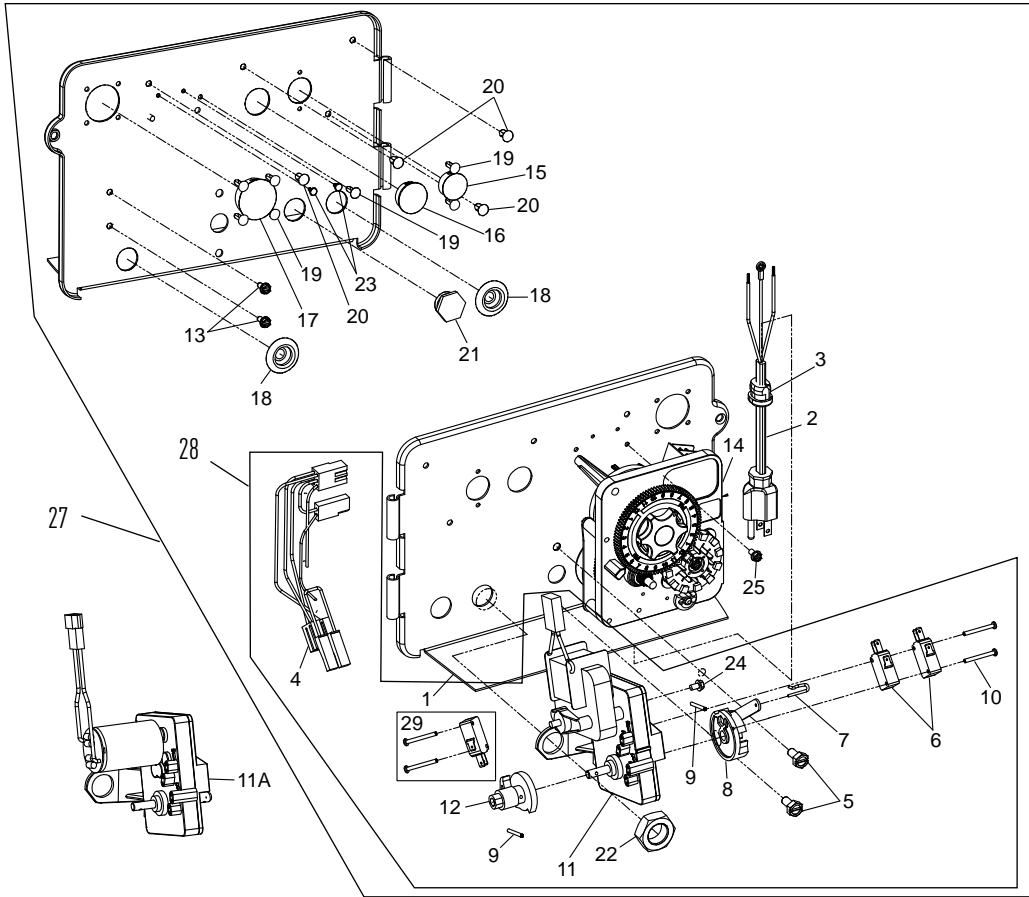
3230 REMOTE START TIMER ASSEMBLY

CONTINUED

Item No.	QTY	Part No.	Description	Item No.	QTY	Part No.	Description
1	1	13870	Housing, Timer	22	1	13011	Cycle Actuator Arm
2	1	14265	Spring Clip	23	1	13881	Bracket, Hinge Timer
3	3	14087	Insulator	24	3	11384	Screw, Phil, 6-32 x 1/4 Zinc
4	1	15314	Micro Switch	25	1	16336	Harness, 3230R
5	1	15320	Switch, Micro, Timer	26	2	40422	Nut, Wire, Tan
6	2	11413	Screw, Pan Hd Mach, 4-40 x 1-1/8	27	1	15354-01	Wire, Ground, 4 inches
7	1	13886	Knob, 3200	28		60320-02	Switch Kit, 3200/9000 Timer Auxiliary, Optional
8	4	13296	Screw, Hex Wsh, 6-20 x 1/2	29	*		3230 Timer Assy
9	1	11999	Label, Button	30		61420-06	Program Wheel, Gear Assy, Softener Immediate 2 Min Per Pin
10	1	13018	Pinion, Idler			61420-42	Program Wheel, Gear Assy, Filter Immediate 2 Min Per Pin
11	1	18563	Idler Shaft Spring				
12	1	13017	Gear, Idler				
13	1	15055	Drive Gear				
14	1	13887	Plate, Motor Mounting				
15	1	18743-1	Motor, 120V, 60 Hz, 1/30 RPM				
		18752-1	Motor, 100V, 50Hz, 1/30 RPM				
		18824-1	Motor, 23V, 50Hz, 1/30 RPM				
		18826-1	Motor, 24V, 50Hz, 1/30 RPM				
		19659-1	Motor, 24V, 60Hz, 1/30 RPM				
		19660-1	Motor, 230V, 60Hz, 1/30 RPM				
16	2	13278	Screw, Sltd Fillister Hd				
17	1	15313	Label, Caution				
18	1	19210-05	Program Wheel Assembly, 3200				
20	1	15055	Main Drive Gear				
21	17	41754	Pin, Spring, 1/16 x 5/8 Stainless Steel, Timer				

*Call your distributor for Part Number

POWERHEAD ASSEMBLY (ENVIRONMENTAL)



BR61501-1500 Rev C

POWERHEAD ASSEMBLY

(ENVIRONMENTAL) CONTINUED

Item No.	QTY	Part No.	Description
1	1	18697-15	Backplate, Hinged
2	1	11838	Power Cord, 6-foot, North American, Flat
		19303-01	Power Cord, 6-foot, Australian
		19885-01	Power Cord, 6-foot, Japanese
		11545-01	Power Cord, 6-foot, European
3	1	13547	Strain Relief, Cord
4	1	40400	Harness, Drive Designr/ Envirmtl
5	2	10231	Screw, Slot Hex 1/4-20 x 1/2 35 in-lbs ±20%
6	2	10218	Switch, Micro
7	1	10909	Pin, Connecting Rod Spring
8	1	60160-15	Drive Cam Assy, STF, Blue, 2900
9	2	10338	Pin, Roll, 3/32 x 7/8
10	2	14923	Screw, Pan Hd MACH, 4-40 x 1 5.0 in-lbs ±10%
11	1	41543	Motor, Drive, 115V/60 Hz
		41545	Motor, Drive, 220V, 50-60Hz, SP, Fam 1
11A		42579	Motor, Drive, 24 VAC/DC, 50-60 Hz, Fam 1
12	1	12777	Cam, Shut-off Valve
13	2	10300	Screw, Hx Wash Head, 8 x 3/8 20 in-lbs ±20%
14	1	3200	Timer Assy, 3200 7 or 12 Day
			3210 Meter Delay
			3220 Meter Immediate
15	1	15806	Hole Plug, (HeyCo)
16	1	16493	Plug, Hole, HeyCo, .88 Dia

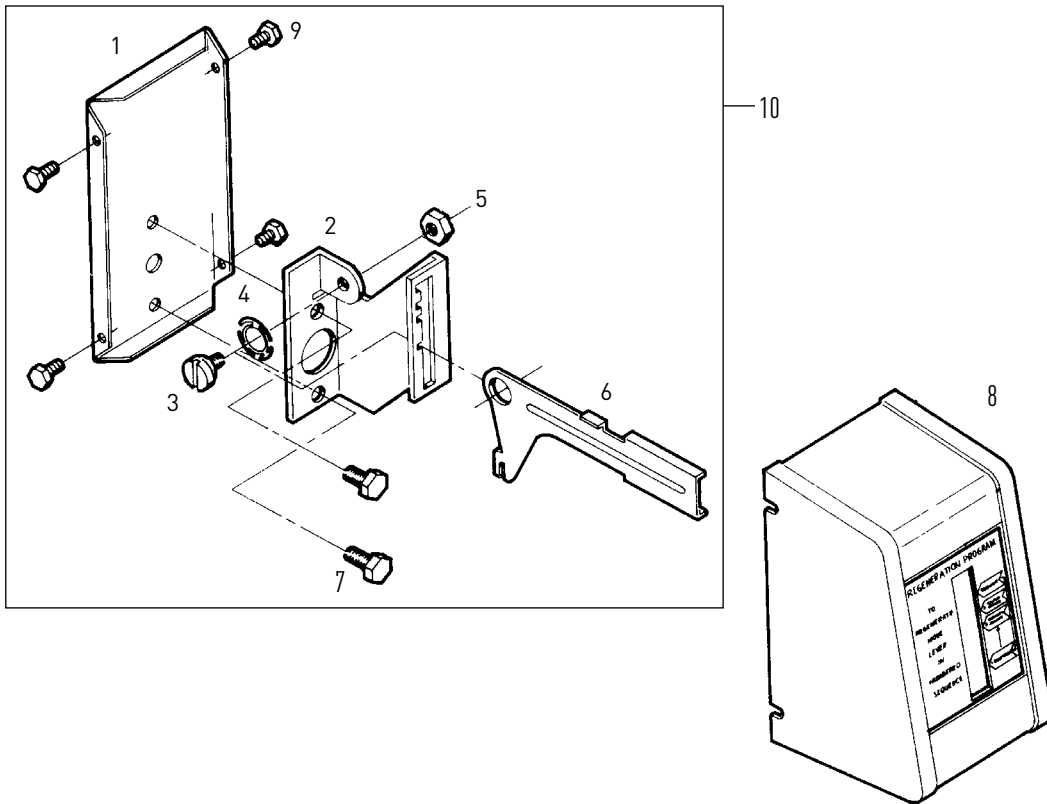
Item No.	QTY	Part No.	Description
17	1	17421	Plug, 1.20 Hole
18	2	19691	Plug, .750 Dia. Hole, Flush
19	7	19800	Plug (Hole Size: Dia .140)
20	4	19801	Plug, Dia .190
21	1	43560	Fitting, Brine Valve (Used on Filter Valves)
22	1	10269	Nut, Jam, 3/4-16 (Used on Filter Valves) Wrench Tighten
23	2	41581	Plug, Hole .125 Dia, White
24	1	10872	Screw, Hex WSH, 8-32 x 5/16 20 in-lbs ±20%
25	1	14202-01	Screw, Hex Washer #8-32 x 5/16 Hand Tighten
26	1	60219-02	Cover Assy, Environmental, Black, Clear Window
		60219-12	Cover Assy, Environmental, Black, Black Window
27	1	*	Powerhead Assembly
28	1	60050-23	Drive Motor Assy, 24 VAC/DC, 50-60 Hz FAM 1
		60050-21	Drive Motor Assy, 115V/60 Hz
		60050-22	Drive Motor Assy, 220V, 50-60 Hz SP FAM1
29		60320-12	Switch Kit, 1500-2850 Drive Motor

Not Shown:

1	15441	Cable Guide Assy, 2750
1	15513	Meter Cable, 17.5 inch, 1 inch Brass Meter
1	17741	Meter Cable, 16.5 inch, 1 inch Stainless Steel Meter

*Call your distributor for Part Number

MANUAL POWERHEAD ASSEMBLY



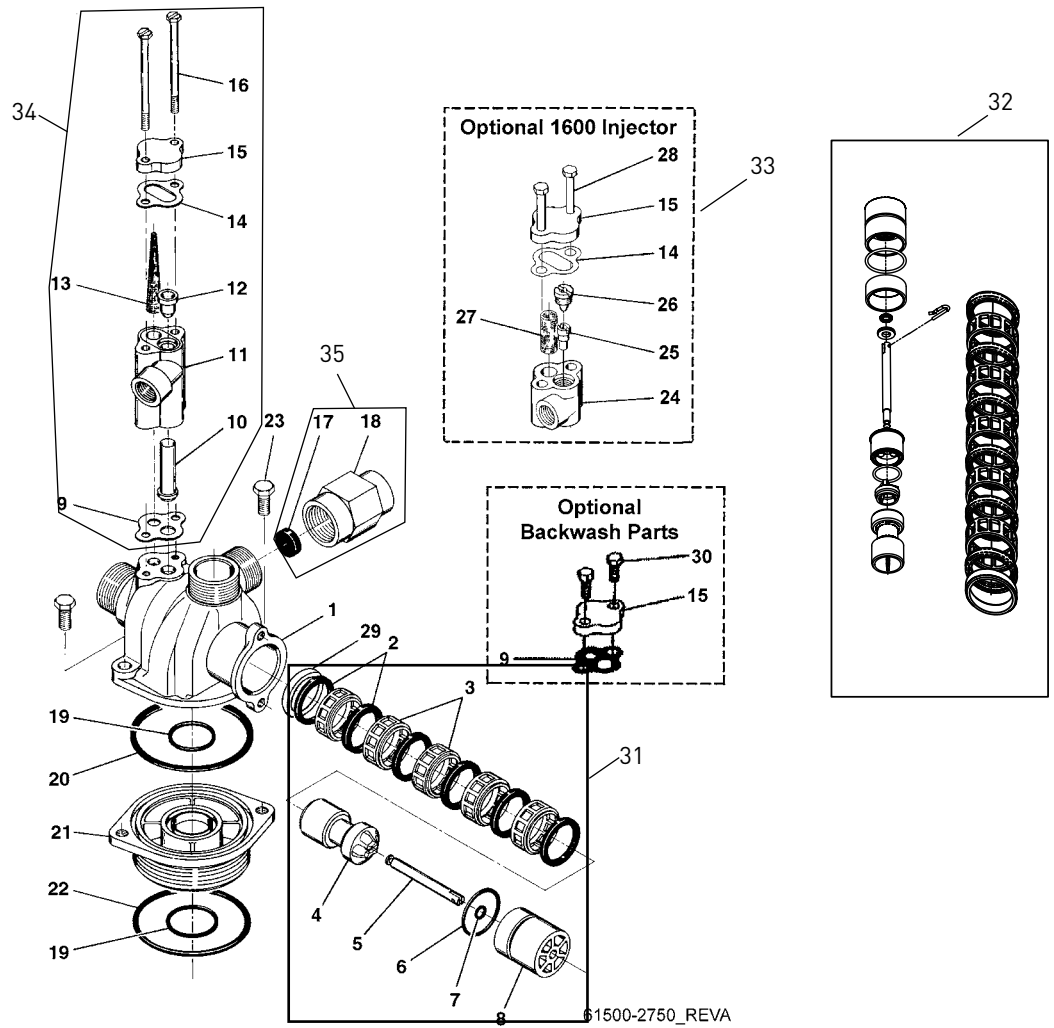
60409 Rev A

Item No.	QTY	Part No.	Description
1	1	12593	Backplate, Manual
2	1	12592	Bracket, Lever Position
3	1	12596	Screw, Spec Mach, 1/4 - 20 x 1/2
4	1	12707	Washer, Spring
5	1	11235	Nut, Hex, 1/4 - 20, Mach Screw, Zinc
6	1	12594	Lever, Valve Position
7	2	10231	Screw, Slot Hex, 1/4 - 20 x 1/2 18-8 SS
8	1	60224-32	Cover Assy, Manual, Filter
		60224-33	Cover Assy, Manual, Softener
9	4	10300	Screw, Slot Hex Wsh, 8-18 x 3/8 Type "B" RC44-47
10		60409	Powerhead Assy, Manual

Not Shown:

1		10909	Pin, Link
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CONTROL VALVE WITH 1700 INJECTOR ASSEMBLY



60036 Rev C

CONTROL VALVE WITH 1700 INJECTOR

CONTINUED

Item No.	QTY	Part No.	Description	Item No.	QTY	Part No.	Description
1	1	14749	Valve Body, 2750			10914-1	Throat, Injector, #1, White
2	6	10545	Seal, Piston			10914-2	Throat, Injector, #2, Blue
3	5	11451	Spacer, 12 Hole			10914-3	Throat, Injector, #3, Yellow
		16589	Spacer, HW			10914-4	Throat, Injector, #4, Green
4	1	14451	Piston, 2750			12974-0	Throat, Injector, #0, PVC, Grey
5	1	14452	Rod, Piston			12974-1	Throat, Injector, #1, PVC, Grey
6	1	10234-01	O-Ring, -024, 560CD			12974-2	Throat, Injector, #2, PVC, Grey
7	1	10209	Quad Ring, -010			12974-3	Throat, Injector, #3, PVC, Grey
8	1	10598	End Plug Assembly			12974-4	Throat, Injector, #4, PVC, Grey
		10598-01	End Plug Assembly, Hot Water			10226-0	Throat, Injector, #0, Stainless Steel
9	1	14805	Gasket, Injector Body, 1600/1700			10226-1	Throat, Injector, #1, Stainless Steel
10		14802-03C	Throat, Injector, #3C, Yellow			10226-2	Throat, Injector, #2, Stainless Steel
		14802-04C	Throat, Injector, #4C, Green			10226-3	Throat, Injector, #3, Stainless Steel
		14802-05C	Throat, Injector, #5C, White			10226-4	Throat, Injector, #4, Stainless Steel
		14802-06C	Throat, Injector, #6C, Red	26	1	10913-000	Nozzle, Injector #000, Brown
11	1	17777	Body, Injector, 1700			10913-00	Nozzle, Injector #00, Violet
12		14801-03C	Nozzle, Injector, #3C, Yellow			10913-0	Nozzle, Injector #0, Red
		14801-04C	Nozzle, Injector, #4C, Green			10913-1	Nozzle, Injector #1, White
		14801-05C	Nozzle, Injector, #5C, White			10913-2	Nozzle, Injector #2, Blue
		14801-06C	Nozzle, Injector, #6C, Red			10913-3	Nozzle, Injector #3, Yellow
13	1	14803	Screen, Injector			10913-4	Nozzle, Injector #4, Green
14	1	10229	Gasket, Injector Cap, 1600			12973-0	Nozzle, Injector #0, PVC, Grey
15	1	11893	Cap, Injector, Stainless Steel			12973-1	Nozzle, Injector #1, PVC, Grey
		10228	Cap, Injector, Brass			12973-2	Nozzle, Injector #2, PVC, Grey
16	2	14804	Screw, Hex Hd Mach, 10-24 x 2-3/4			12973-3	Nozzle, Injector #3, PVC, Grey
17	1		Washer - Flow Control (specify size)			12973-4	Nozzle, Injector #4, PVC, Grey
18	1	60365-00	Housing, DLFC, 1/2-inch F x 3/4-inch F, Blank			10225-0	Nozzle, Injector #0, Stainless Steel
19	2	11710	O-ring, -215			10225-1	Nozzle, Injector #1, Stainless Steel
20	1	11208	O-ring, -232			10225-2	Nozzle, Injector #2, Stainless Steel
21	1	12461-01	Adapter Base, 1-inch 2-1/2 inch - 8 Quick Connect			10225-3	Nozzle, Injector #3, Stainless Steel
22	1	10381	O-ring, -231			10225-4	Nozzle, Injector #4, Stainless Steel
23	2	11224	Screw, Hex Hd, 5/16 - 18 x 5/8	27	1	10227	Screen, Injector
24	1	17776	Body, Injector				
25		10914-000	Throat, Injector #000, Brown				
		10914-00	Throat, Injector, #00, Violet				
		10914-0	Throat, Injector, #0, Red				

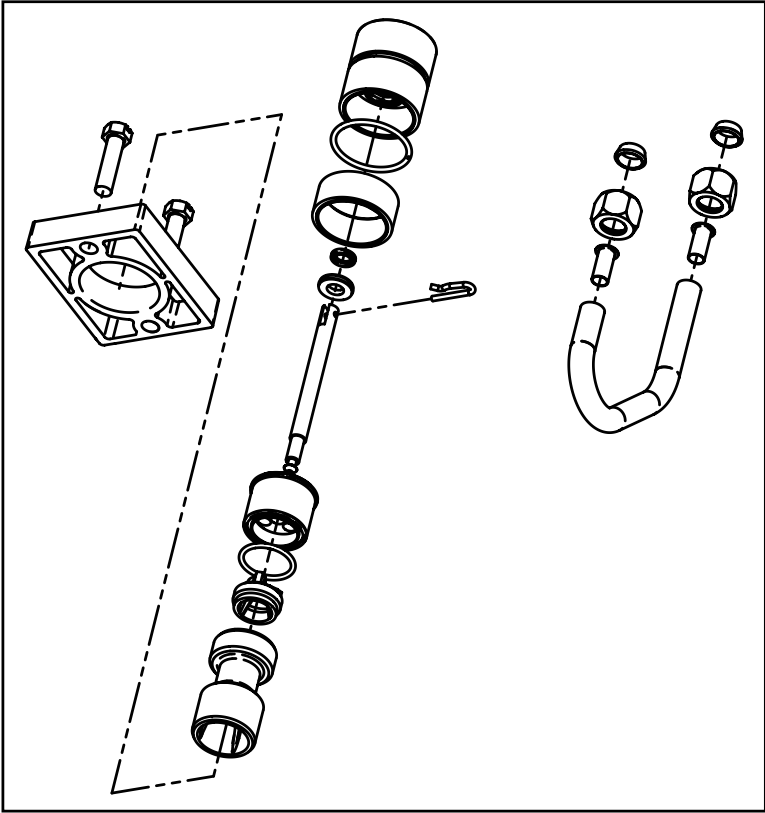
CONTROL VALVE WITH 1700 INJECTOR

CONTINUED

Item No.	QTY	Part No.	Description	Item No.	QTY	Part No.	Description
28	2	10692	Screw, Slot Hex Hd, 10-24 x 18-8 Stainless Steel	.....	60365-24	.....	DLFC, 3/4-inch F x 1/2-inch F, NPT 2.4 gpm
29	1	10757	Spacer, End	.....	60365-30	.....	DLFC, 3/4-inch F x 1/2-inch F, NPT 3.0 gpm
		10757B	Spacer, End, Brass	.....	60365-35	.....	DLFC, 3/4-inch F x 1/2-inch F, NPT 3.5 gpm
30	1	15137	Screw, Hex Wsh Mach, 10- 24 x 3/8	.....	60365-40	.....	DLFC, 3/4-inch F x 1/2-inch F, NPT 4.0 gpm
31	1	61670-01	Piston Kit, 2510/2750	.....	60365-45	.....	DLFC, 3/4-inch F x 1/2-inch F, NPT 4.5 gpm
		62044	Piston Kit, 2750, Hot Water	.....	60365-50	.....	DLFC, 3/4-inch F x 1/2-inch F, NPT 5.0 gpm
32	1	61670-02	Piston Kit, 2510/2750, NHWBP	.....	60365-60	.....	DLFC, 3/4-inch F x 1/2-inch F, NPT 6.0 gpm
33	1	60480-000	Injector Assy, 1600 #00, Plastic	.....	60365-70	.....	DLFC, 3/4-inch F x 1/2-inch F, NPT 7.0 gpm
		60480-00	Injector Assy, 1600 #0, Plastic	.....	60700-00	.....	DLFC, 3/4-inch F x 3/4-inch F, NPT Blank
		60480-01	Injector Assy, 1600 #1, Plastic	.....	60700-8.0	.....	DLFC, 3/4-inch F x 3/4-inch F, NPT 8.0 gpm
		60480-02	Injector Assy, 1600 #2, Plastic	.....	60700-9.0	.....	DLFC, 3/4-inch F x 3/4-inch F, NPT 9.0 gpm
		60480-03	Injector Assy, 1600 #3, Plastic	.....	60700-10	.....	DLFC, 3/4-inch F x 3/4-inch F, NPT 10.0 gpm
		60480-04	Injector Assy, 1600 #4, Plastic	.....	60700-12	.....	DLFC, 3/4-inch F x 3/4-inch F, NPT 12.0 gpm
		60481-21	Injector Assy, 1600, #1, S.S. Complete, Brass	.....	60700-15	.....	DLFC, 3/4-inch F x 3/4-inch F, NPT 15.0 gpm
		60481-22	Injector Assy, 1600, #2, S.S. Complete, Brass	.....	60700-20	.....	DLFC, 3/4-inch F x 3/4-inch F, NPT 20.0 gpm
		60481-23	Injector Assy, 1600, #3, S.S. Complete, Brass	.....	60700-25	.....	DLFC, 3/4-inch F x 3/4-inch F, NPT 25.0 gpm
		60080-11	Injector Assy, 1600, #1, PVC				
		60080-12	Injector Assy, 1600, #2, PVC				
		60080-14	Injector Assy, 1600, #4, PVC				
34	1	60381-03	Injector Assy, 1700, 3C				
		60381-04	Injector Assy, 1700, 4C				
		60381-05	Injector Assy, 1700, 5C				
		60381-06	Injector Assy, 1700, 6C				
35	1	60365-06	DLFC, 3/4-inch F x 1/2-inch F, NPT 0.6 gpm				
		60365-08	DLFC, 3/4-inch F x 1/2-inch F, NPT 0.8 gpm				
		60365-10	DLFC, 3/4-inch F x 1/2-inch F, NPT 1.0 gpm				
		60365-12	DLFC, 3/4-inch F x 1/2-inch F, NPT 1.2 gpm				
		60365-13	DLFC, 3/4-inch F x 1/2-inch F, NPT 1.3 gpm				
		60365-15	DLFC, 3/4-inch F x 1/2-inch F, NPT 1.5 gpm				
		60365-17	DLFC, 3/4-inch F x 1/2-inch F, NPT 1.7 gpm				
		60365-20	DLFC, 3/4-inch F x 1/2-inch F, NPT 2.0 gpm				
Not Shown							
				1	16221	Disperser, Air, 1600
				1	17996	Disperser, Air, 1700

SOFTENER FILTER CONVERSION KITS

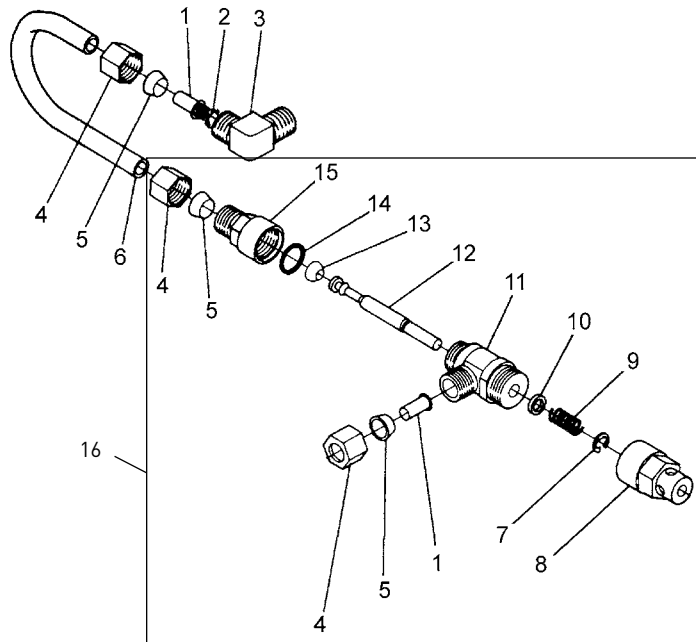
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61671 Rev E

Item No.	QTY	Part No.	Description
1		61671-02	NHWBP Conversion Kit, 2510

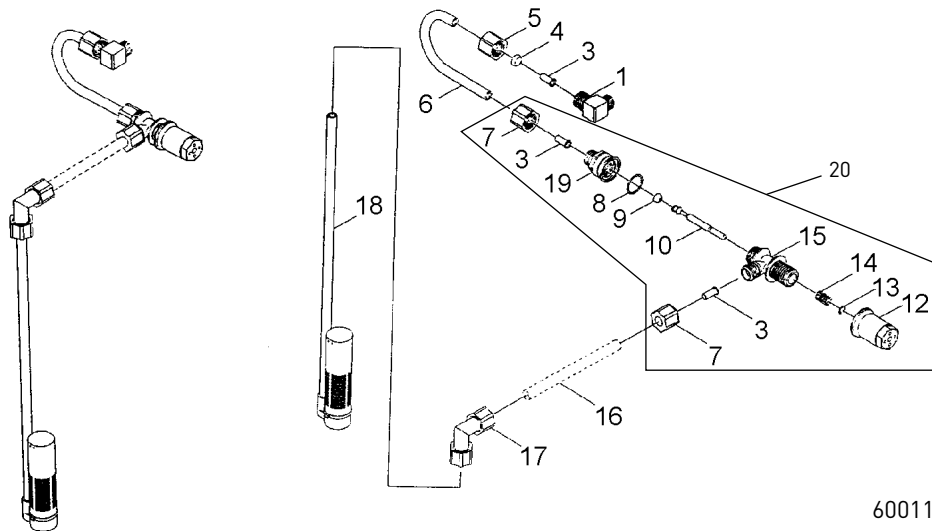
1600 BRINE SYSTEM ASSEMBLY



60029 Rev C

Item No.	QTY	Part No.	Description	Item No.	QTY	Part No.	Description
1	2	10332	Fitting, Insert, 3/8	14	1	11982	O-ring, -016
2	1	12767	Screen, Brine	15	1	60020-25	BLFC, .25 GPM, 1600
3	1	10328	Fitting, Elbow, 90 Deg. 1/4-inch NPT x 3/8 Tube			60020-50	BLFC, .50 GPM, 1600
4	3	10329	Fitting, Tube, 3/8 Nut, Brass			60020-100	BLFC, 1.0 GPM, 1600
5	3	10330	Fitting, Sleeve, 3/8 Celcon	16	1	60029-010	Brine Valve, 1600 Short Stem, 0.25 gpm
6	1	16508-01	Tube, Brine Valve, 2850/2900s			60029-020	Brine Valve, 1600 Short Stem, 0.50 gpm
		12774	Tube, Brine Valve, 1500			60029-030	Brine Valve, 1600 Short Stem, 1.00 gpm
		40027	Tube, Brine Valve, 2510, HWBP				
		14228	Tube, Brine Valve, 2510, NHWBP				
		15221-01	Tube, Brine Valve, 2750/2900				
		42184	Tube, Brine Valve, 2850s				
		41683	Tube, Brine Valve, UF, 2900S 1600/1650				
7	1	10250	Ring, Retaining				
8	1	11749	Guide, Brine Valve Stem				
9	1	10249	Spring, Brine Valve				
10	1	12550	Quad Ring, -009				
11	1	12748	Brine Valve Body Assy, 1600 w/Quad Ring				
12	1	12552-02	Brine Valve Stem, 1600, with Seat				
13	1	12626	Seat, Brine Valve				

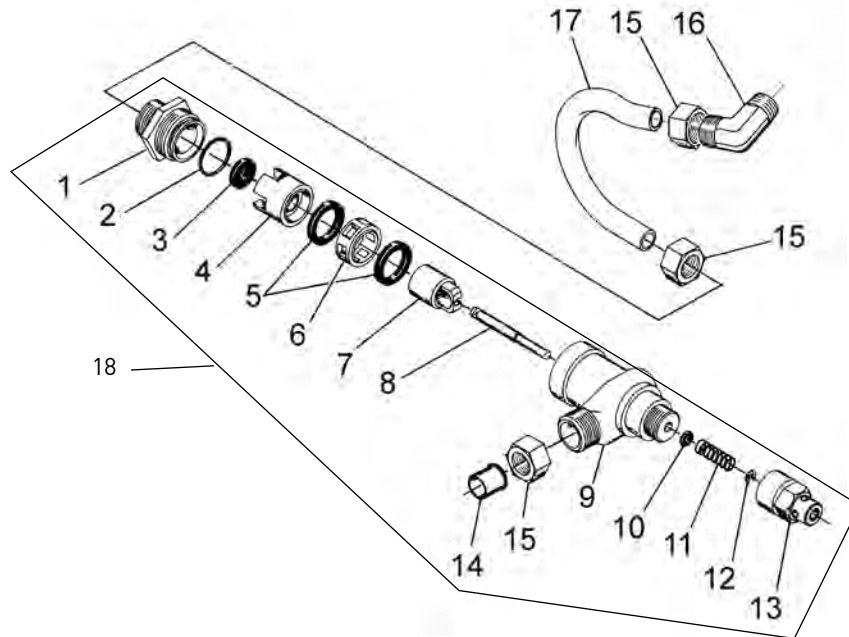
1650 BRINE SYSTEM



60011 Rev D

Item No.	QTY	Part No.	Description	Item No.	QTY	Part No.	Description
1	1	10328	Elbow, 90 1/4 NPT x 3/8	19		60010-25 BLFC Assy. (Parts)	
3	3	10332	Insert, 3/8	1	17907	Housing	
4	1	10330	Sleeve, 3/8 Nut Brine	1	12128	25 GPM Label	
5	1	10329	Tube Fitting, 3/8 Nut Brine	1	12094	25 Flow Washer	
6	1	16508-01	Tube, Brine Valve, 2850/2900s	1	12098	Retainer	
		12774	Tube, Brine Valve, 1500			60010-50 BLFC Assy. (Parts)	
		40027	Tube, Brine Valve, 2510, HWBP	1	17907	Housing	
		14228	Tube, Brine Valve, 2510, NHWBP	1	10759	50 GPM Label	
		15221-01	Tube, Brine Valve, 2750/2900	1	12095	50 Flow Washer	
		42184	Tube, Brine Valve, 2850s	1	12098	Retainer	
		41683	Tube, Brine Valve, UF, 2900S 1600/1650			60010-100 BLFC Assy. (Parts)	
7	2	19625	Assy., GFN Nut	1	17907	Housing	
8	1	16924	O-ring, -018	1	10760	1.0 GPM Label	
9	1	12626	Seat, Brine Valve	1	12097	1.0 Flow Washer	
10	1	12552	Brine Valve Stem, 1600	1	12098	Retainer	
12	1	17906	Guide, Brine Valve Stem	20	60011-010	Brine Valve, 1650, Short Stem, 0.25 gpm	
13	1	10250	Retaining Ring			60011-020	Brine Valve, 1650, Short Stem, 0.50 gpm
14	1	10249	Spring, Brine Valve			60011-030	Brine Valve, 1650, Short Stem, 1.00 gpm
15	1	17884	Brine Valve Body Assy., Plastic				
17	1	12794	Elbow, 3/8 Tube Poly, White				
18	1	60002	#500 Air Check				

1700 SERIES BRINE SYSTEM ASSEMBLY



Item No.	QTY	Part No.	Description
1	1	14792	Plug, End, Brine Valve
2	1	13201	Quad Ring, -020
3	1	12085	Washer, Flow, 1.2 GPM
		12086	Washer, Flow, 1.5 GPM
		12087	Washer, Flow, 2.0 GPM
		12088	Washer, Flow, 2.4 GPM
		12089	Washer, Flow, 3.0 GPM
		12090	Washer, Flow, 3.5 GPM
		12091	Washer, Flow, 4.0 GPM
		12092	Washer, Flow, 5.0 GPM
4	1	14785	Retainer, Flow Control
5	3	14811	O-ring, -210, 560CD, Brine
6	1	14798	Spacer, 1700, Brine
7	1	14795	Piston, Brine Valve
8	1	14797	Brine Valve Stem
9	1	14790	Brine Valve Body
10	1	12550	Quad Ring, -009
11	1	15310	Spring, Brine Valve
12	1	10250	Retaining Ring
13	1	15517	Guide, Stem
14	1	15415	Fitting, Insert, 1/2-inch, Tube
15	2	15414	Nut, 2900, w/Sleeve
16	1	15413	Fitting, Elbow, Male, 1/2T x 3/8 NPT
17	1	15416	Tube, Brine, 2900/2750
		16460	Tube, Brine, 2850/2900s
		41447*	Tube, Brine, 2900s, U/F
		42183	Tube, Brine, 1700, 2850s

Item No.	QTY	Part No.	Description
18	1	60034-00	Brine Valve, 1700, Blank
		60034-10	Brine Valve, 1700, 1.0 gpm
		60034-12	Brine Valve, 1700, 1.2 gpm
		60034-15	Brine Valve, 1700, 1.5 gpm
		60034-20	Brine Valve, 1700, 2.0 gpm
		60034-24	Brine Valve, 1700, 2.4 gpm
		60034-30	Brine Valve, 1700, 3.0 gpm
		60034-40	Brine Valve, 1700, 4.0 gpm
		60034-50	Brine Valve, 1700, 5.0 gpm

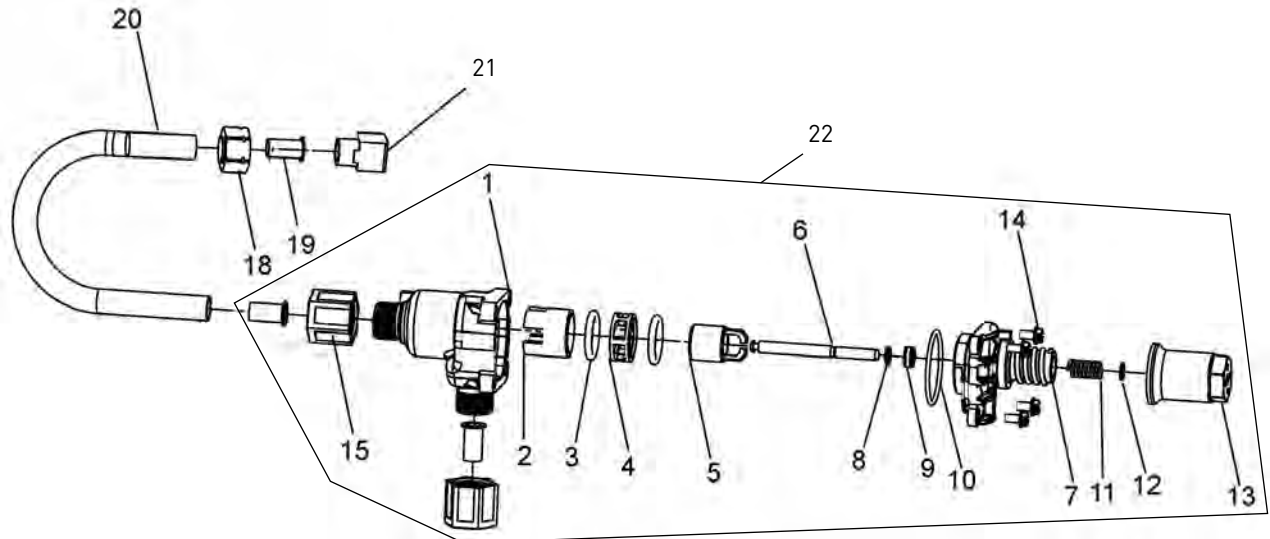
Not Shown:

- 1 16974 Fitting, Plastic, Female, 3/4 x 3/4 Slip
- 1 17996 Disperser, Air, Injector

*Upflow Only

NOTE: Item number 26 (11893) is used on injector sizes 2 through 5C. Part number 10228 is used on injector sizes 6C.

1710 BRINE SYSTEM ASSEMBLY



60604 Rev F

Item No.	QTY	Part No.	Description
1	1	41202	Brine Valve, 1700, Plastic, Top
2	1	14785-01	Retainer, Flow Control
3	1	14811	O-Ring, -210, 560CD, Brine
4	1	14798	Spacer, 1700, Brine
5	1	14795	Piston, Brine Valve
6	1	41203	Stem, Brine, 1710, Plastic, 2900
7	1	41201	Brine Valve, 1700, Plastic, Bottom
8	5	17908	Sleeve, Brine Valve Stem
9	1	12550	Quad Ring, -009
10	3	41547	O-Ring, 2mm x 35mm
11	2	15310	Spring, Brine Valve
12	2	10250	Ring, Retaining
13	1	17906	Guide, Brine Valve Stem
14	2	14202-01	Screw, Hex Wsh Mach, 8-32 X 5/16
15	2	41056	Nut Assembly, 1/2-inch Plastic
18	1	15414	Nut, 2900, w/Sleeve
19	1	15415	Fitting, Insert, 1/2-inch, Tube
20	1	16460	Tube, Brine, 2850, 2900s
		42183	Tube, Brine, 1700/2850s

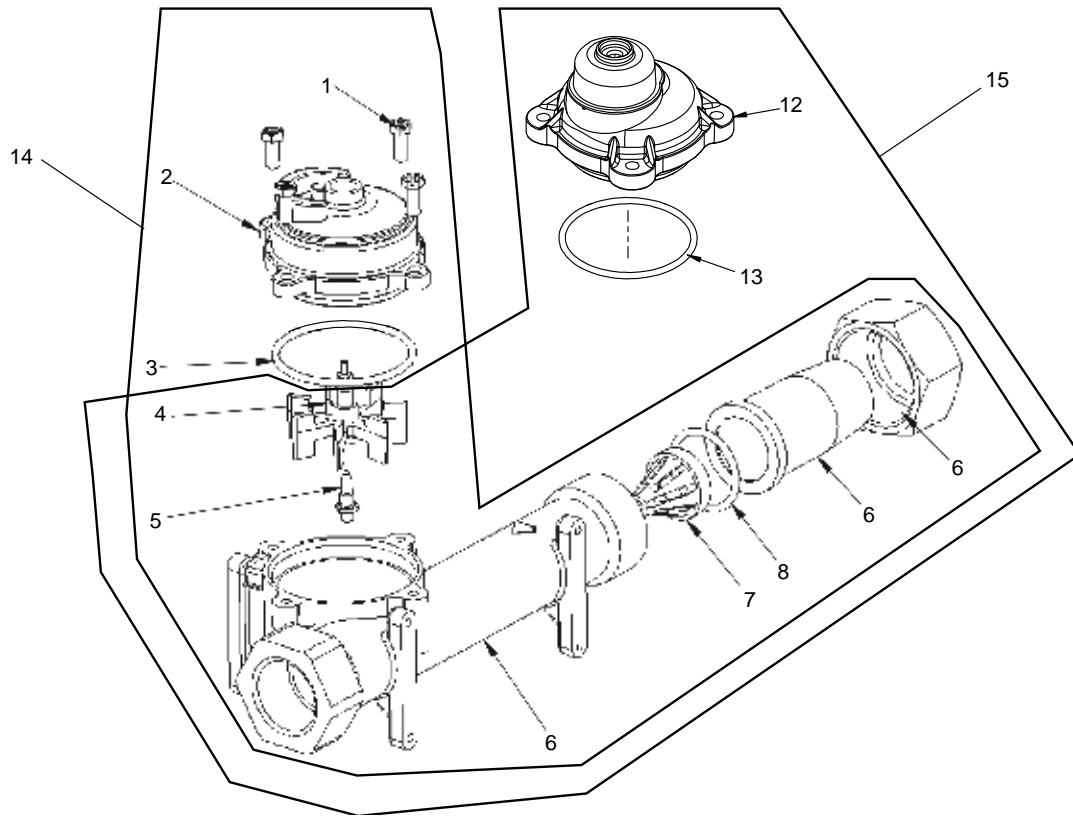
Item No.	QTY	Part No.	Description
		15416	Tube, Brine, 2900/2750
		41447*	Tube, Brine, 2900s U/F
21	1	15413	Fitting, Elbow, Male, 1/2T X 3/8 NPT
22		60605-00	Brine Valve, 1710, 2750, Blank
		60605-10	Brine Valve, 1710, 2750, 1.0 gpm
		60605-12	Brine Valve, 1710, 2750, 1.2 gpm
		60605-15	Brine Valve, 1710, 2750, 1.5 gpm
		60605-20	Brine Valve, 1710, 2750, 2.0 gpm
		60605-24	Brine Valve, 1710, 2750, 2.4 gpm
		60605-30	Brine Valve, 1710, 2750, 3.0 gpm
		60605-40	Brine Valve, 1710, 2750, 4.0 gpm
		60605-50	Brine Valve, 1710, 2750, 5.0 gpm

Not Shown

1	19151	Washer, Flow, 1.0 gpm
1	17996	Dispenser, Air, Injector
1	414193-00	Label, Blank, BLFC, 1710

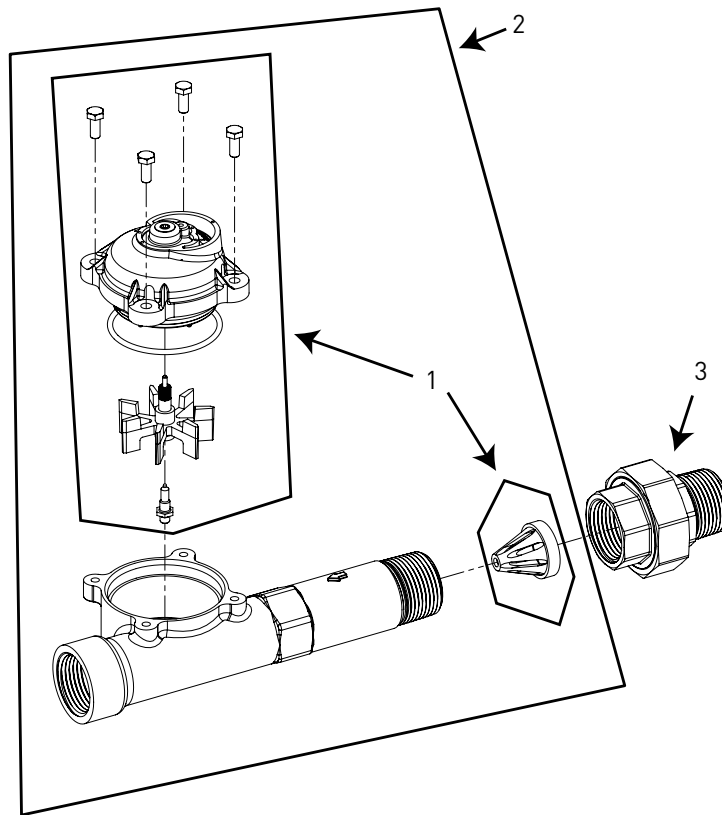
*Upflow only

1-INCH BRASS METER ASSEMBLY



Item No.	QTY	Part No.	Description	Item No.	QTY	Part No.	Description
1	4	12112	Screw, Slotted Hex Head, #10 - 24 x .50	15		60392	Meter Assy, 1-inch Inline, NPT EXT Range
2	1	14038	Cap, Meter, STD Range, Plastic			60392NP	Meter Assy, 1-inch Inline, NPT, EXT Brass Body, Nickel Plated, Paddlewheel
3	1	13847	O-ring, -137	Not Shown			
4	1	13509	Impeller, Meter	1	15218		Meter Cap Assy, STD Range, Brass, Hot Water
	1	13509-01	Impeller, Celcon, Hot Water	1	15237		Meter Cap Assy, EXT Range, Brass, Hot Water
5	1	13882	Post, Meter Impeller				
6	1	14959	Body, Meter, 27550				
	1	60628NP	Meter Assy, 1-inch, NP				
		14959	Body, Meter, 2750				
		14961	Fitting, Nipple, 1-inch, Quick Connect				
		14962	Nut, 1-inch Meter, Quick Connect				
7	1	14960	Flow Straightener				
8	1	13287	O-ring, 123				
12	1	15150	Meter Cap Assy, Ext, Range, Plastic				
13	1	13847	O-ring, -137				
14		60391	Meter Assy, 1-inch, NPT, STD Range, Brass, Paddlewheel				
		60391NP	Meter Assy, 1-inch Inline, NPT, STD Nickel Plated, Paddlewheel				
		60391HW	Meter Assy, 1-inch Inline, NPT, STD, Brass, Hot Water, Paddlewheel				

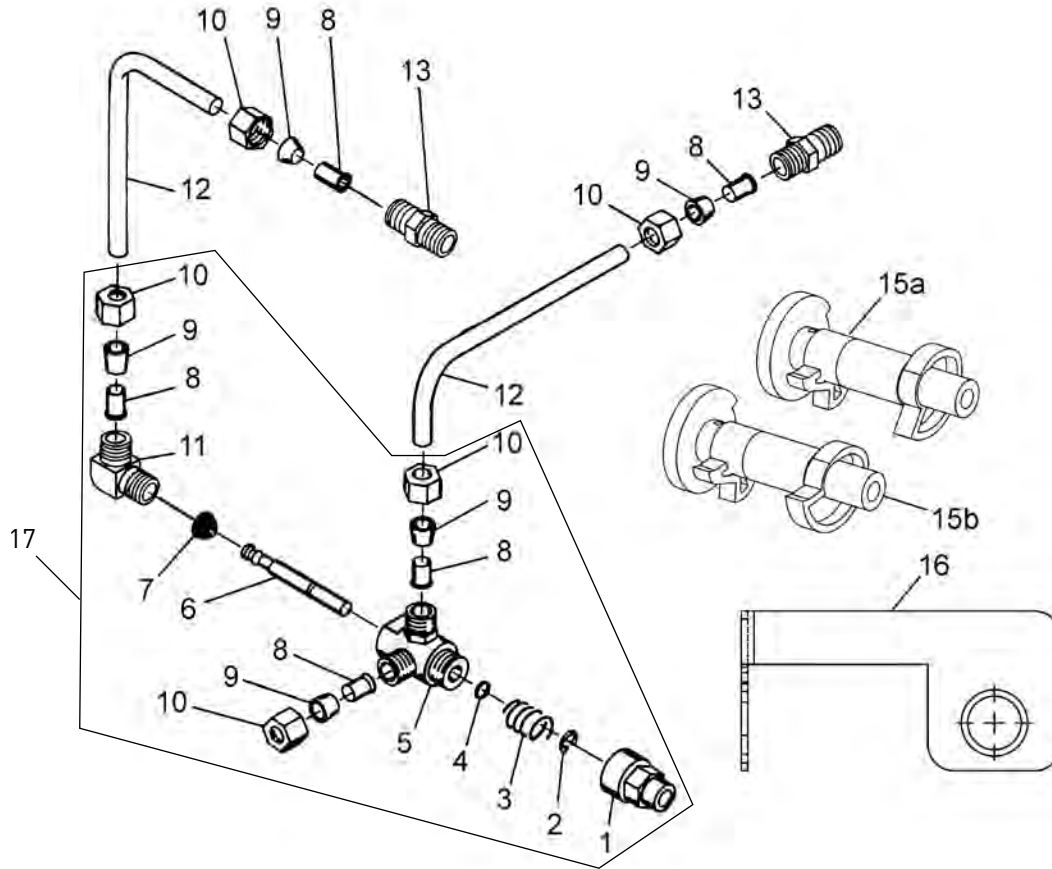
1-INCH STAINLESS STEEL METER ASSEMBLY



⚠ 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	61932-10	Meter Assy, 1 inch, Inline, Stainless Steel, NPT, Standard Range
	1	61932-11	Meter Assy, 1 inch, Inline, Stainless Steel, NPT, Extended Range
	1	61932-20	Meter Assy, 1 inch, Inline, Stainless Steel, BSP, Standard Range
	1	61932-21	Meter Assy, 1 inch, Inline, Stainless Steel, BSP, Extended Range
3	1	44022	Union, 1 inch, NPT (Optional on models with electronic controls)
	1	44023	Union, 1 inch, BSP (Optional on models with electronic controls)

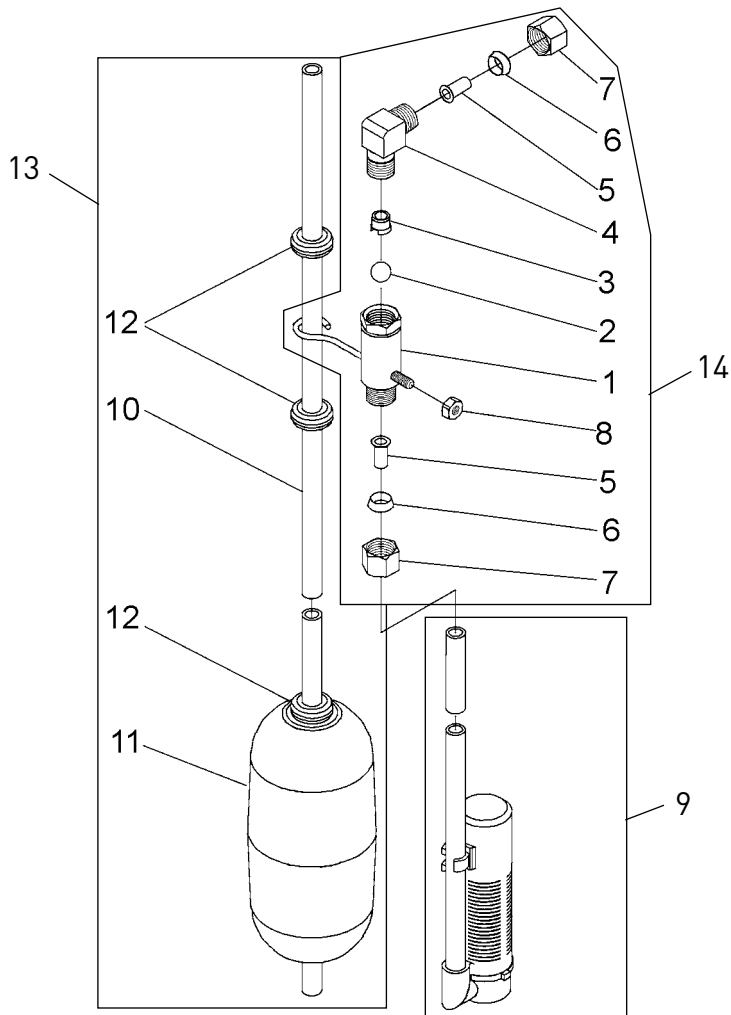
1600 SERVICE VALVE OPERATOR (NEW STYLE)



60150 Rev A

Item No.	QTY	Part No.	Description
1	1	11749	Guide, Brine Valve Stem
2	1	10250	Ring, Retaining
3	1	10249	Spring, Brine Valve
4	1	12550	Quad Ring, -009
5	2	10785	SVO Body Assy Brass Valves
6	1	12552	Brine Valve Stem, 1600
7	1	12626	Seat, Brine Valve
8	5	10332	Fitting, Insert, 3/8
9	5	10330	Fitting, Sleeve, 3/8-inch Celcon
10	5	10329	Fitting, Tube, 3/8 Nut, Brass
11	1	10328	Fitting, Elbow, 90 Deg 1/4 NPT x 3/8 Tube
12	2	12897	Tube, Fitting, 3/8 x 9 3/4
13	1	16730	Fitting, Male, 1/4 x 1
14	2	15415	Fitting, Insert, 1/2-inch Tube
15a	1	12472	Cam Assy, Tri-Stack, After RR
15b	1	15770	Cam Assy, Special Tri-Stack After Brine Fill
16	1	12114	Bracket, Motor Outboard, Coated
17	1	60150-01	Service Valve Operator Assy, 1600, New Style, Item Nos 1-11

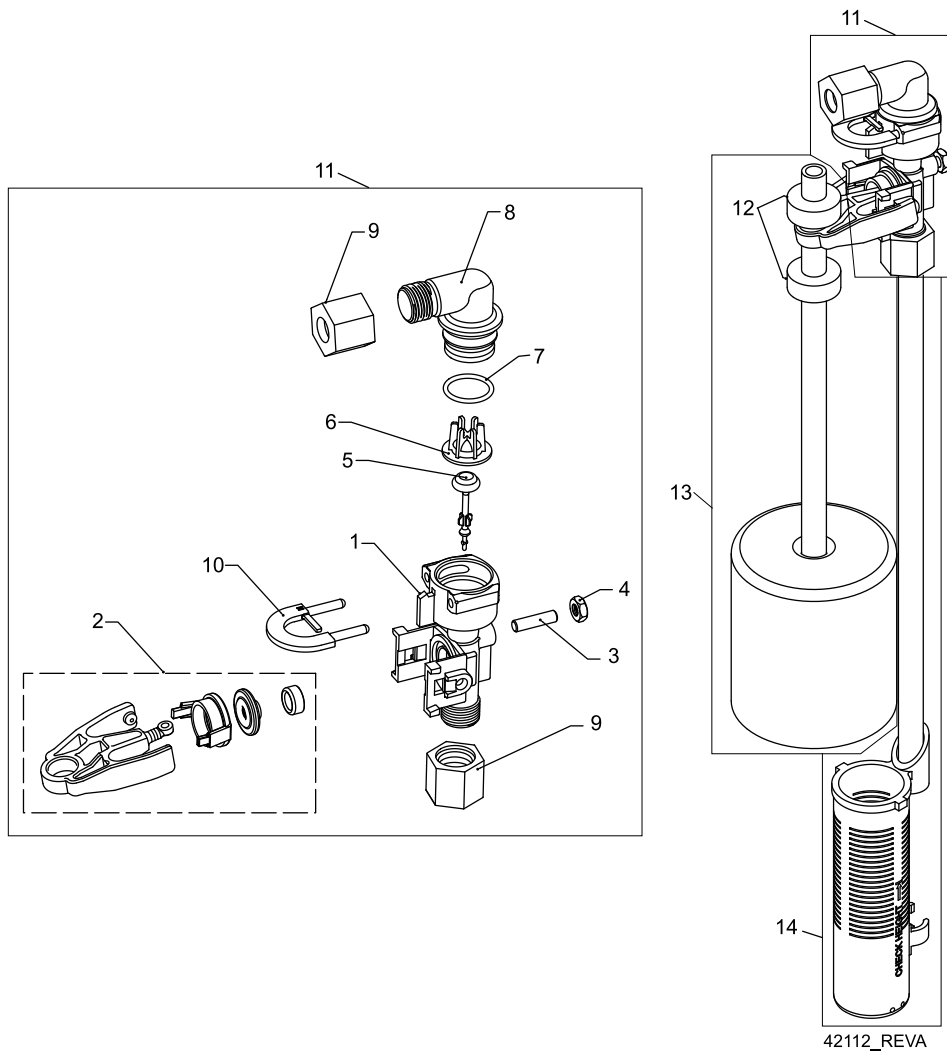
2300 SAFETY BRINE VALVE



60027 Rev D

Item No.	QTY	Part No.	Description	Item No.	QTY	Part No.	Description
1	1	60027-00	Safety Brine Valve, 2300, Less Elbow			60002-36	Air Check, #500, 36 inches Long
2	1	10138	Ball, 3/8-inch, Brass			60002-48	Air Check, #500, 48 inches Long
3	1	11566	Ball Stop, Slow Fill			60002-26.25	Air Check, #500, 26.25 inches Long
4	1	10328	Fitting, Elbow, 90 Deg. 1/4 NPT x 3/8 Tube			60002-33.25	Air Check, #500, 33.25 inches Long
5	1	10332	Fitting, Insert, 3/8	10	1	10149	Rod, Float, 30-inch
6	1	10330	Fitting, Sleeve, 3/8 Celcon	11	1	10700	Float Assy, White
7	1	10329	Fitting, Tube, 3/8 Nut, Brass	12	3	10150	Grommet, .30 Dia
8	1	10186	Nut, Hex, 10-32	13	1	60028-30	Float Assy, 2300, 30-inch White
9	1	60002-10	Air Check, #500, American Hydro	14	1	60027-FFA	Safety Brine Valve, 2300, Fitting Facing Arm
		60002-11.38	Air Check, #500, 11.38 inches Long			60027-FFS	Safety Brine Valve, 2300 Fitting Facing Stud
		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				

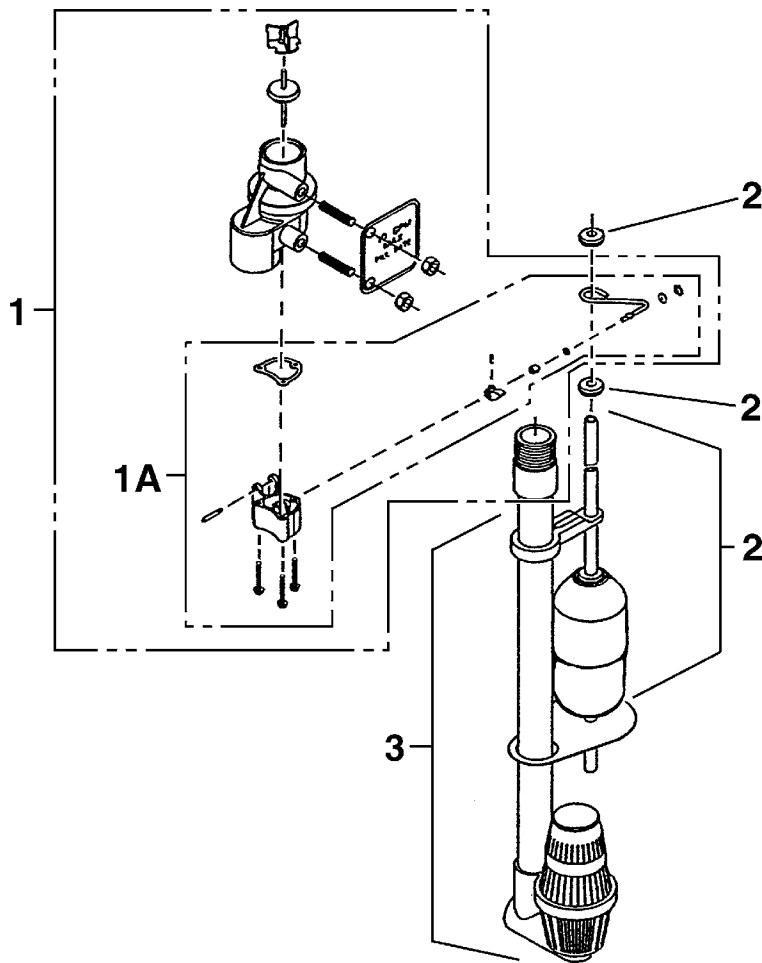
2310 SAFETY BRINE VALVE



42112_REVA

Item No.	QTY	Part No.	Description	Item No.	QTY	Part No.	Description
1	1	19645	Body, Safety Brine Valve, 2310	11	1	60014	Safety Brine Valve Assy, 2310
2	1	19803	Safety Brine Valve Assy	12	2	10150	Grommet, .30 Dia
3	1	19804	Screw, Sckt Hd, Set, 10-24 x .75	13	1	60068-8.06	Float Assy, 2310, w/8.06-inch Rod
4	1	19805	Nut, Hex, 10-24, Nylon Black			60068-10.5	Float Assy, 2310, w/10.5-inch Rod
5	1	19652-01	Poppet Assy, SBV w/O-ring			60068-11.5	Float Assy, 2310, w/11.5-inch Rod
6	1	19649	Flow Dispenser			60068-20	Float Assy, 2310, w/20-inch Rod
7	1	11183	O-ring, -017	14	1	60002-10	Air Check, #500, American Hydro
8	1	19647	Elbow, Safety Brine Valve			60002-11.38	Air Check, #500, 11.38 inches Long
9	2	19625	Nut Assy, 3/8-inch Plastic			60002-24	Air Check, #500, 24 inches Long
10	1	18312	Retainer, Drain			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 ASSEMBLY



42303 REV A

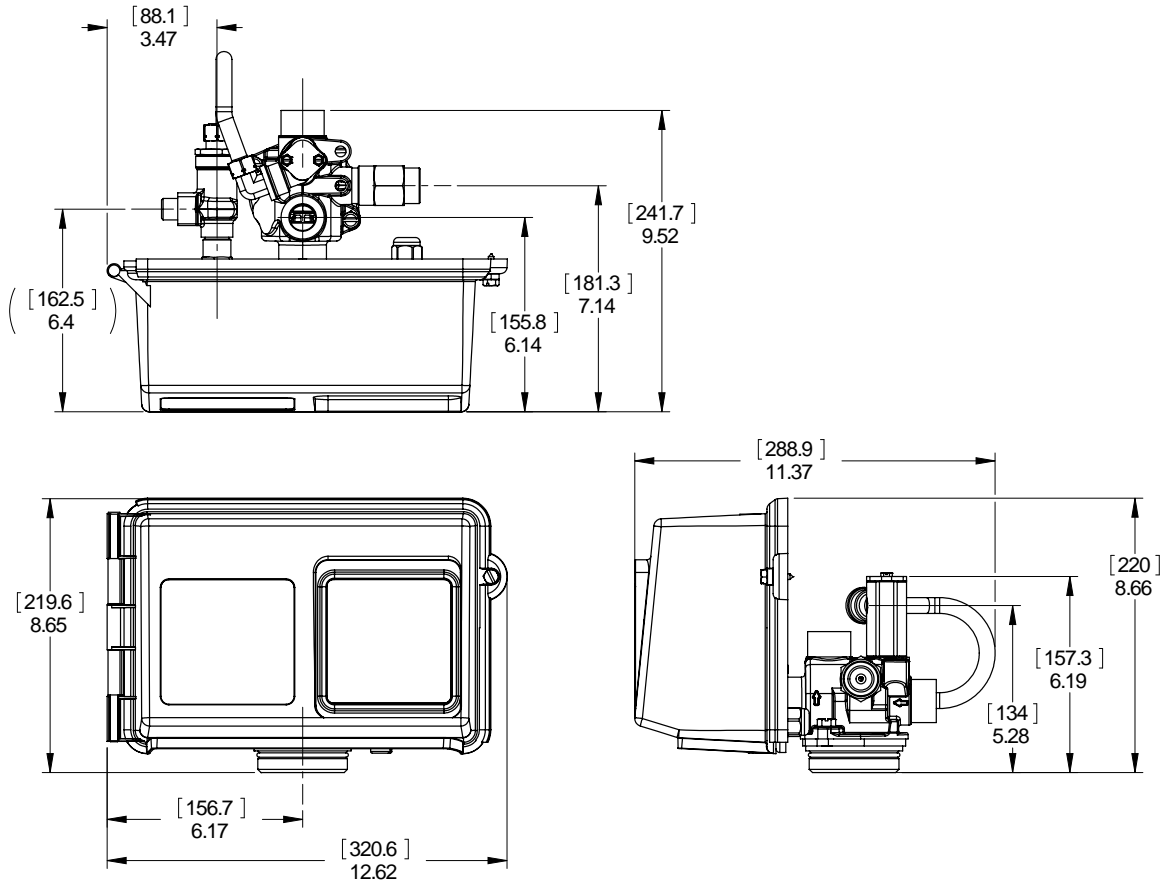
Item No.	QTY	Part No.	Description
1	1	60038	Safety Brine Valve, 2350
1A	1	61024	Actuator Assembly, 2350 Brine
2	1	60028-30	Float Assembly, 2350, 30-inch Wht
		60026-30SAN	Float Assembly, 2350, 30-inch, HW
3	1	60009-00	Air Check, #900, Commercial Less Fittings
		60009-01	Air Check, #900, Commercial, HW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

Not Shown:

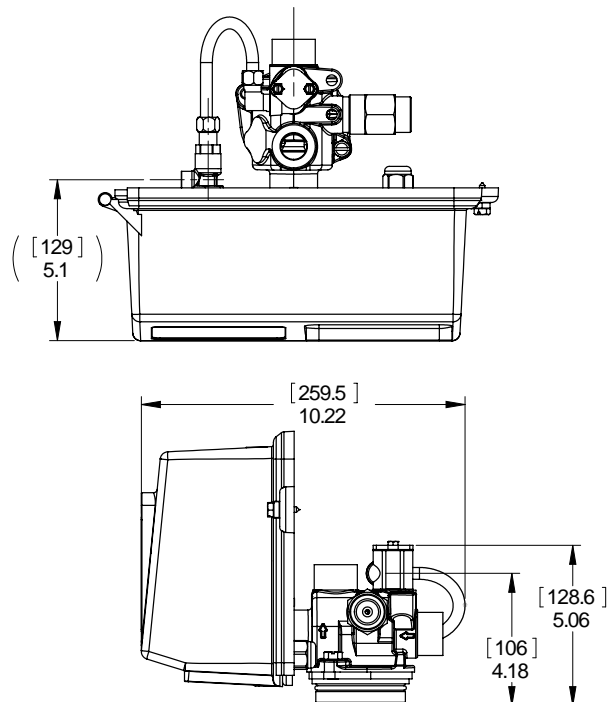
1	1	18603	Fitting Assembly, 900 Air Check 2350
1	1	18602	Fitting Assembly, 900 Air Check

2750 CONTROL VALVE DIMENSIONS

2750 MODEL WITH 1700 BRINE SYSTEM



2750 MODEL WITH 1600 BRINE SYSTEM



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.

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.

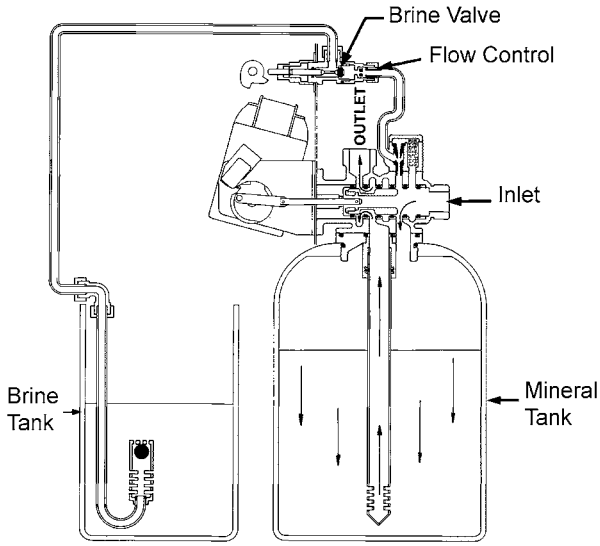
Correction: Pull cable out of meter cover and rotate manually. Program wheel must move without binding and clutch must give positive clicks when program wheel strikes regeneration stop. If it does not, replace timer.

Reason: Meter is not measuring flow.

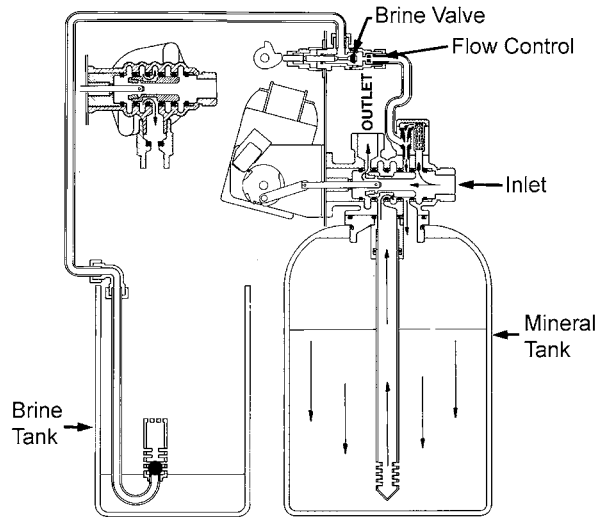
Correction: Check meter with meter checker.

WATER CONDITIONER FLOW DIAGRAMS

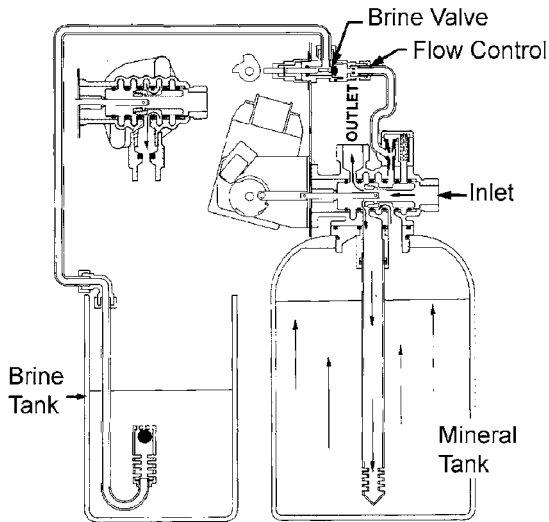
1 Service Position



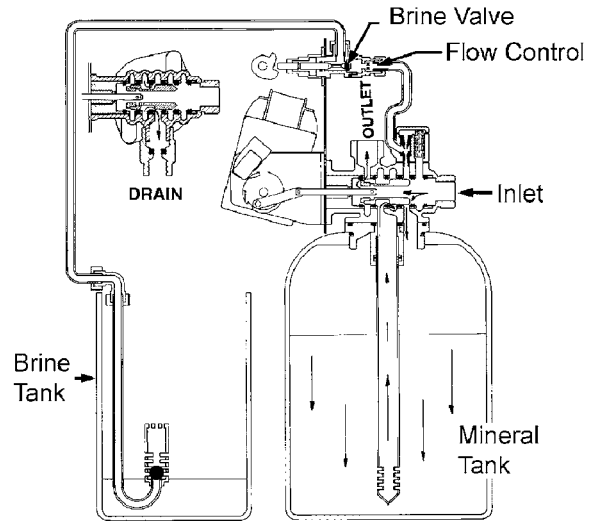
4 Slow Rinse Position



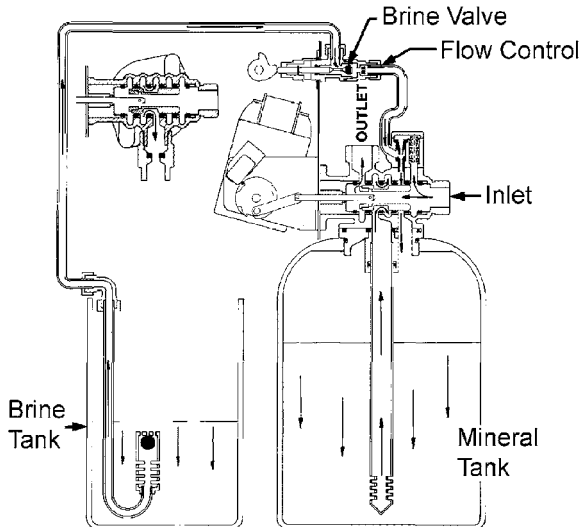
2 Backwash Position



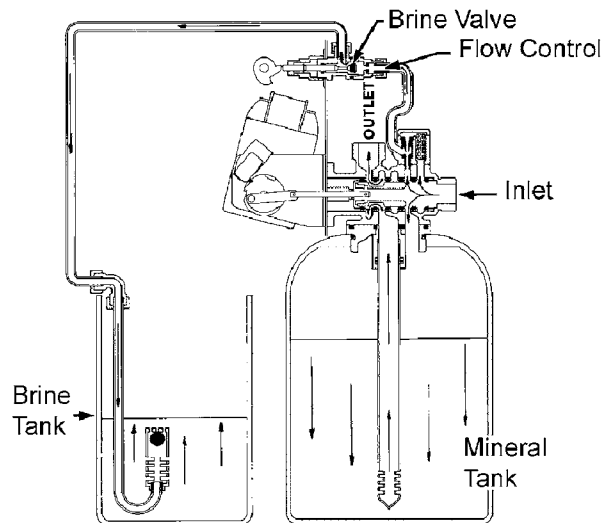
5 Rapid Rinse Position



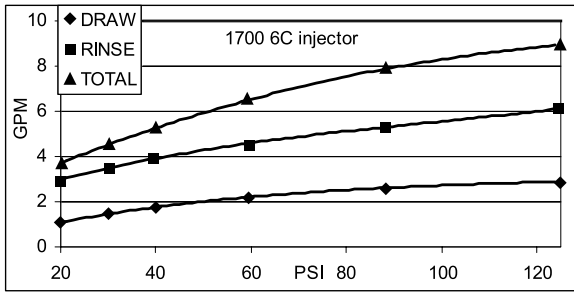
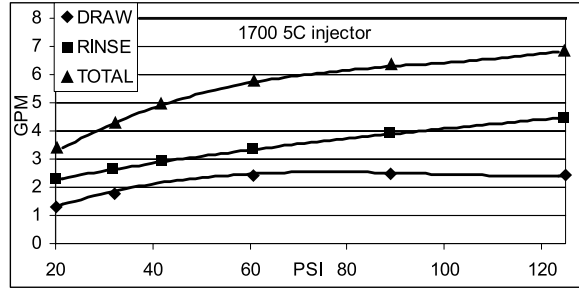
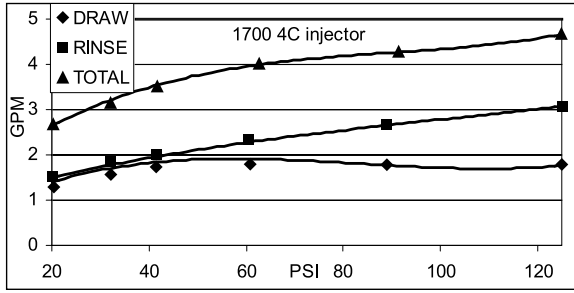
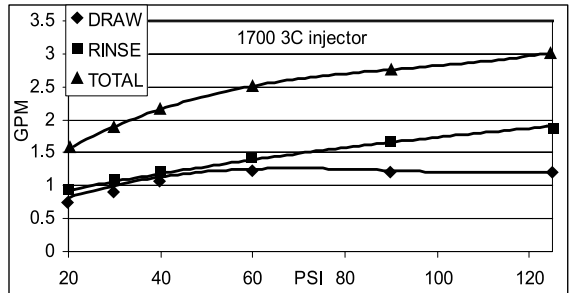
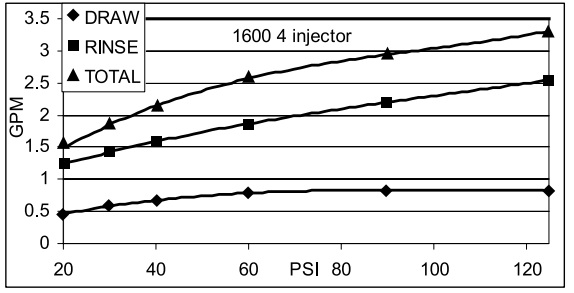
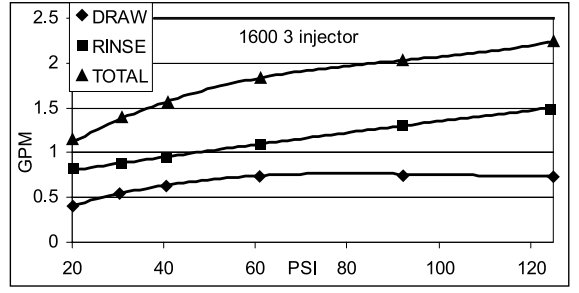
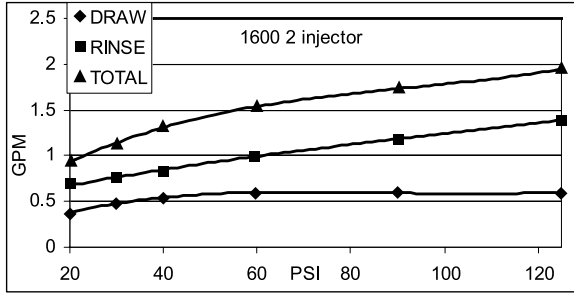
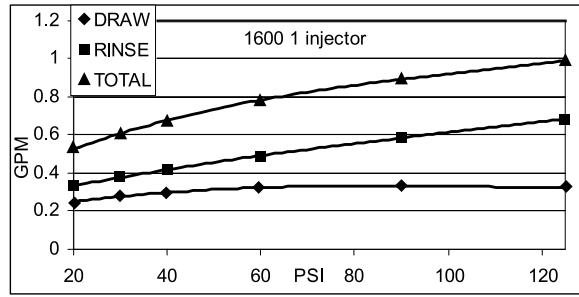
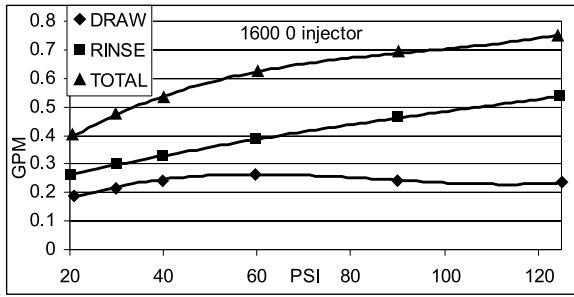
3 Brine Position



6 Brine Tank Fill Position



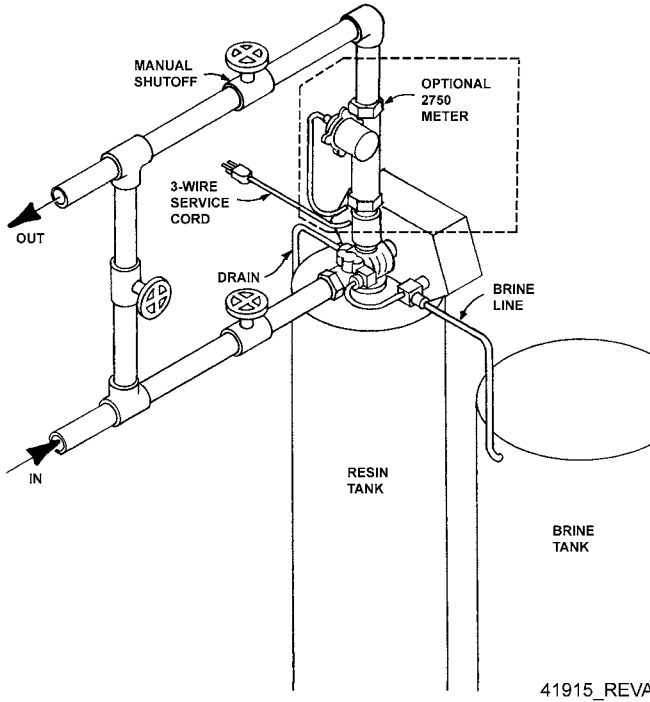
FLOW DATA & INJECTOR DRAW RATES



TR20391_REVA

SYSTEM #4

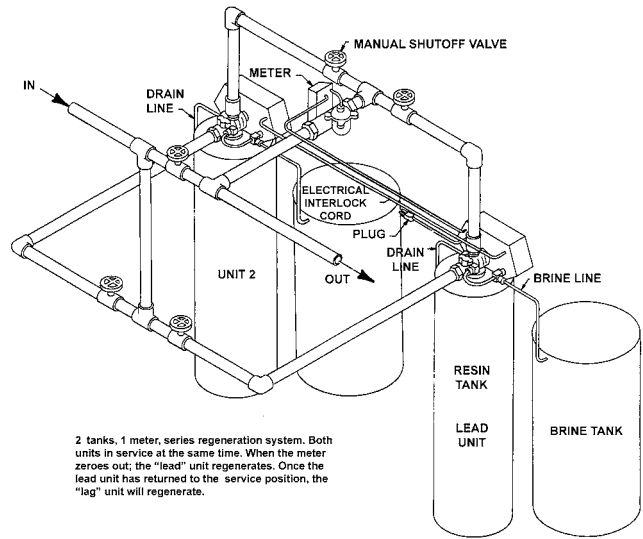
Typical Tank Installation with Optional Meter



41915_REVA

SYSTEM #6

Twin Series Regeneration Installation with a Remote Meter



2 tanks, 1 meter, series regeneration system. Both units in service at the same time. When the meter zeroes out, the "lead" unit regenerates. Once the lead unit has returned to the service position, the "lag" unit will regenerate.

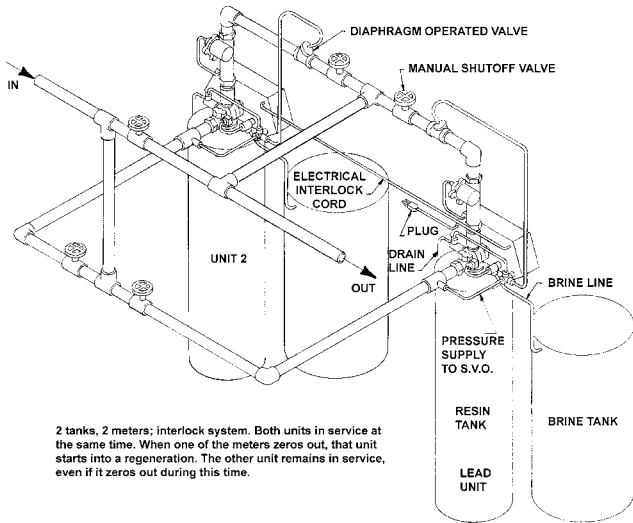
41916_REVA

SYSTEM #7

Twin Alternator Installation with a Remote Meter

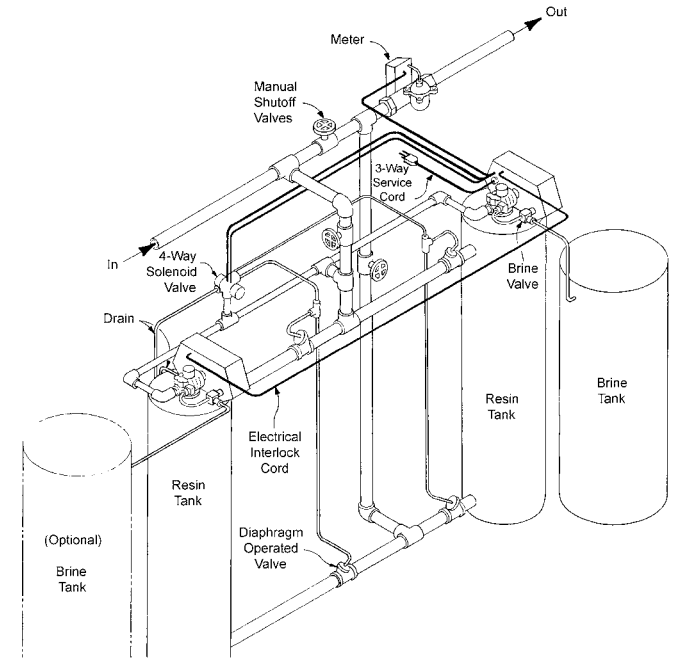
SYSTEM #5 INTERLOCK

Typical Twin Tank Installation with Optional 2 Meter Interlock and No Hard Water Bypass



2 tanks, 2 meters; interlock system. Both units in service at the same time. When one of the meters zeroes out, that unit starts into a regeneration. The other unit remains in service, even if it zeroes out during this time.

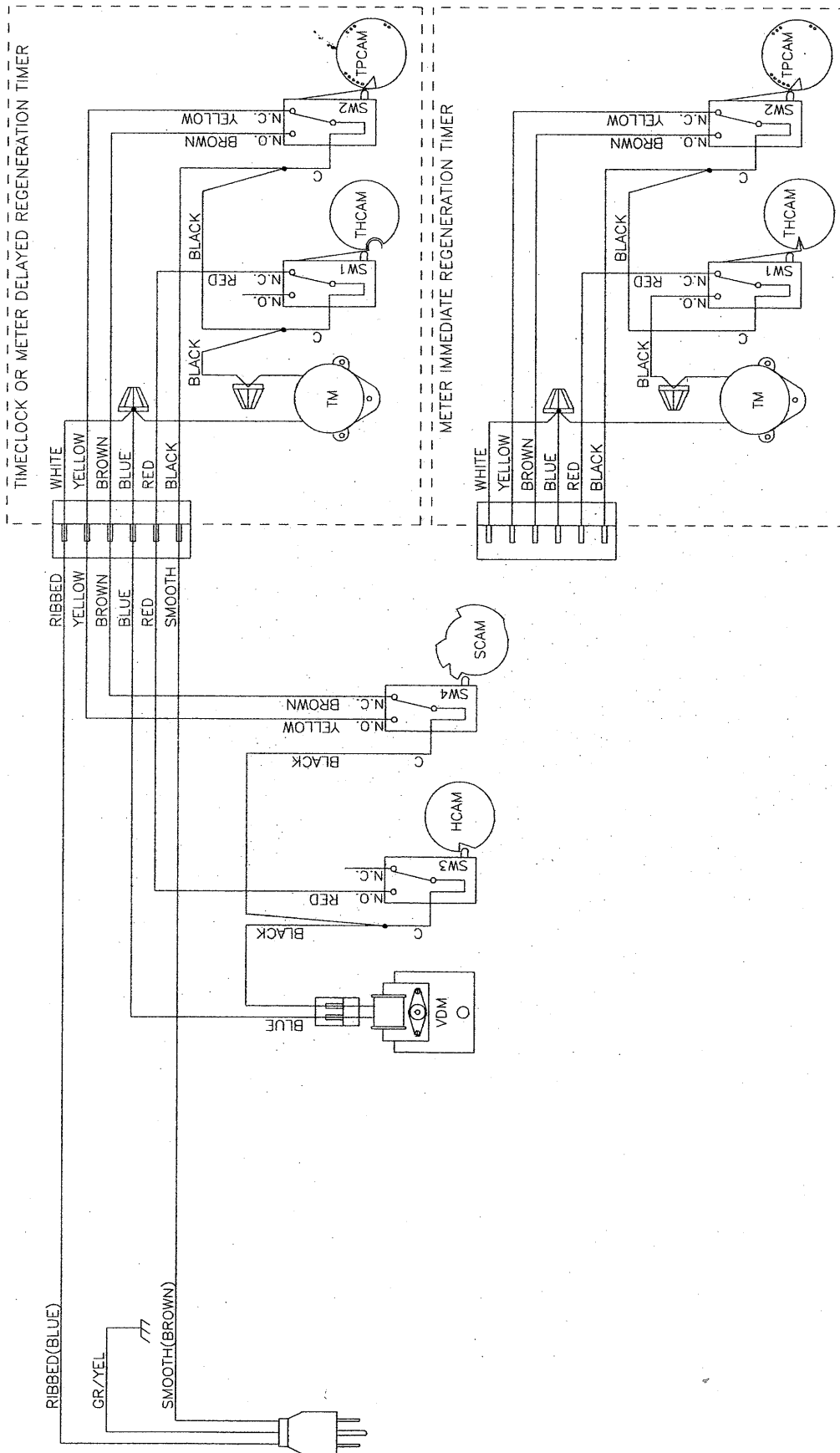
41917_REVA



2 tanks, 1 meter, alternator system. One unit in service, the other is on standby. When the meter zeroes out the unit in service goes into a regeneration cycle, the standby unit, goes into service.

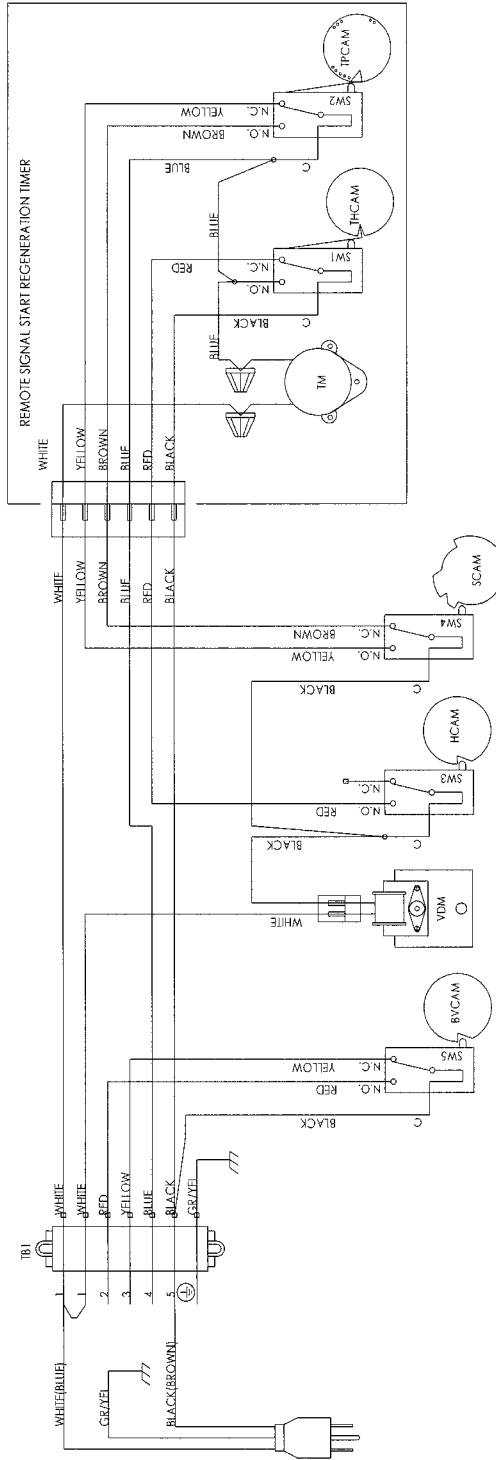
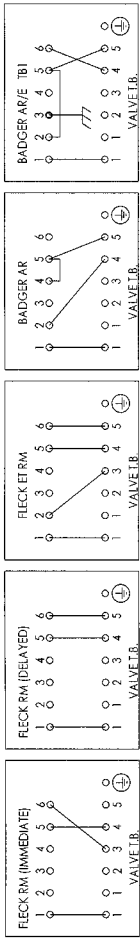
41918_REVA

SYSTEM #4 IMMEDIATE & DELAYED VALVE WIRING



SYSTEM #4 REMOTE SIGNAL START VALVE WIRING

REMOTE METER WIRING



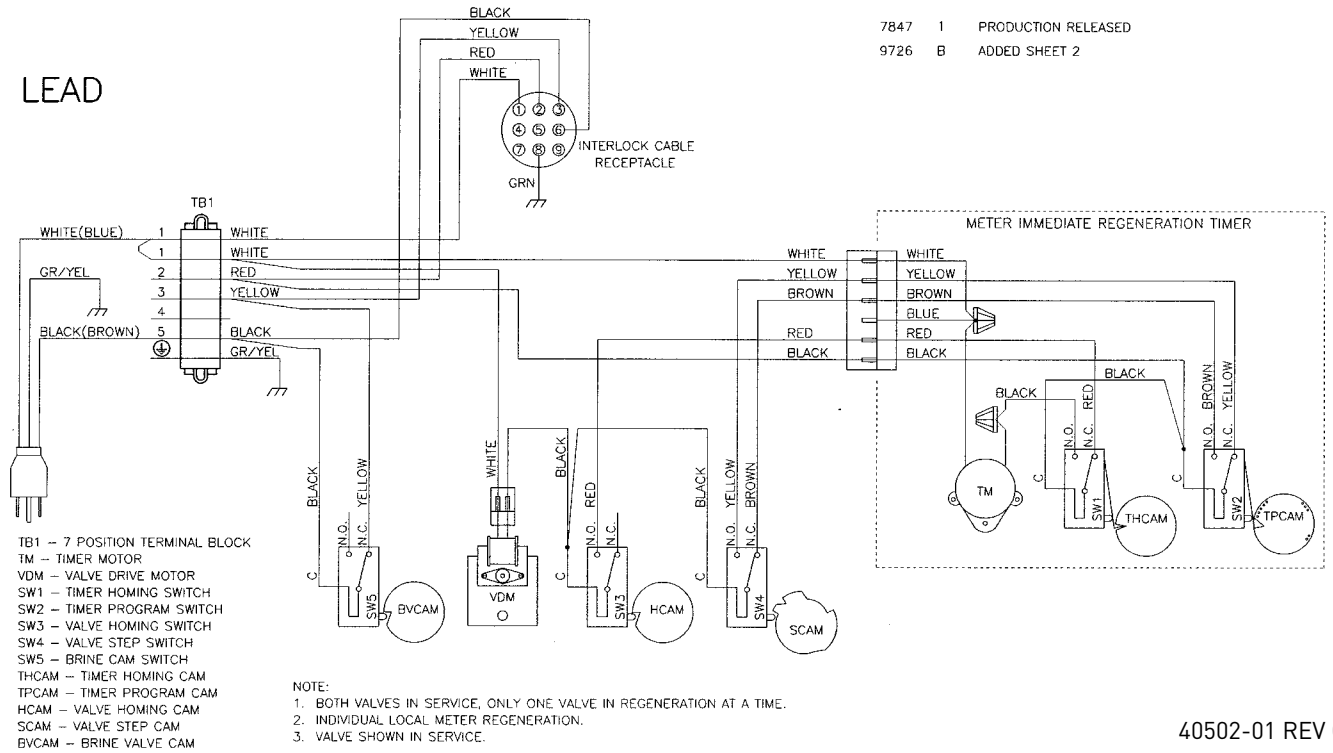
- TBI - 7 POSITION TERMINAL BLOCK
- TM - TIMER MOTOR
- VDM - VALVE MOTOR
- SW1 - TIMER HOMING SWITCH
- SW2 - TIMER PROGRAM SWITCH
- SW3 - VALVE HOMING SWITCH
- SW4 - VALVE STEP SWITCH
- SW5 - BRINE CAM SWITCH
- THCAM - TIMER HOMING CAM
- TPCAM - TIMER PROGRAM CAM
- HCCAM - VALVE HOMING CAM
- HPCAM - VALVE STEP CAM
- SCAM - BRINE VALVE CAM
- BYCAM - BRINE VALVE CAM

NOTE:
 1. SINGLE TANK REMOTE METER INITIATED DELAYED, OR IMMEDIATE REGENERATION.
 2. WITH 24V VALVES THE POWER CORD IS REPLACED WITH BLUE AND WHITE WIRES (WIRE BLUE TO TBI #5, WHITE TO TBI #1).
 3. VALVE SHOWN IN SERVICE POSITION.

SYSTEM #5 DUPLEX VALVE WIRING

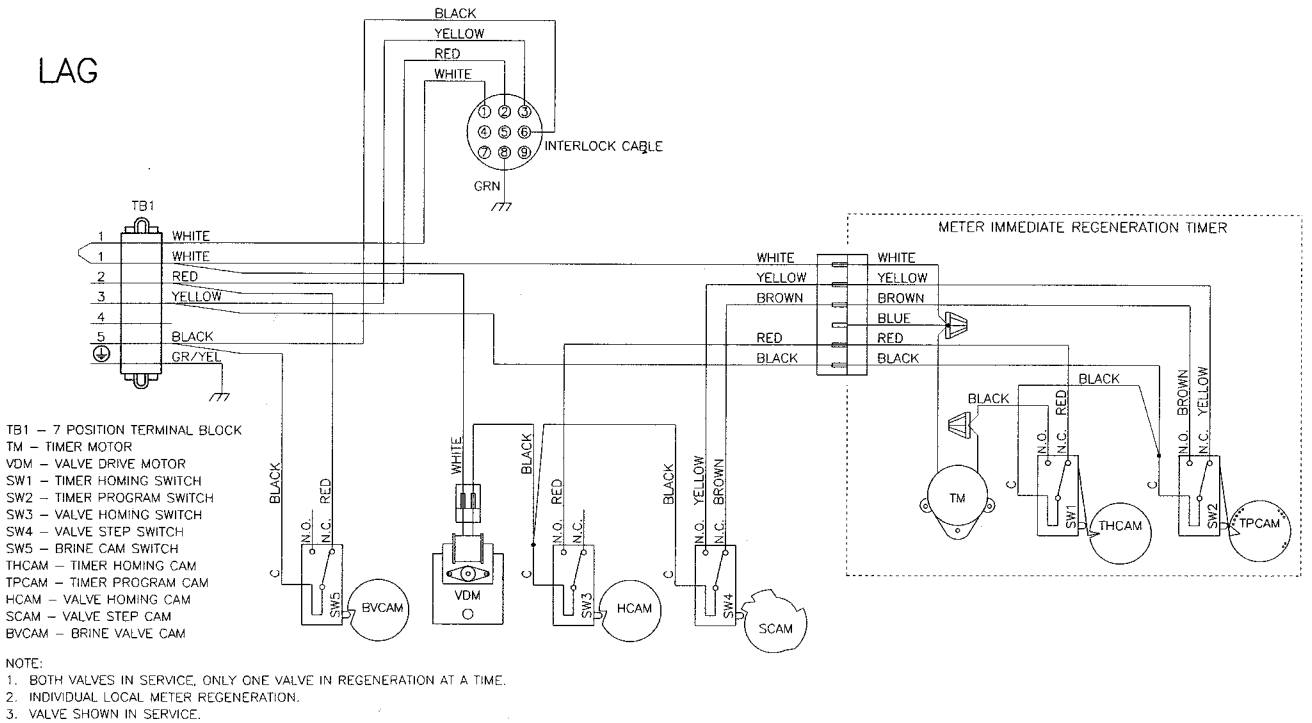
7847 1 PRODUCTION RELEASED
9726 B ADDED SHEET 2

LEAD



40502-01 REV C

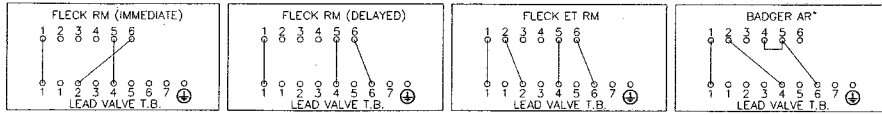
LAG



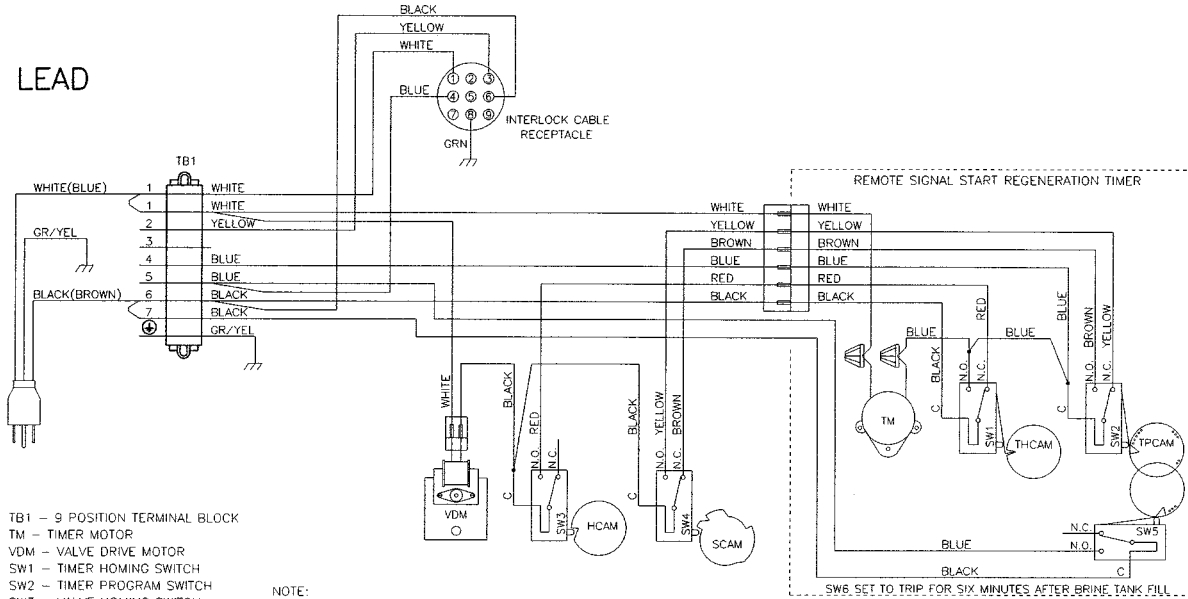
40502-02 REV C

SYSTEM #6 DUPLEX VALVE WIRING

REMOTE METER WIRING

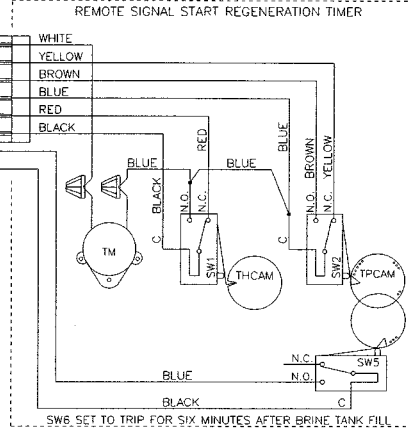


LEAD



- TB1 - 9 POSITION TERMINAL BLOCK
- TM - TIMER MOTOR
- VDM - VALVE DRIVE MOTOR
- SW1 - TIMER HOMING SWITCH
- SW2 - TIMER PROGRAM SWITCH
- SW3 - VALVE HOMING SWITCH
- SW4 - VALVE STEP SWITCH
- SW5 - AUXILIARY TIMER SWITCH
- THCAM - TIMER HOMING CAM
- TPCAM - TIMER PROGRAM CAM
- HCAM - VALVE HOMING CAM
- SCAM - VALVE STEP CAM

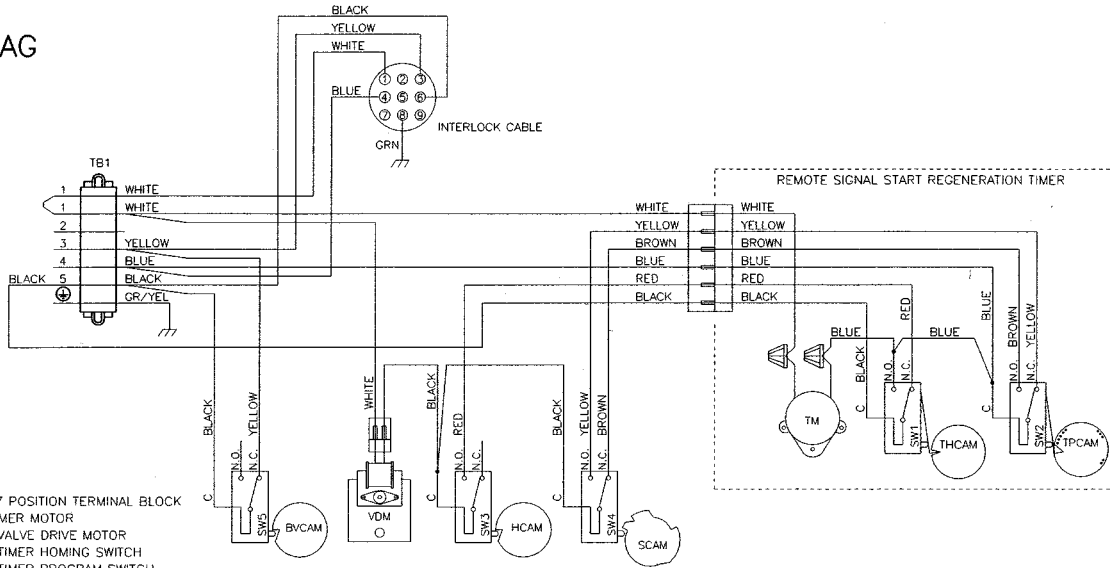
- NOTE:
1. TWO TANK INTERLOCKED, SINGLE REMOTE METER, SERIES REGENERATION.
 2. BOTH TANKS NORMALLY IN SERVICE.
 3. ONLY ONE TANK IN REGENERATION, THE OTHER REMAINS IN SERVICE.
 4. LEAD VALVE REGENERATES FIRST, FOLLOWED IMMEDIATELY BY LAG VALVE.
 5. WITH 24V VALVES THE POWER CORD IS REPLACED WITH BLUE AND WHITE WIRES (WIRE BLUE TO TB1 #6, WHITE TO TB1 #1).
 6. VALVE SHOWN IN SERVICE POSITION.



SW6 SET TO TRIP FOR SIX MINUTES AFTER BRINE TANK FILL

13632-01 REV L

LAG



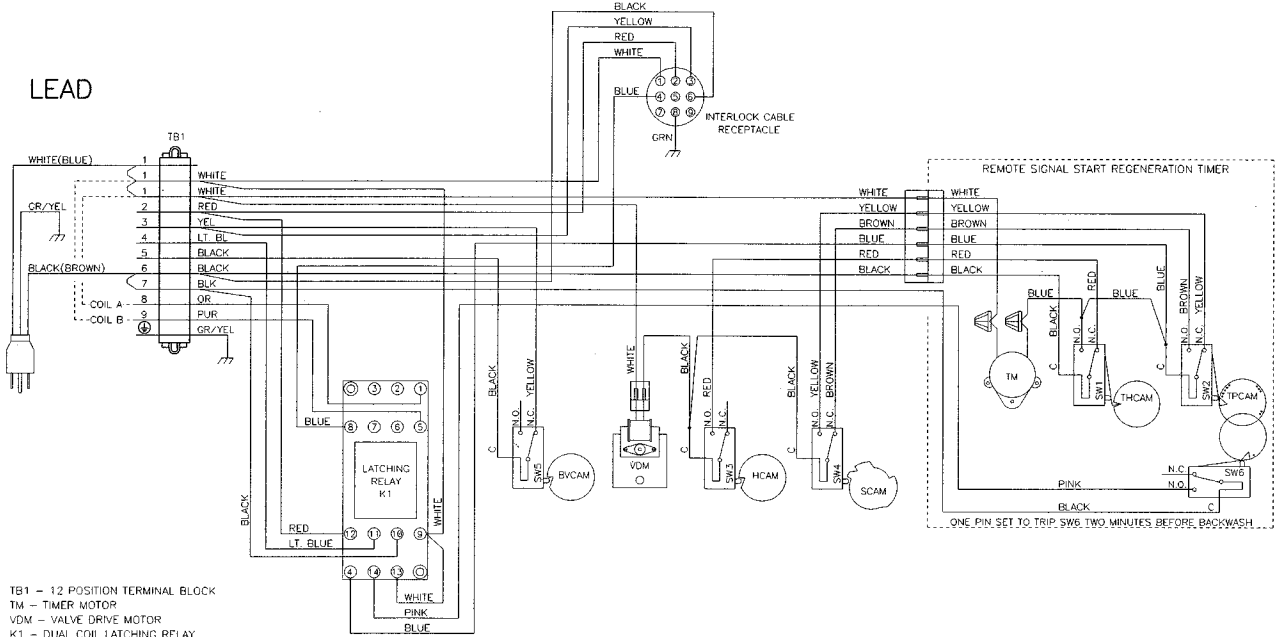
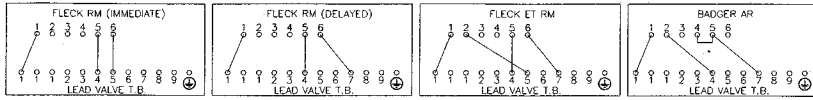
- TB1 - 7 POSITION TERMINAL BLOCK
- TM - TIMER MOTOR
- VDM - VALVE DRIVE MOTOR
- SW1 - TIMER HOMING SWITCH
- SW2 - TIMER PROGRAM SWITCH
- SW3 - VALVE HOMING SWITCH
- SW4 - VALVE STEP SWITCH
- SW5 - BRINE CAM SWITCH
- THCAM - TIMER HOMING CAM
- TPCAM - TIMER PROGRAM CAM
- HCAM - VALVE HOMING CAM
- SCAM - VALVE STEP CAM
- BVCAM - BRINE VALVE CAM

- NOTE:
1. TWO TANK INTERLOCKED, SINGLE REMOTE METER, SERIES REGENERATION.
 2. BOTH TANKS NORMALLY IN SERVICE.
 3. ONLY ONE TANK IN REGENERATION, THE OTHER REMAINS IN SERVICE.
 4. LEAD VALVE REGENERATES FIRST, FOLLOWED IMMEDIATELY BY LAG VALVE.
 5. WITH 24V VALVES, THE POWER CORD IS REPLACED WITH BLUE AND WHITE WIRES (WIRE BLUE TO TB1 #6, WHITE TO TB1 #1).
 6. VALVE SHOWN IN SERVICE POSITION.

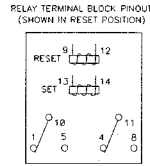
13632-02 REV L

SYSTEM #7 DUPLEX 24V/120V 3-WAY VALVE WIRING

REMOTE METER WIRING

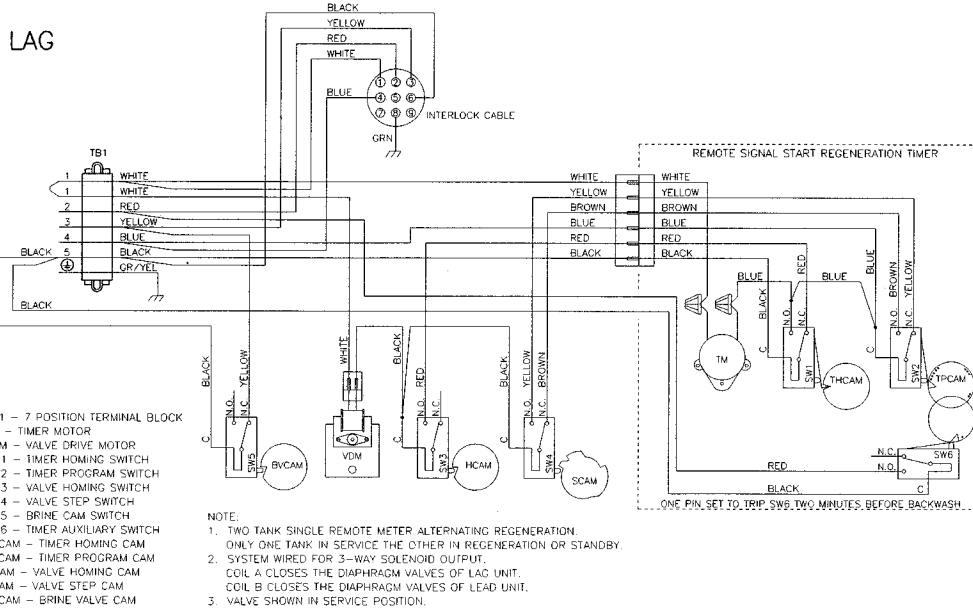


- TB1** - 12 POSITION TERMINAL BLOCK
TM - TIMER MOTOR
VDM - VALVE DRIVE MOTOR
K1 - DUAL COIL LATCHING RELAY
 - 24V P/N 17918
 - 120V P/N 16897
SW1 - TIMER HOMING SWITCH
SW2 - TIMER PROGRAM SWITCH
SW3 - VALVE HOMING SWITCH
SW4 - VALVE STEP SWITCH
SW5 - BRINE CAM SWITCH
SW6 - TIMER AUXILIARY SWITCH
THCAM - TIMER HOMING CAM
TPCAM - TIMER PROGRAM CAM
HCCAM - VALVE HOMING CAM
SCAM - VALVE STEP CAM
BVCAM - BRINE VALVE CAM



- NOTE:**
 1. TWO TANK SINGLE REMOTE METER ALTERNATING REGENERATION.
 ONLY ONE TANK IN SERVICE THE OTHER IN REGENERATION OR STANDBY.
 2. SYSTEM WIRED FOR 3-WAY SOLENOID OUTPUT.
 COIL A CLOSES THE DIAPHRAGM VALVES OF LAG UNIT.
 COIL B CLOSES THE DIAPHRAGM VALVES OF LEAD UNIT.
 3. VALVE SHOWN IN SERVICE POSITION.

19138-01 REV E



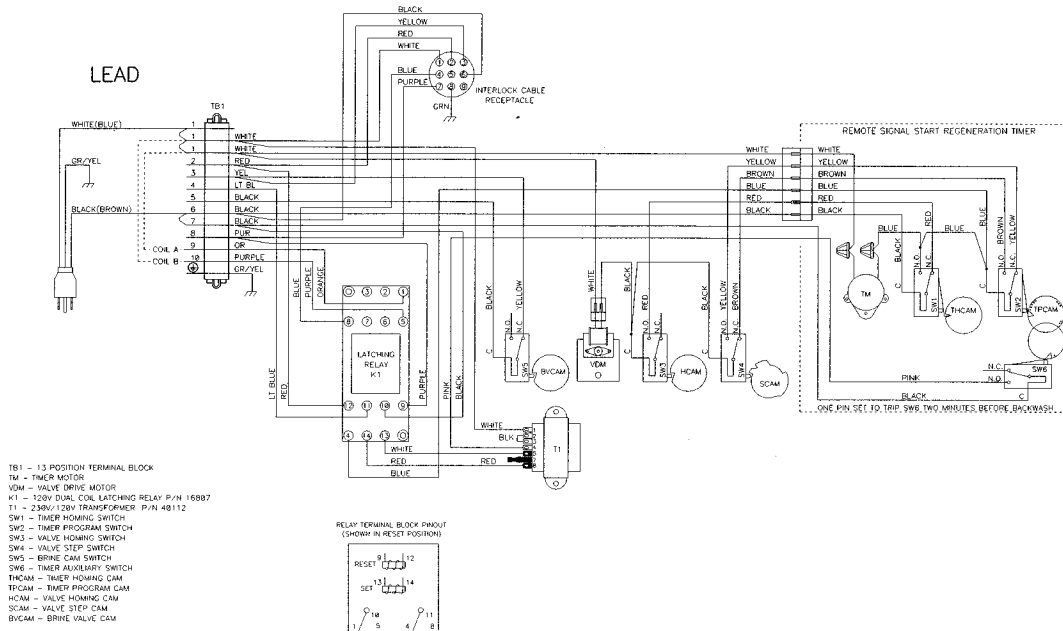
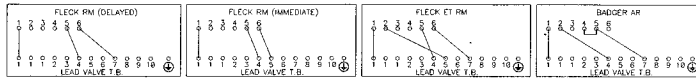
- TB1** - 7 POSITION TERMINAL BLOCK
TM - TIMER MOTOR
VDM - VALVE DRIVE MOTOR
SW1 - TIMER HOMING SWITCH
SW2 - TIMER PROGRAM SWITCH
SW3 - VALVE HOMING SWITCH
SW4 - VALVE STEP SWITCH
SW5 - BRINE CAM SWITCH
SW6 - TIMER AUXILIARY SWITCH
THCAM - TIMER HOMING CAM
TPCAM - TIMER PROGRAM CAM
HCCAM - VALVE HOMING CAM
SCAM - VALVE STEP CAM
BVCAM - BRINE VALVE CAM

- NOTE:**
 1. TWO TANK SINGLE REMOTE METER ALTERNATING REGENERATION.
 ONLY ONE TANK IN SERVICE THE OTHER IN REGENERATION OR STANDBY.
 2. SYSTEM WIRED FOR 3-WAY SOLENOID OUTPUT.
 COIL A CLOSES THE DIAPHRAGM VALVES OF LAG UNIT.
 COIL B CLOSES THE DIAPHRAGM VALVES OF LEAD UNIT.
 3. VALVE SHOWN IN SERVICE POSITION.

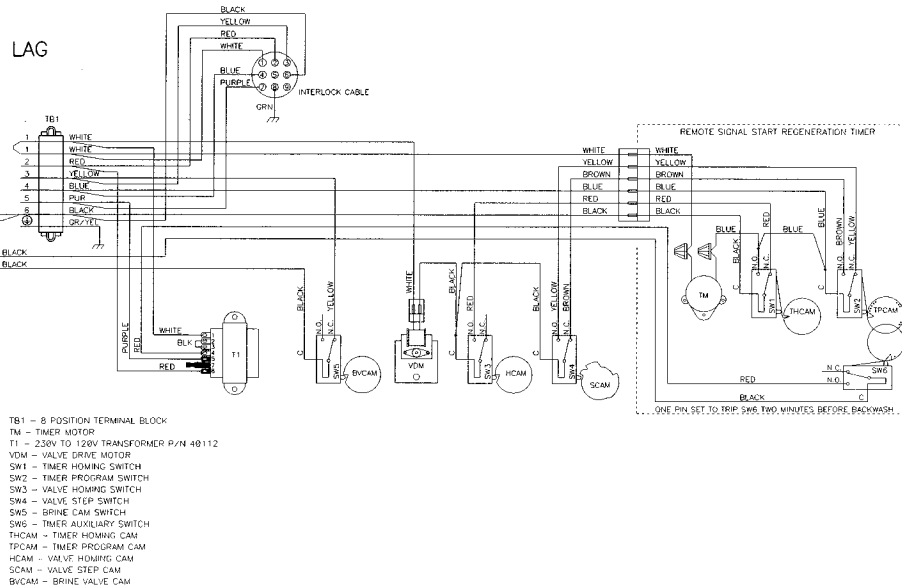
19138-02 REV E

SYSTEM #7 DUPLEX 230V 3-WAY VALVE WIRING

REMOTE METER WIRING



17727-01 REV E



17727-02 REV E

SERVICE ASSEMBLIES

24 Hour Gear Assembly:

19205	.....	Gear Assy, 24 Hour, Silver, 5600, 12AM
60519-02	.....	Gear Assy, 24 Hour, 2 Times a Day Regen
60519-03	.....	Gear Assy, 24 Hour, 3 Times a Day Regen
60519-04	.....	Gear Assy, 24 Hour, 4 Times a Day Regen
60519-06	.....	Gear Assy, 24 Hour, 6 Times a Day Regen

Air Checks

60002-34	.....	Air Check, #500, 34 inch Long
60003-34	.....	Air Check, #500, HW, 34-inch Tube
60009-00	.....	Air Check, #900, Commercial, Less Fittings
60009-01	.....	Air Check, #900, Commercial, HW Less Fittings

Brine Line Flow (BLFC):

60010-25	.....	BLFC, 1650, .25 gpm
60010-50	.....	BLFC, 1650, .50 gpm
60010-100	.....	BLFC, 1650, 1.00 gpm
60020-25	.....	BLFC, 1600, .25 gpm
60020-50	.....	BLFC, 1600, .50 gpm
60010-100	.....	BLFC, 1600, 1.00 gpm

Brine Valves:

60011-xx	.....	1650 Brine Valve
60029-xx	.....	1600 Brine Valve
60034-xx	.....	1700 Brine Valve
60604-xx	.....	1710 Brine Valve

-xx is for flow button size

Cam Assemblies:

60160-15	Drive Cam Assy, Std, Blue
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Drain Line Flow Controls:

60365-xx	Brass DLFC 3/4-inch NPT
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Drive Assemblies:

60050-21	Drive Assy, 2750, STF, 120V Softener
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Injector Assemblies:

60480-xx	1600 Injector Assembly
60485-xx	1600 Injector Assembly
60381-xx	.....	1700 Injector Assembly
60486-xx	.....	1700 Injector Assembly

-xx is for the size injector used

Meters:

60391	.....	2750 Meter Assy, Std, Plastic Cap, 1-inch
60392	.....	2750 Meter Assy, Ext, Plastic Cap, 1-inch

Covers:

60232-110	.....	Cover, Designer, 1pc, Black
60219-02	.....	Cover Assy, Enviromental, Black

Piston, Seal, and Spacer Kits:

61670-01	.....	Piston Kit, 2750/2750
61670-02	.....	Piston Kit, 2510, 2750, NHWBP
62044	.....	Piston Kit, 2750 Hot Water
61671-02	.....	NHWBP Conversion Kit, 2510

Auxillary Switch Kit:

60320-12	.....	Switch Kit, 1500 through 2850
60320-02	.....	Switch Kit, 3200/9000 Timer

Program Wheel Assemblies:

60405-20	.....	Program Wheel, w/3/4-inch Ext Label 1-1/2 inch Std
60405-30	.....	Program Wheel, w/1-inch Std
60405-40	.....	Program Wheel, w/1-inch Ext
60405-70	.....	Program Wheel, w/1-1/2 inch EXT

Safety Brine Valves

60014	.....	Safety Brine Valve Assy, 2310
60038	.....	Safety Brine Valve, 2350
60027-FFA	.....	Safety Brine Valve Body, 2300 Fitting Facing Arm
60027-FFS	.....	Safety Brine Valve Body Fitting Facing Stud
60026-30	.....	Float Assy, 2350, 30-inch Red/Wht
60026-30SAN	.....	60026-30SAN Float Assy, 2350, 30-inch HW
60028-30	.....	Float Assy, 2300, 30-inch , Blue/White
60068-30	.....	Float Assy, 2310, w/30-inch Rod

Sales & Service Aids:

40737	.....	Literature, Spec Sheet
42327	.....	Literature, 2750 D/F
40717	.....	Literature, Catalog Assy, PWT Residential/Commercial

Skipper Wheel Assemblies:

14860	Skipper Wheel Assy, 7 Day
14381	Skipper Wheel Assy, 12 Day

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