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JOB SPECIFICATION SHEET

Job Number: _____

Model Number: _____

Water Hardness: _____ ppm or gpg

Capacity Per Unit: _____

Mineral Tank Size: _____ Diameter: _____ Height: _____

Salt Setting per Regeneration: _____

- Type of Timer:**
 - 7 Day or 12 Day
 - Meter Initiated
-
- Meter Size:**
 - 3/4" Std Range (125 - 2,100 gallon setting)
 - 3/4" Ext Range (625 - 10,625 gallon setting)
 - 1" Std Range (310 - 5,270 gallon setting)
 - 1" Ext Range (1,150 - 26,350 gallon setting)
 - 1-1/2" Std Range (625 - 10,625 gallon setting)
 - 1-1/2" Ext Range (3,125 - 53,125 gallon setting)
 - 2" Std Range (1,250 - 21,250 gallon setting)
 - 2" Ext Range (6,250 - 106,250 gallon setting)
 - 3" Std Range (3,750 - 63,750 gallon setting)
 - 3" Ext Range (18,750 - 318,750 gallon setting)
 - Electronic _____ Pulse Count _____ Meter Size _____
- System Type:**
 - System #4: 1 Tank, 1 Meter, Immediate, or Delayed Regeneration
 - System #4: Time Clock
 - System #4: Twin Tank
 - System #5: 2-5 Tanks, Interlock Mechanical
2-4 Tanks, Interlock Electronic
Meter per unit for Mechanical and Electronic
 - System #6: 2-5 Tanks, 1 Meter, Series Regeneration, Mechanical
2-4 Tanks, 1 Meter, Series Regeneration, Electronic
 - System #7: 2-5 Tanks, 1 Meter, Alternating Regeneration,
Mechanical
2 Tanks only, 1 Meter, Alternating Regeneration,
Electronic
 - System #9: Electronic Only, 2-4 Tanks, Meter per Valve, Alternating
 - System #14: Electronic Only, 2-4 Tanks, Meter per Valve. Brings
units on and offline based on flow.
- Backwash: _____ Minutes
 - Brine and Slow Rinse: _____ Minutes
 - Rapid Rinse: _____ Minutes
 - Brine Tank Refill: _____ Minutes
 - Pause Time: _____ Minutes
 - Second Backwash: _____ Minutes
- _____ gpm
- Brine Line Flow Controller:** _____ gpm
- Injector Size#:** _____
- Piston Type:**
 - Hard Water Bypass
 - No Hard Water Bypass

INSTALLATION

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

An uninterrupted alternating current (A/C) supply is required. Note: Other voltages are available. Please make sure your voltage supply is compatible with your unit before installation.

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.

The softener should be located close to a drain to prevent air breaks and back flow.

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

CAUTION

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" (13 mm). Backwash flow rates in excess of 7 gpm (26.5 Lpm) or length in excess of 20' (6 m) require 3/4" (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. Solder joints near the drain must be done prior to connecting the Drain Line Flow Control fitting (DLFC). Leave at least 6" (15 cm) between the DLFC and solder joints when soldering pipes that are connected on the DLFC. Failure to do this could cause interior damage to the DLFC.
7. Teflon 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.
8. Make sure that the floor is clean beneath the salt storage tank and that it is level.
9. Place approximately 1" (25 mm) of water above the grid plate. If a grid is not utilized, fill to the top of the air check

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.

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.

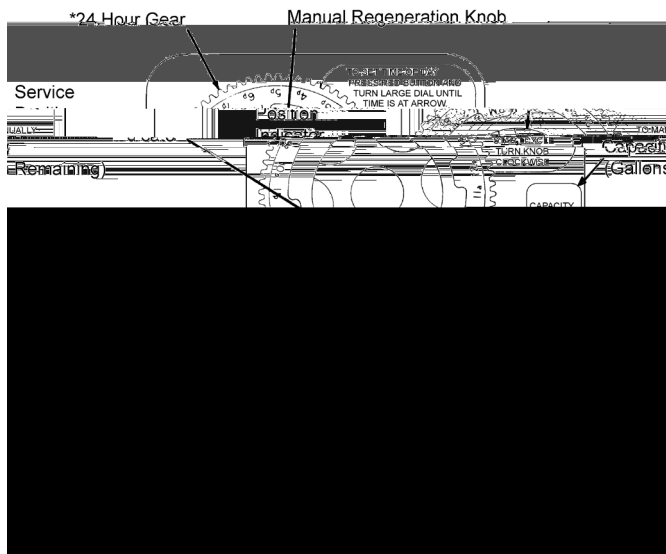
Calculate the gallon capacity of the system, subtract the necessary reserve requirement and set the gallons available opposite the small white dot on the program wheel gear (Figure 3).

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 opposite the time of day pointer.
3. Release the red button to again engage the drive gear.

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

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.



61502-3200 Rev A

Figure 3

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.

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.

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.

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.

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.

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.

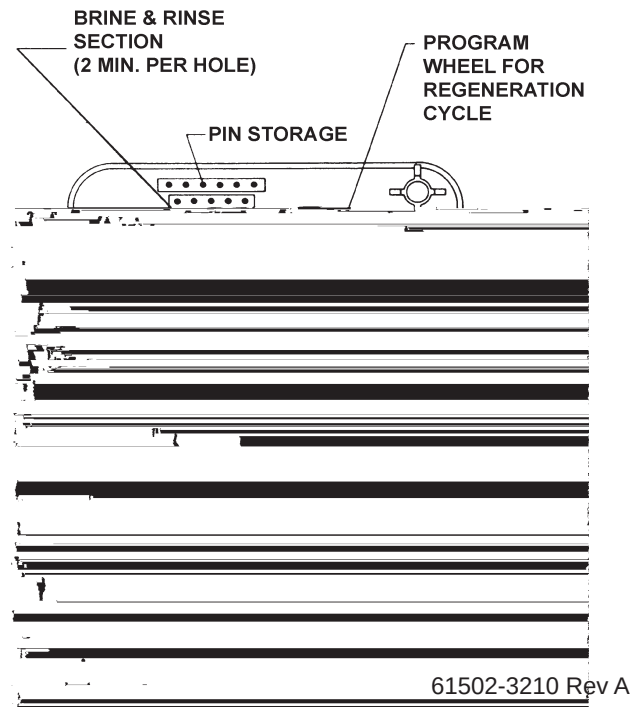
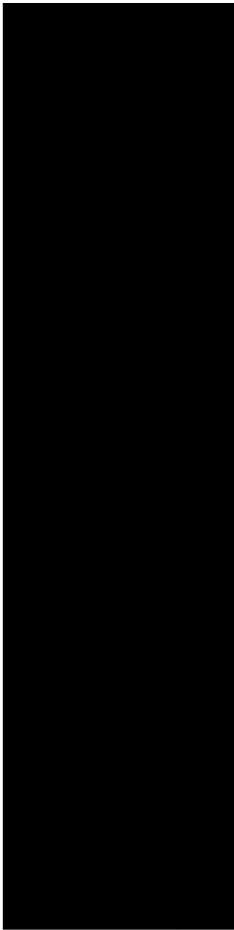


Figure 4



32

33

34

2

17

18

1

31

30

8

31

3

4

3

5

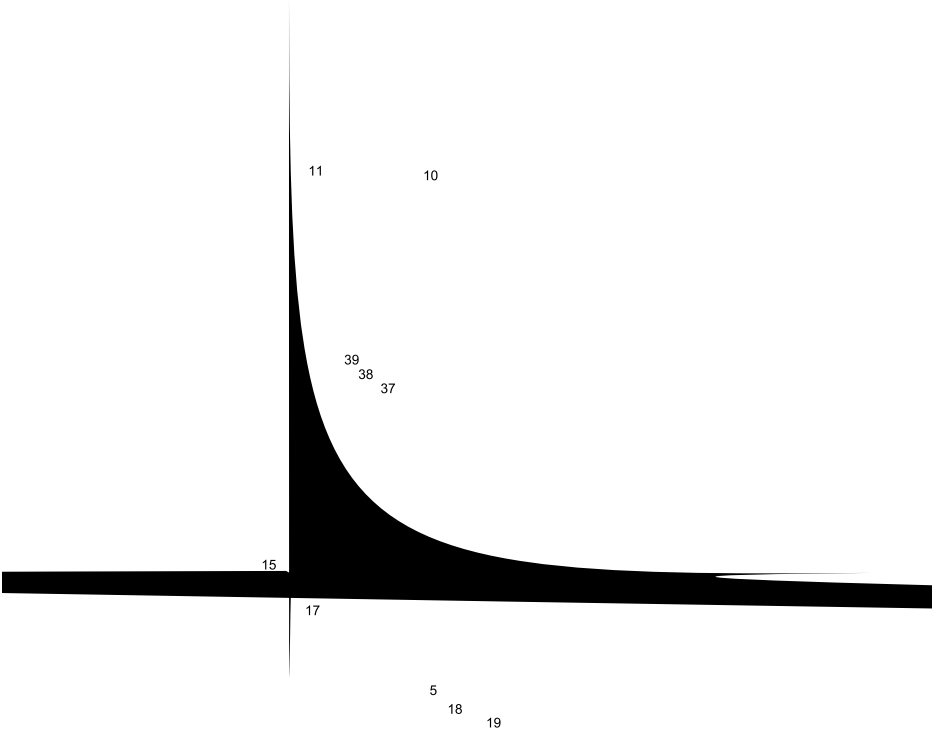
3

6

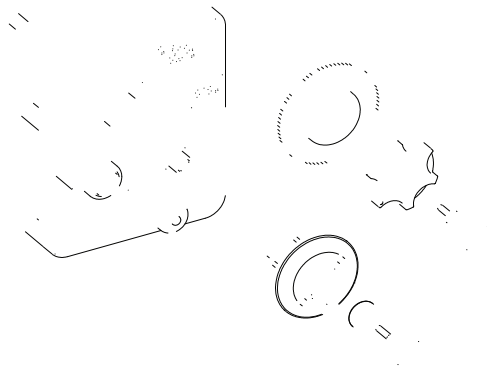
8

15

3210 METER DELAYED TIMER
ASSEMBLY



3220 METER IMMEDIATE TIMER ASSEMBLY

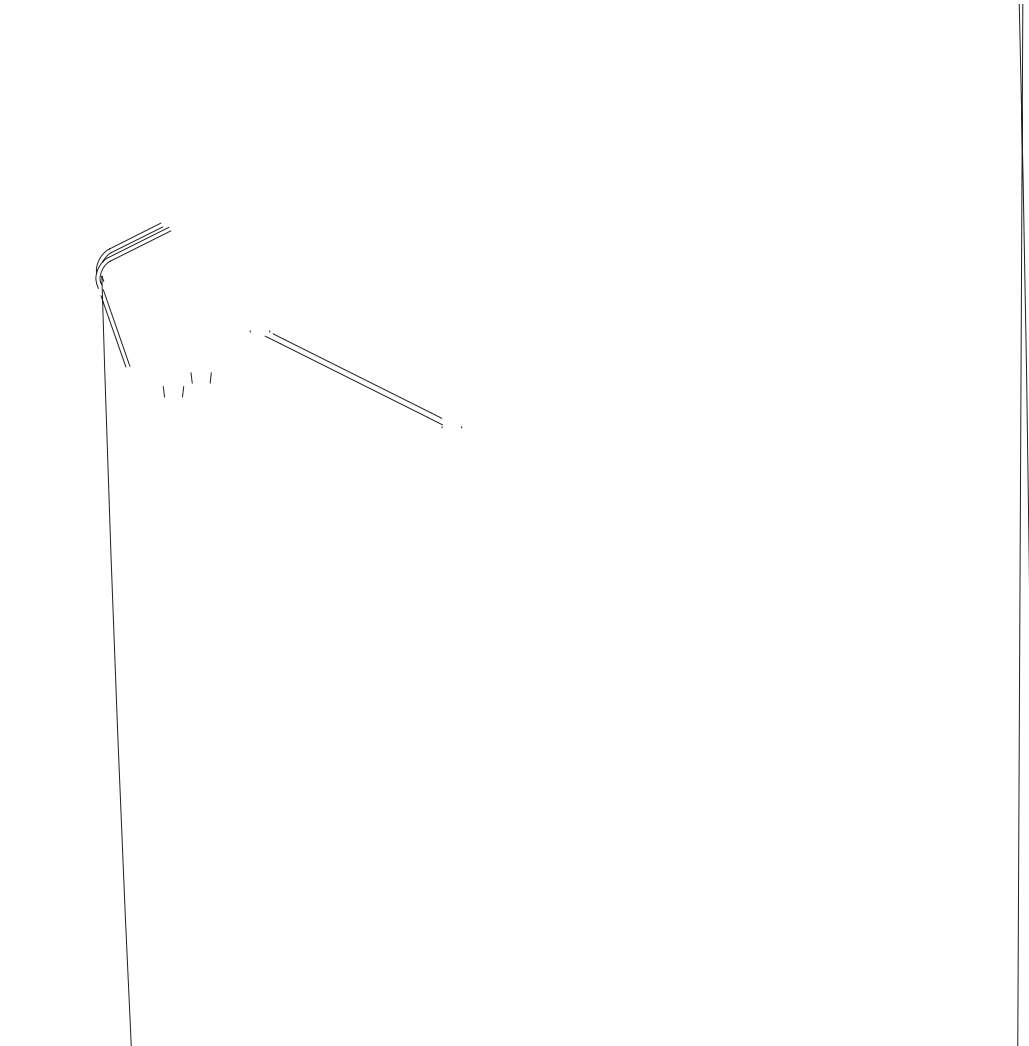


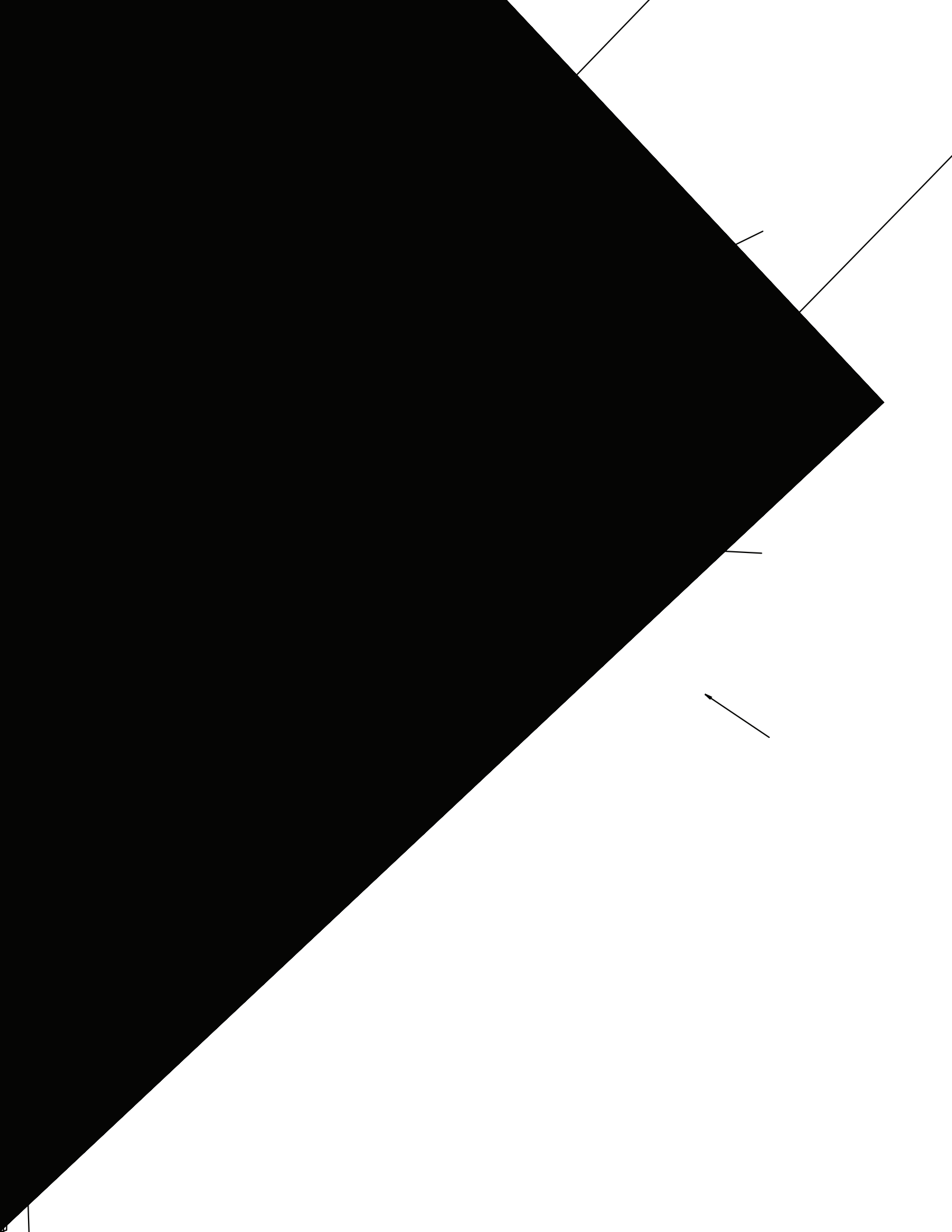
1.....1.....	13870.....	Housing, Timer	25.....1.....	15320.....	Switch, Micro, Timer	
2.....1.....	15431.....	Gear, Cycle Actuator, System #5	26.....2.....	11413.....	Screw, Pan Hd Mach, 4-40 x 1-1/8	
3.....1.....	13886.....	Knob, 3200	27.....1.....	14198.....	Label, Indicator	
4.....4.....	13296.....	Screw, Hex Wsh, 6-20 x 1/2	28.....1.....	15465.....	Label, Caution	
5.....2.....	11999.....	Label, Button	29.....1.....	14007.....	Label, Time of Day	
6.....1.....	13807.....	Gear, Program Drive Wheel	30.....1.....	15148.....	Label, Instruction	
7.....1.....	13806.....	Retainer, Program Wheel	31.....1.....	40617.....	Harness, 3220	
8.....1.....	13748.....	Screw, Flt Hd St, 6-20 x 1/2	32.....2.....	40422.....	Nut, Wire, Tan	
9.....1.....	14265.....	Spring Clip	33.....1.....	15354-01.....	Wire, Ground, 4"	
10.....1.....	13018.....	Pinion, Idler	34.....1.....	19210-05.....	Program Wheel Assembly, 9000/3230	
11.....1.....	18563.....	Idler Shaft Spring	35.....17.....	41754.....	Pin, Spring, 1/16 x 5/8 Stainless Steel, Timer	
12.....1.....	13017.....	Gear, Idler	36.....1.....	15055.....	Gear, Main Drive	
13.....1.....	13164.....	Drive Gear	37.....1.....	*	Complete 3220 Meter Immediate Timer Assembly	
14.....1.....	13887.....	Plate, Motor Mounting	38.....	60405-50.....	Program Wheel, w/2" STD Label 0-2,100 gal	
15.....1.....	18743-1.....	Motor, 120V, 60 Hz, 1/30 RPM		60405-60.....	Program Wheel, w/2" EXT Label 0-10,000 gal	
	1.....	18752-1.....		60405-61.....	Program Wheel, w/2" EXT Range 375 m3	
	1.....	18824-1.....		39.....	60320-02.....	Switch Kit, 3200/9000 Timer Auxiliary, Optional
	1.....	18826-1.....		40.....	61420-06.....	Program Wheel, Gear Assy, Softener Immediate 2 Min Per Pin
	1.....	19659-1.....			61420-42.....	Program Wheel, Gear Assy, Filter Immediate 2 Min Per Pin
	1.....	19660-1.....				
16.....2.....	13278.....	Screw, Slt'd 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				

*Call your distributor for Part Number

*Call your distributor for Part Number

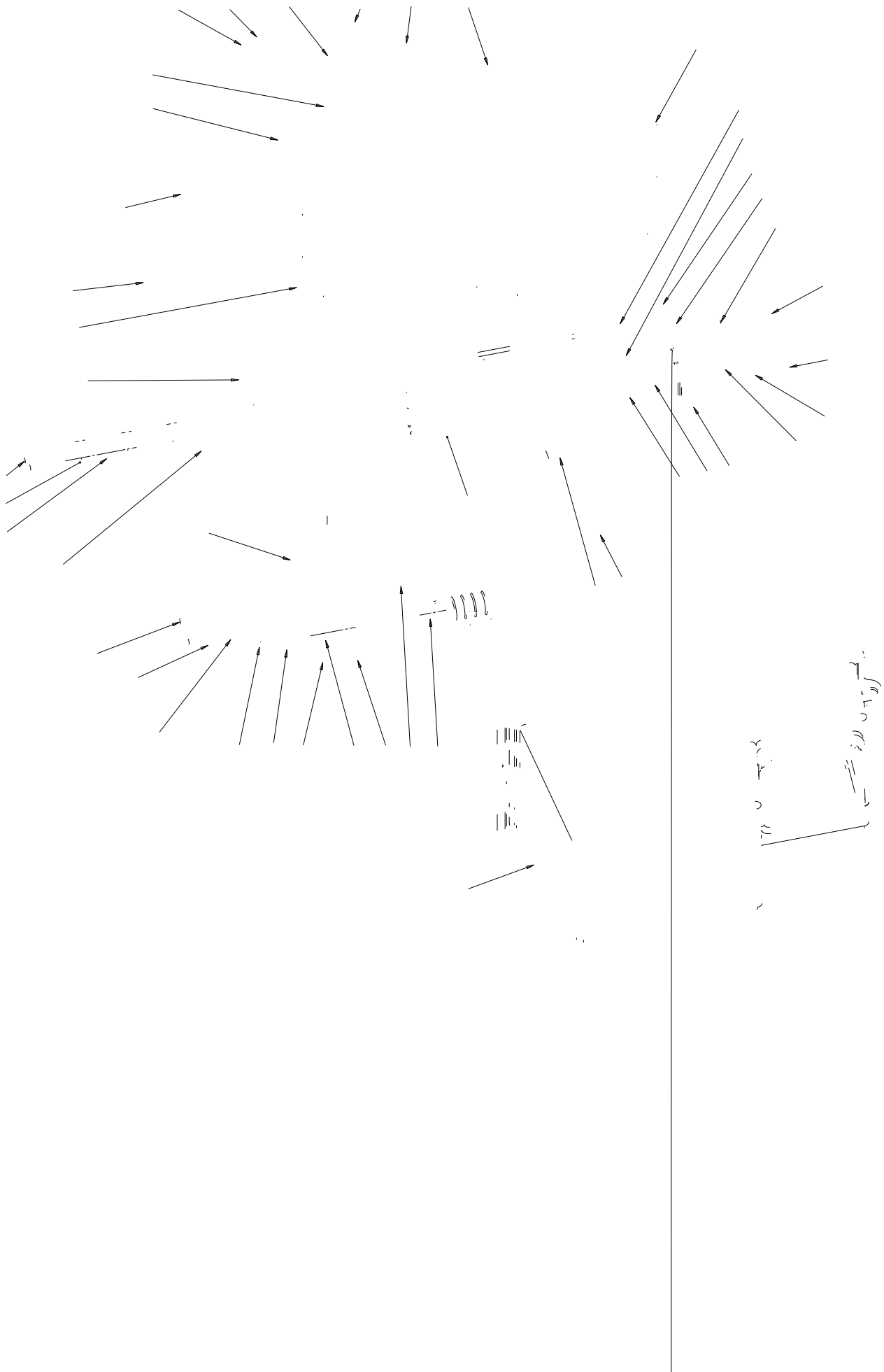
**3230 REMOTE START TIMER
ASSEMBLY**





continued

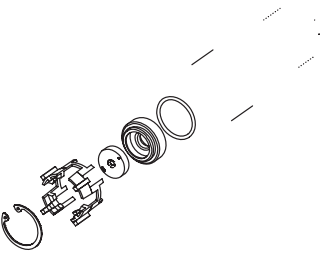
1.....1.....15114.....Valve Body, 3150	22.....1.....61414.....Adapter Assy, Sidemount, 3150, Rotating
.....15114NP.....Valve Body, 3150, Nickel Plated	61414NP.....Adapter Assy, SDMNT, 3150, Nickel Plated, Rotating
.....15114-20.....Valve Body, 3150, BSP/Metric	23.....1.....61418.....Adapter Assy, Sidemount, 3150, Fixed
.....15114-20NP.....Valve Body, 3150, BSP/Metric, Nickel Plated	61418-22.....Adapter Assy, SDMNT, 3150, BSP/Metric
2.....8.....11720.....Seal, Piston, 2900/3150	24.....1.....60106-00.....Piston Assy, 3900/3150 STD
.....11720-02.....Seal, 1-1/2", Silicone	1.....60106-01.....Piston Assy, 3900/3150, HWBP, Hot Water 180 degrees
3.....5.....10369.....Spacer, 2", 2900/3150	1.....60106-10.....Piston Assy 3900/3150, HWBP, Upfow
.....16141.....Spacer, Port Ring, HW, 180°	25.....60131.....Seal & Spacer Kit, 3900/3150, Upper
4.....2.....10368.....Spacer, Narrow, 3150/3900	60131-01.....Seal & Spacer Kit, Hot Water, 180 Degrees, 3150
.....10368-01.....Spacer, Quad Ring, Brass, HW, 180°	60131-10.....Seal & Spacer Kit, Silicone, 3150/3900 Upper
5.....1.....16130.....Piston, High Backwash	26.....1.....BR42008.....Piston, 3150, NHWBP
5A.....1.....19611-01.....Piston Assy, 3150, NHWBP, O-ring	27.....1.....BR40952.....O-ring, -030
6.....1.....14818.....Ring, Piston Rod, Snap	28.....1.....BR42009.....Retainer, 3150 NWHBP O-ring
7.....1.....15125.....Rod, Piston, 3150	29.....1.....BR11242.....Quad, Ring, -112, 560CD
7A.....1.....19708.....Rod, Piston, 3150 NHWBP	30.....1.....BR15118-11.....Plug, End, 3150, Black, Machined
8.....1.....14922.....O-ring, -035, Piston	31.....1.....BR11709.....Pin, Connecting Rod
9.....1.....16398-01.....End Plug Assy, 3150, White, HWBP	32.....1.....BR11898.....0.35 M.B. Spring Wire
9A.....16398-11.....End Plug Assy, 3150, Black, NHWBP	33.....1.....60113-01.....Piston Assy, 3150, NHWBP, D/ Flow Conversion/Replacement
10.....1.....15112.....Seal, 3150 Adapter Base	
11.....1.....17407-02.....Adapter, 3150, Sidemount, Aux Tap	
.....17407-02NP.....Adapter, 3150, Sidemount, Aux, Nickel Plated	
.....17407-22.....Adapter, 3150, Sidemount, Aux Tap, BSP, Metric	
.....17407-22NP.....Adapter, 3150, Sidemount, Aux Tap, BSP/MTRC, Nickle Plated	
12.....2.....40118.....Screw, Sckt Hd, 1/2 - 13 Unc	
.....17122.....Screw, Socket HD, M12 x 35, 18-8, SS, Metric	
13.....1.....15117-01.....Adapter, 3150, Machined (Not used with a fixed sidemount)	
.....15117-01NP.....Adapter, 3150, Machined, Nickel Plated	
.....15117-21.....Adapter, 3150, Metric, Machined	
14.....1.....15247.....O-ring, -229 (Not used with a rotating or fixed sidemount)	
15.....1.....13575.....O-ring, -240 (Not used with a fixed sidemount)	
.....15210.....O-ring, -343, Park Tank	
16.....1.....19608-20.....Disperser, Commercial, 2", 3150 (Not used with a rotating or fixed sidemount)	
16.....1.....40316.....Adapter, Sidemount	
17.....1.....16804-01.....O-ring, -150	
18.....1.....40368.....O-ring, -160, Sidemount, Flange	
19.....1.....40365.....Base, 3130/3150, Rotating	
20.....7.....40375.....Washer, Flat, 3/8, Type A	
21.....7.....19768.....Screw, Hex Hd, 3/8 - 16 x 1, Cap 18-8	



continued

1.....1.....19304-04.....	Backplate, 3150/3900, Upper, NEMA 3R	42.....3.....19591.....	Plug, .8750 Hole, Recessed, Black
2.....1.....15120-01.....	Bracket, Motor Mtg, 3150/3900 Environmental	43.....2.....15250.....	Label, Terminal Strip
3.....2.....16346.....	Nut, Hex, Jam, 5/16 - 18	44.....10.....19800.....	Plug, .140 Dia, White
4.....1.....40392.....	Motor, Drive, 115V, 50/60 Hz, Sp	45.....1.....15806.....	Plug, Hole, Heyco #2693
.....40390.....	Motor, Drive, 220V, 50 Hz, Sp, Fam 3	46.....1.....17421.....	Plug, 1.20 Hole
.....42581.....	Motor, Drive, 24VAC/DC, 50-60 Hz, Fam 3	47.....60057-01.....	Drive Assy, 3150, 120V, SYS 5 & 7, Signal After Brine Tank Fill
5.....1.....17797.....	Bracket, Switch Mounting, 3150/3900	60057-03.....	Drive Assy, 3150, 24V, 3900 Upper, SYS #5 or SYS #7
6.....4.....10302.....	Insulator, Limit Switch	60057-11.....	Drive Assy, 3150, 120V, 3900 Upper, SYS #4 or SYS #6
7.....3.....10218.....	Switch, Micro	60057-21.....	Drive Assy, 3150, 120V, Upfow, 3900 Upper, SYS 5 or SYS 7, Brine Draw First
8.....1.....17845-03.....	Pin, Hinge, 3150/3900, Env	48.....*.....	3150 Powerhead Assembly
9.....4.....11235.....	Nut, Hex, 1/4 -20, Mach Screw, Zinc	1.....17470.....	Cable Guide Assy, 2850/3150
10.....2.....13365.....	Washer, Lock, #4, External	1.....19856.....	Ring, Retaining (Used on Cover)
11.....2.....40080.....	Screw, Rd Hd, 4-40 x 1 1/2"	1.....	Timer (See Timer Section)
12.....1.....16053.....	Bracket, Brine Side	1.....40396.....	Harness, Drive, Environmental
13.....2.....40133.....	Screw, Pan Hd, 4-40 x 1/4	1.....16427-04.....	Wire, Lead, 12", White
14.....1.....15226-6.....	Terminal Block	1.....40396.....	Harness, Drive, Environmental
15.....2.....16052.....	Bushing, 3150/3900	1.....14924.....	Strain Relief Heyco #1247
16.....1.....16059.....	Washer, SS, .88, 3150/3900	1.....15513.....	Meter Cable, 17.5", 2"
17.....1.....16051.....	Ring, Retaining, Bowed	1.....15216.....	MeterCable, 15.25", 1.5"
18.....2.....10300.....	Screw, Slot Hex Wsh, 18-8 x 3/8	*Call your distributor for Part Number	
19.....4.....10231.....	Screw, Slot Hex, 1/4 - 20 x 1/2		
20.....2.....14202-01.....	Screw, Hex Wsh Hd, 8 x 5/16		
21.....1.....10475-01.....	Wire, Ground		
22.....1.....16494-03.....	Cam Assy, 3150/3900 Signal After Brine Fill		
.....16494-05.....	Cam Assy, 3150/3900 Upper Signal After Rapid Rinse		
.....16494-06.....	Cam Assy, 3150/3900, Upper, Upfow, Signal After Rapid Rinse		
23.....4.....11224.....	Screw, Hex Hd, 5/16 - 18 x 5/8		
24.....1.....60240-02.....	Cover Assy, 3150/3900 Env, Black, NEMA 3R		
25.....2.....41084.....	Terminal Block, Segment, Gray		
26.....1.....41085.....	Endplate, Terminal Block, Gray		
27.....1.....40174.....	Terminal Block, Green/Yellow		
28.....1.....16046.....	Gear, Drive		
29.....1.....16050.....	Ring, Retaining		
30.....1.....11774.....	Ring, Retaining		
31.....1.....16047.....	Link, Drive		
32.....1.....11709.....	Pin, Drive Link		
33.....1.....16048.....	Bearing, Drive Link		
34.....1.....11898.....	Clip, 3150/3900		
35.....1.....16045.....	Pinion, Drive		
36.....1.....11381.....	Pin, Roll, 2900/3900		
37.....1.....11080.....	Screw, Flt Hd Mach, 8-32 x 3/8		
38.....3.....10872.....	Screw, Hex Wsh, 8-32 x 17/64		
39.....1.....40084-12.....	Power Cord, 12' US, Round, 120V		
40.....1.....17967.....	Fitting Assy, Liquid Tight, Blk		
41.....1.....19691.....	Plug, .750 Dia, Recessed, Black		

**1800 SERIES BRINE SYSTEM AND
DRAIN LINE FLOW CONTROL
ASSEMBLY**



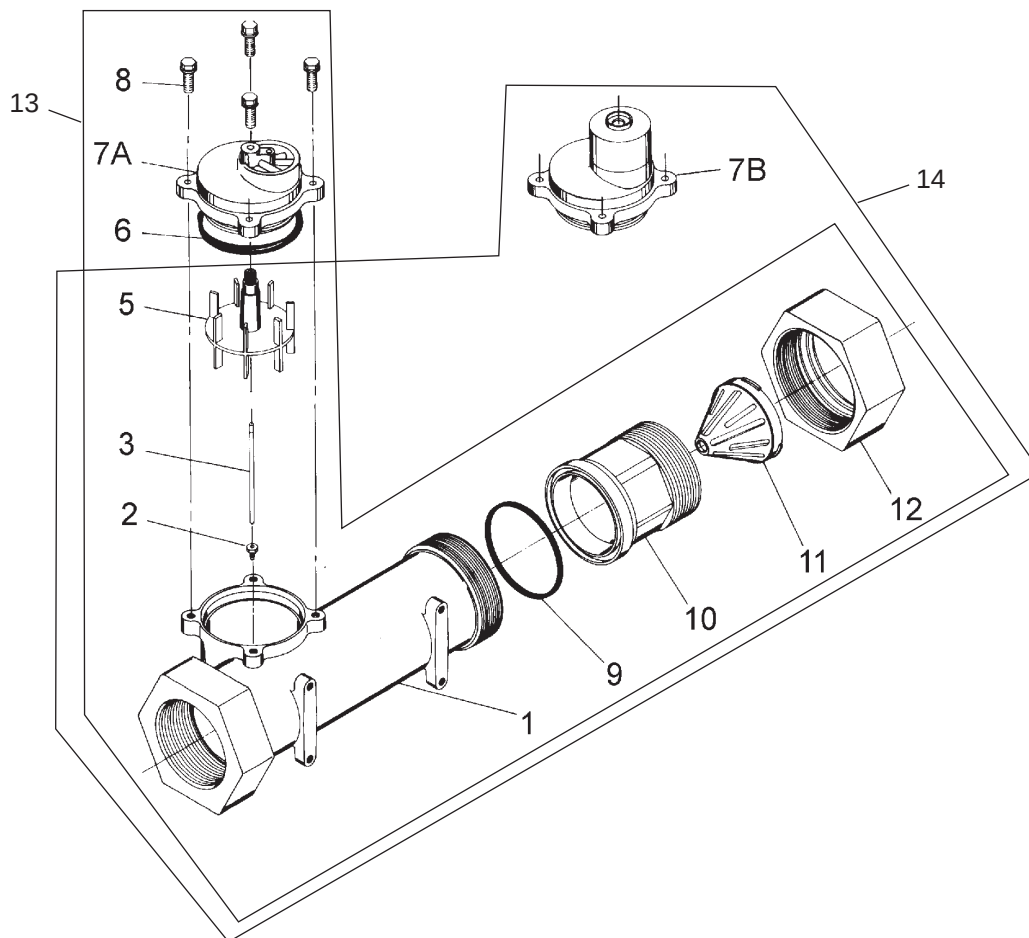
1800 SERIES BRINE SYSTEM AND DRAIN LINE FLOW CONTROL *ASSEMBLY continued*

1.....1.....	16340.....	Body, Injector, 1800 D/F	18.....	60277-04.....	Injector Assy, 1800, #4, Downfow
	 16340-20.....	Body, Injector, 1800, Downfow, Metric		 60272-04.....	Injectory Assy, 1800, #4, Upfow
	 16340-01.....	Body, Injector, 1800 Upfow		 60277-05.....	Injectory Assy, 1800 #5, Downfow
	 16340-21.....	Body, Injector, 1800, Upfow, Metric		 60272-05.....	Injector Assy, 1800, #5, Upfow
2.....1.....	15128-xx.....	Injector Nozzle		 60277-06.....	Injector Assy, 1800, #6, Downfow
	 15128-04.....	#4 Green		 60277-07.....	Injector Assy, 1800, #7, Downfow
	 15128-05.....	#5 Red		 60272-07.....	Injector Assy, 1800, #7, Upfow
	 15128-06.....	#6 White		 60277-08.....	Injector Assy, 1800, #8, Downfow
	 15128-07.....	#7 Blue		 60277-09.....	Injectory Assy, 1800 #9, Downfow
	 15128-08.....	#8 Yellow		 60277-10.....	Injectory Assy, 1800 #10, Downfow
	 15128-09.....	#9 Violet			
	 15128-10.....	#10 Black	19.....	60036-02.....	Brine Valve, 1800, Design 3
3.....1.....	15127-xx.....	Injector Throat		 60276-01.....	Brine Valve, 1800, Retroft Kit, Downfow 1800 Injector and Brine Valve, Update to Design 3
	 15127-04.....	#4 Green	20.....	60734.....	Regulator, 3150/3900, Pressure, Upfow
	 15127-05.....	#5 Red			
	 15127-06.....	#6 White			
	 15127-07.....	#7 Blue			
	 15127-08.....	#8 Yellow			
	 15127-09.....	#9 Violet			
	 15127-10.....	#10 Black			
4.....3.....	15246.....	O-ring, -116			
5.....1.....	16341-01.....	Cap, Injector, 1800			
6.....8.....	12473.....	Screw, Hex Wsh, 10-24 x 5/8			
7.....1.....	16341-02.....	Plug, Injector, 1800			
8.....1.....	19054.....	O-ring, -021, 560CD			
9.....1.....	16497-01.....	Stem Assy, 1800, Brine Valve			
10.....1.....	18713.....	Brine Valve Body, 1800			
11.....1.....	11772.....	Spring, 3150 Brine Valve			
12.....1.....	11774.....	Ring, Retaining			
13.....1.....	16498-01.....	Stem Guide Assy, Brine			
14.....1.....	16387.....	Plug, Pipe, 1/2" NPT			
15.....2.....	18702.....	Fitting, Tube, 1/2 NPT 5/8			
16.....1.....	18703.....	Tube, Brine, 5/8 OD Annealed			
	 18703-01.....	Tube, Brine, 5/8 OD, Short, Upfow			
17.....1.....	60009-00.....	Air Check, #900, Commercial Less Fittings			
	 60009-01.....	Air Check, #900, Commercial, HW Less Fittings			

1800 SERIES BRINE SYSTEM AND DRAIN LINE FLOW CONTROL ASSEMBLY *continued*

21.....	60711-000.....	DLFC, 2" NPT, Less BTTNS, w/4 HLS	33.....	1.....	19095.....	Diaphragm, Regulator 3150		
	 60711-00.....	DLFC, 2" NPT, Less BTTNS, W/2 HLS	34.....	1.....	19094.....	Washer, Regulator 3150		
	 60711-01.....	DLFC, 2" NPT, Less BTTNS, W/1 HLS	35.....	1.....	19092.....	Retainer, Regulator 3150		
	 60711-20.....	DLFC, 2" NPT, 20 gpm	36.....	1.....	19101.....	Spring, Regulator 3150		
	 60711-25.....	DLFC, 2" NPT, 25 gpm	37.....	1.....	19399.....	Washer, Calibration 3150		
	 60711-30.....	DLFC, 2" NPT, 30 gpm	38.....	1.....	19090.....	Cap, Regulator 3150		
	 60711-35.....	DLFC, 2" NPT, 35 gpm	39.....	1.....	19278.....	Fitting, Tube, 90 Deg		
	 60711-40.....	DLFC, 2" NPT, 40 gpm	40.....	1.....	19693.....	Pressure Gauge		
	 60711-45.....	DLFC, 2" NPT, 45 gpm	41.....	1.....	41232.....	Bushing Reducer 1/4 x 1/8		
	 60711-50.....	DLFC, 2" NPT, 50 gpm	42.....		60710-1.2.....	BLFC, 1"F x 1"M, NPT, 1.2 gpm		
	 60711-55.....	DLFC, 2" NPT, 55 gpm			 60710-2.0.....	BLFC, 1"F x 1"M, NPT, 2.0 gpm		
	 60711-60.....	DLFC, 2" NPT, 60 gpm			 60710-2.4.....	BLFC, 1"F x 1"M, NPT, 2.4 gpm		
	 60711-65.....	DLFC, 2" NPT, 65 gpm			 60710-3.0.....	BLFC, 1"F x 1"M, NPT, 3.0 gpm		
	 60711-70.....	DLFC, 2" NPT, 70 gpm			 60710-3.5.....	BLFC, 1"F x 1"M, NPT, 3.5 gpm		
	 60711-75.....	DLFC, 2" NPT, 75 gpm			 60710-4.0.....	BLFC, 1"F x 1"M, NPT, 4.0 gpm		
	 60711-80.....	DLFC, 2" NPT, 80 gpm			 60710-5.0.....	BLFC, 1"F x 1"M, NPT, 5.0 gpm		
	 60711-85.....	DLFC, 2" NPT, 85 gpm			 60710-7.0.....	BLFC, 1"F x 1"M, NPT, 7.0 gpm		
	 60711-90.....	DLFC, 2" NPT, 90 gpm	43.....		60710-9.0.....	BLFC, 1"F x 1"M, NPT, 9.0 gpm		
	 60711-95.....	DLFC, 2" NPT, 95 gpm			 60710-10.....	BLFC, 1"F x 1"M, NPT, 10 gpm		
	 60711-100.....	DLFC, 2" NPT, 100 gpm			 60710-12.....	BLFC, 1"F x 1"M, NPT, 12 gpm		
	 60812-30.....	DLFC, 2" BSP/Metric, 30 gpm			 60710-15.....	BLFC, 1"F x 1"M, NPT, 15 gpm		
	 60812-35.....	DLFC, 2" BSP/Metric, 35 gpm			 60710-20.....	BLFC, 1"F x 1"M, NPT, 20 gpm		
	 60812-45.....	DLFC, 2" BSP/Metric, 45 gpm			 60710-25.....	BLFC, 1"F x 1"M, NPT, 25 gpm		
	 60812-50.....	DLFC, 2" BSP/Metric, 50 gpm	44.....		16530.....	Housing, BLFC, 1"M x 1"F		
	 60812-55.....	DLFC, 2" BSP/Metric, 55 gpm	45.....		19292.....	O-ring, -020		
	 60812-70.....	DLFC, 2" BSP/Metric, 70 gpm	46.....		19279.....	Retainer, Flow Control, Flow 9.0 - 25 gpm		
	 60812-75.....	DLFC, 2" BSP/Metric, 75 gpm	47.....		19053.....	Retainer, Flow Control, Flow 2.0 - 7.0 gpm		
	 60812-80.....	DLFC, 2" BSP/Metric, 80 gpm	48.....		12085.....	Washer, Flow, 1.2 gpm		
	 60812-90.....	DLFC, 2" BSP/Metric, 90 gpm			 12087.....	Washer, Flow, 2.0 gpm		
	 60812-95.....	DLFC, 2" BSP/Metric, 95 gpm			 12088.....	Washer, Flow, 2.4 gpm		
	 60812-100.....	DLFC, 2" BSP/Metric, 100 gpm			 12089.....	Washer, Flow, 3.0 gpm		
22.....	2.....	27913-21.....	Housing, Flow Control, 2" BSP		 12090.....	Washer, Flow, 3.5 gpm		
23.....		16804.....	O-ring, -150		 12091.....	Washer, Flow, 4.0 gpm		
24.....	1.....	16649.....	Holder, DLFC Button		 12092.....	Washer, Flow, 5.0 gpm		
25.....	1.....	16650.....	Cover Plate DLFC		 12408.....	Washer, Fow, 7.0 gpm		
26.....	1.....	13898.....	Screw, Flat HD, Phil, Steel		 17944.....	Washer, Flow, 9.0 gpm		
27.....	6.....	13386.....	Screw, Hex HD MACH, 1/4-20 x 1 OR Slot Hex Cap Screw 18-8 S.S.		 16529.....	Washer, Flow, 10.0 gpm		
	6.....	17976.....	Screw, Hex HD, M6 x 25 mm		 16735.....	Washer, Flow, 12.0 gpm		
28.....		16529.....	Washer, Flow, 10.0 gpm		 16736.....	Washer, Flow, 15.0 gpm		
		 16736.....	Washer, Flow, 15.0 gpm		 16528.....	Washer, Flow, 20.0 gpm		
		 16528.....	Washer, Flow, 20.0 gpm		 16737.....	Washer, Flow, 25.0 gpm		
		 16737.....	Washer, Flow, 25.0 gpm	49.....		16738.....	Retainer,Flow Control	
29.....	1.....	19089.....	Body Regulator 3150	50.....		16805.....	Ring, Retaining	
30.....	1.....	10242.....	Fitting, Nipple, 1/2", Close			1.....	16605.....	Retainer Plate
31.....	1.....	19091.....	Pin, Regulator 3150			1.....	19860.....	Fitting, Brine Valve, 1800
32.....	1.....	19093.....	Stand-Off Regulator 3150					

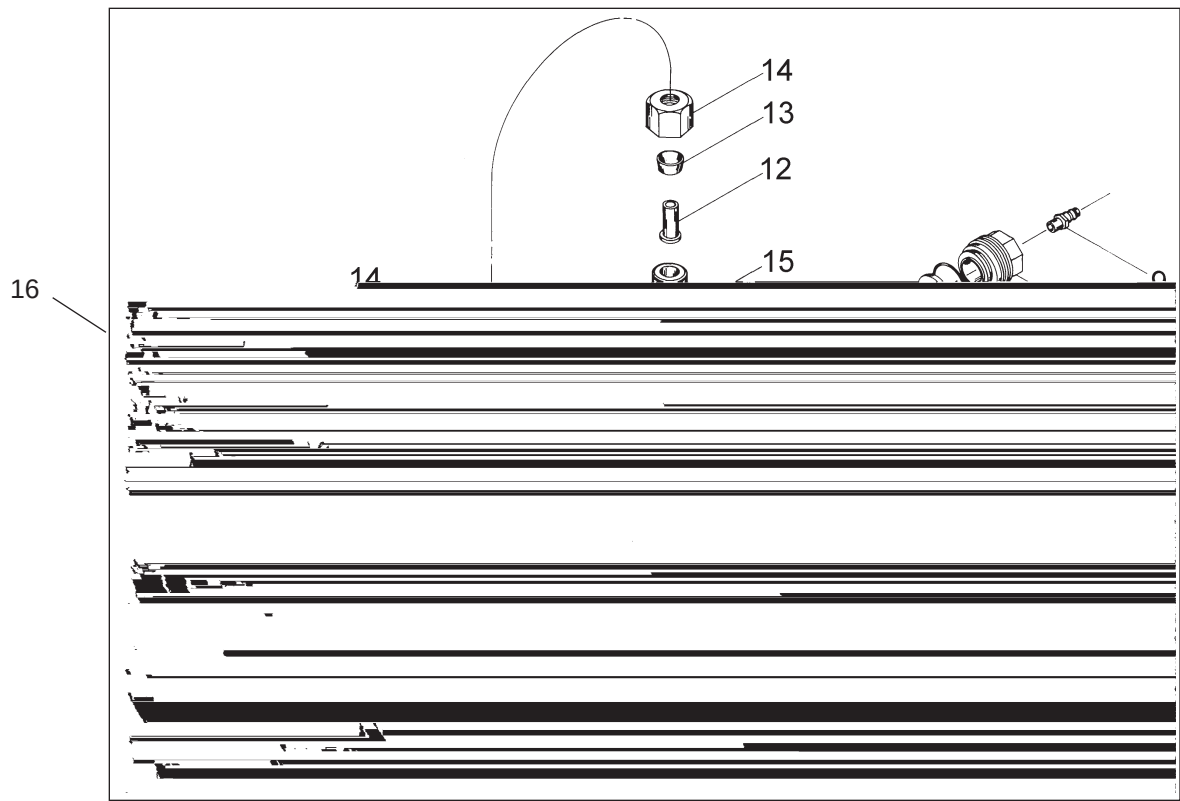
2" BRASS METER ASSEMBLY



60393 Rev E

- | | | |
|----------|---------------------|--|
| 1.....1 | 14456..... | Body, Meter, 2" |
| | 14456-20..... | Body, Meter, 2", BSP, Metric |
| 2.....1 | 15532..... | Seat, Impeller Shaft, Hex |
| 3.....1 | 15432..... | Shaft |
| 5.....1 | 15374..... | Impeller Assy, 2" Meter |
| 6.....1 | 13847..... | O-ring, -137, Std/560CD, Meter |
| 7A.....1 | 14038..... | Meter Cap Assembly, Std, Plastic |
| 7B.....1 | 15150..... | Meter Cap Assembly, 3/4" to 2",
Ext Plastic, Pdl |
| 8.....4 | 12112..... | Screw, Hex Hd Mach, 10-24 x
1/2 18-8 Stainless STeel |
| | 15886..... | Screw, Hex Hd, M5 x 12 SS,
Metric |
| 9.....1 | 14679..... | O-ring, -227, Meter |
| 10.....1 | 14568..... | Fitting, Nipple, 2", NPT |
| | 14568-10..... | Fitting, Nipple, 2", BSP, Brass |
| 11.....1 | 14680..... | Flow Straightener |
| 12.....1 | 14569..... | Nut, 2900 Meter |
| 13..... | | Meter Assy, 2" Inline, NPT, STD,
Brass, Paddlewheel |
| | | Meter Assy, 2" Inline, BSP, STD,
Brass Paddlewheel |
| 14..... | | Meter Assy, 2" Inline, NPT, EXT,
Brass Paddlewheel |
| | | Meter Assy, 2" Inline, BSP, EXT,
Brass, Paddlewheel |
| | 61439..... | Meter Sleeve w/O-ring, 1-1/2" |

ASSEMBLY



BR60150-3150REVA

- 1.....1 15074.....Body, SVO
- 2.....1 16065.....Piston & Stem, SVO
- 3.....1 10141.....O-ring, -010
- 4.....2 14835.....Seal, 3150
- 5.....1 14834.....Spacer, Softwater Fill
- 6.....1 16509.....Plug, End, SVO
- 7.....1 12977.....O-ring, -015
- 8.....1 15965.....Fitting, Bias
- 9.....1 10249.....Spring, Brine Valve
- 10.....1 10250.....Ring, Retaining
- 11.....1 16498-02.....Stem Guide Assy, SVO
- 12.....3 10332.....Fitting, Insert, 3/8
- 13.....3 10330.....Fitting, Sleeve, 3/8 Celcon
- 14.....3 10329.....Fitting, Tube, 3/8 Nut, Brass
- 15.....1 16503.....Fitting, Elbow, 90 Deg.
- 16.....1 60150-3150.....SVO Assy, 3150/3900
(Includes Items 1-15)
-1 16511.....Tube, 3150, PVC, SVO

CONTROL

Reserve capacity has been exceeded.

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

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.

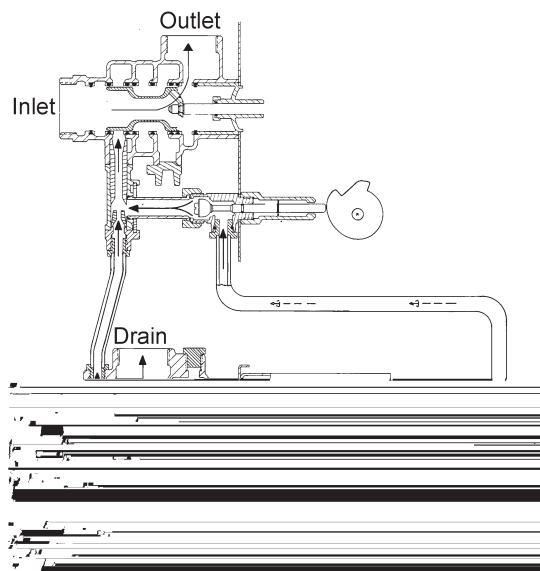
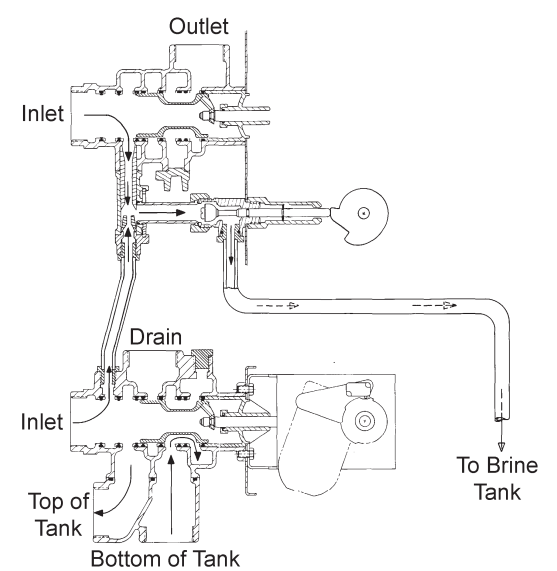
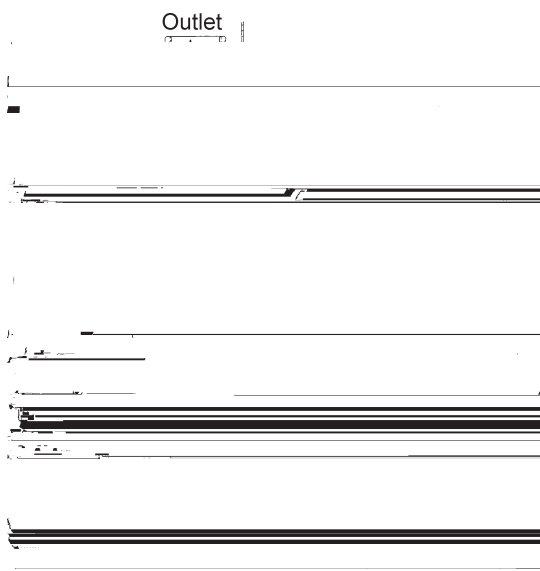
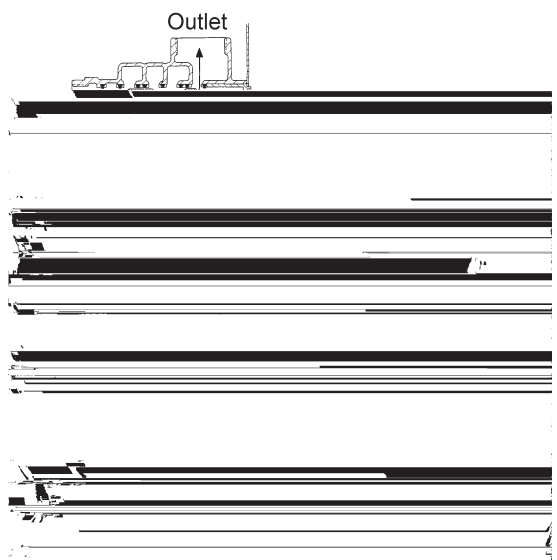
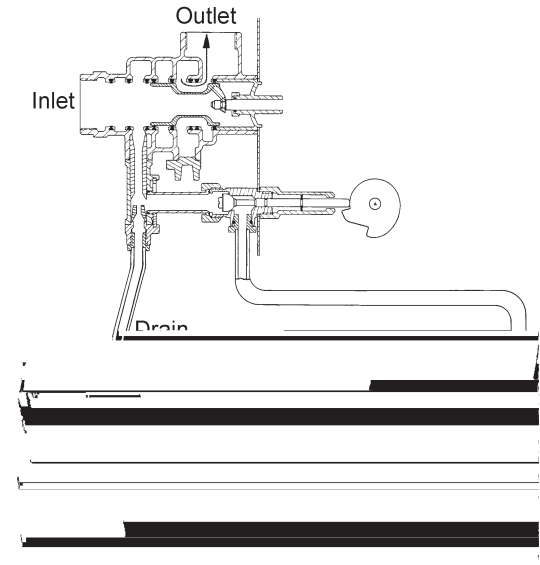
Meter is not measuring flow.

Correction: Check meter with meter checker.

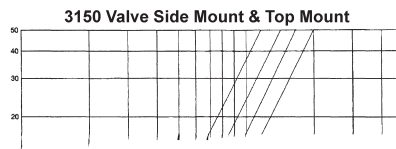
		Correction
Water conditioner fails to regenerate.	Electrical service to unit has been interrupted	Assure permanent electrical service (check fuse, plug, pull chain, or switch)
	Timer is defective.	Replace timer.
	Power failure.	Reset time of day.
Hard water.	By-pass valve is open.	Close by-pass valve.
	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.

WATER CONDITIONER FLOW
DIAGRAMS

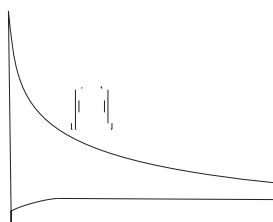
1 Service Position



FLOW DATA & INJECTOR DRAW RATES

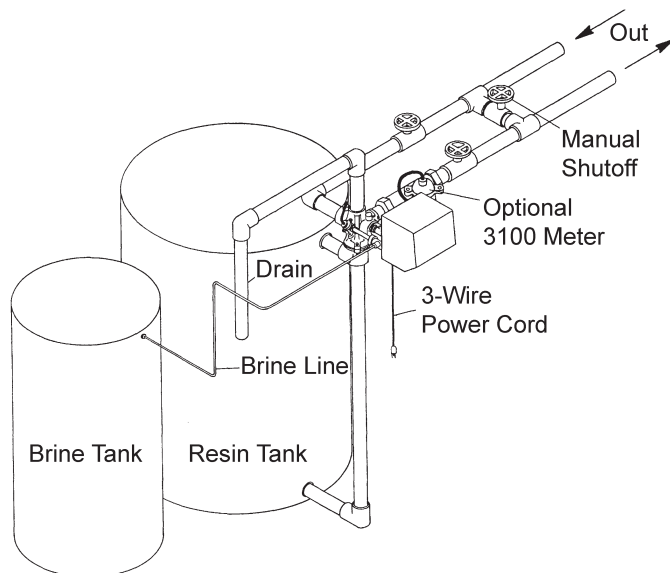


TR20395

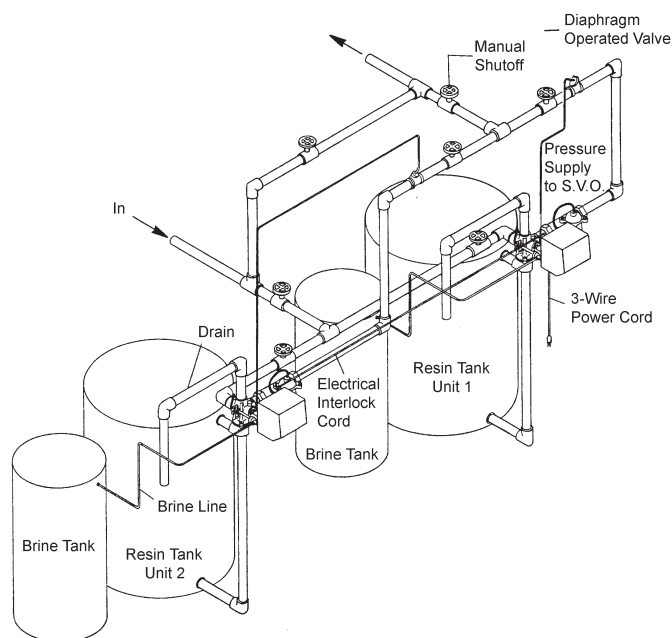


SYSTEM #4

Meter

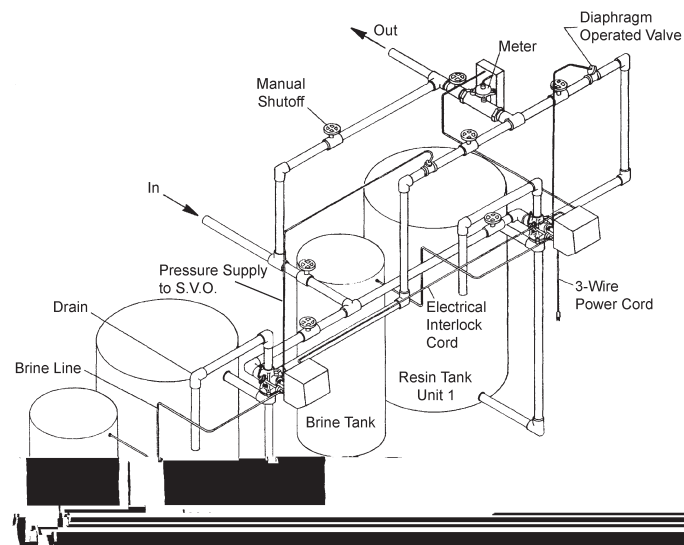


SYSTEM #5

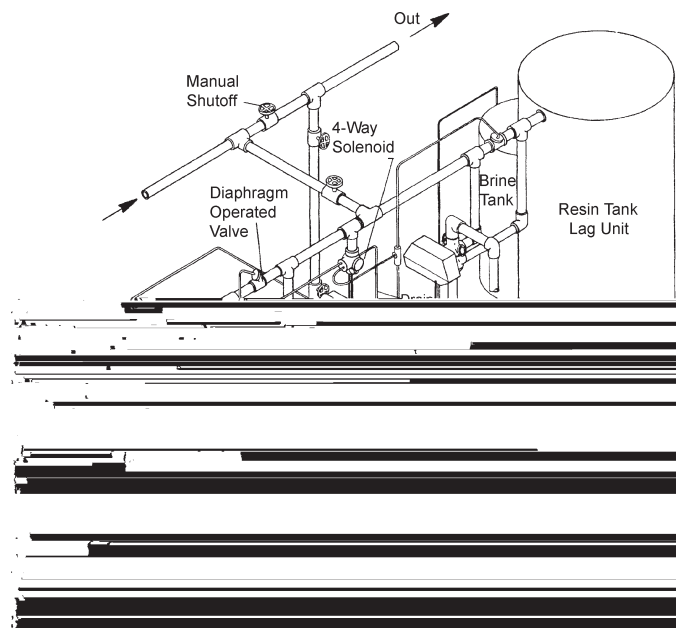


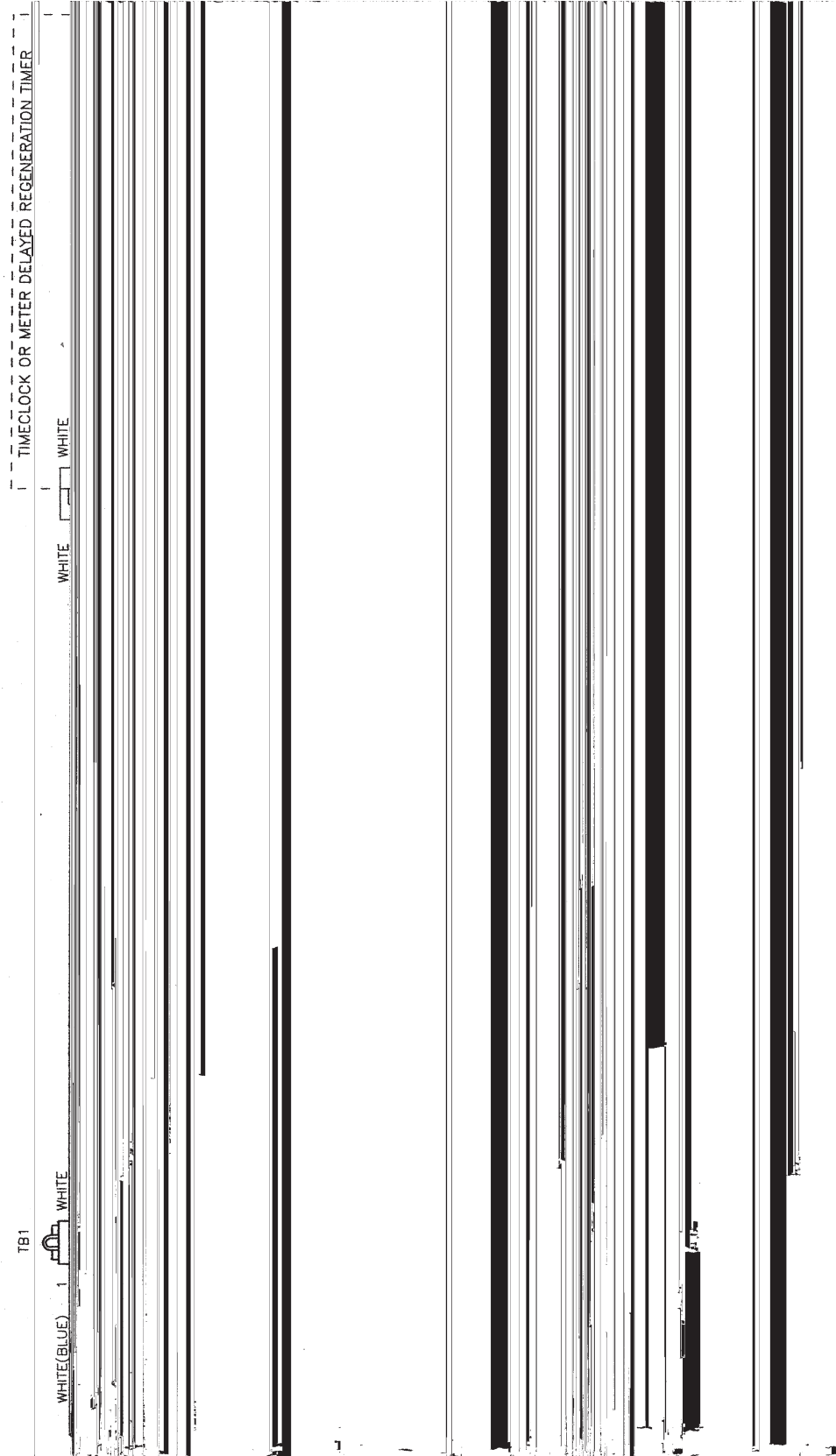
SYSTEM #6

Remote Meter

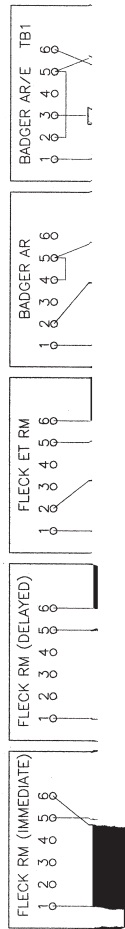


SYSTEM #7



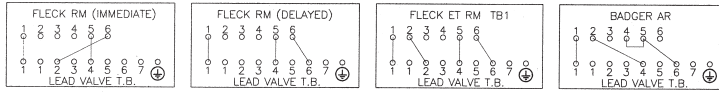


REMOTE METER WIRING

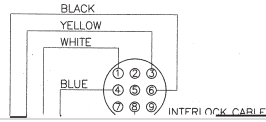


continued

REMOTE METER WIRING



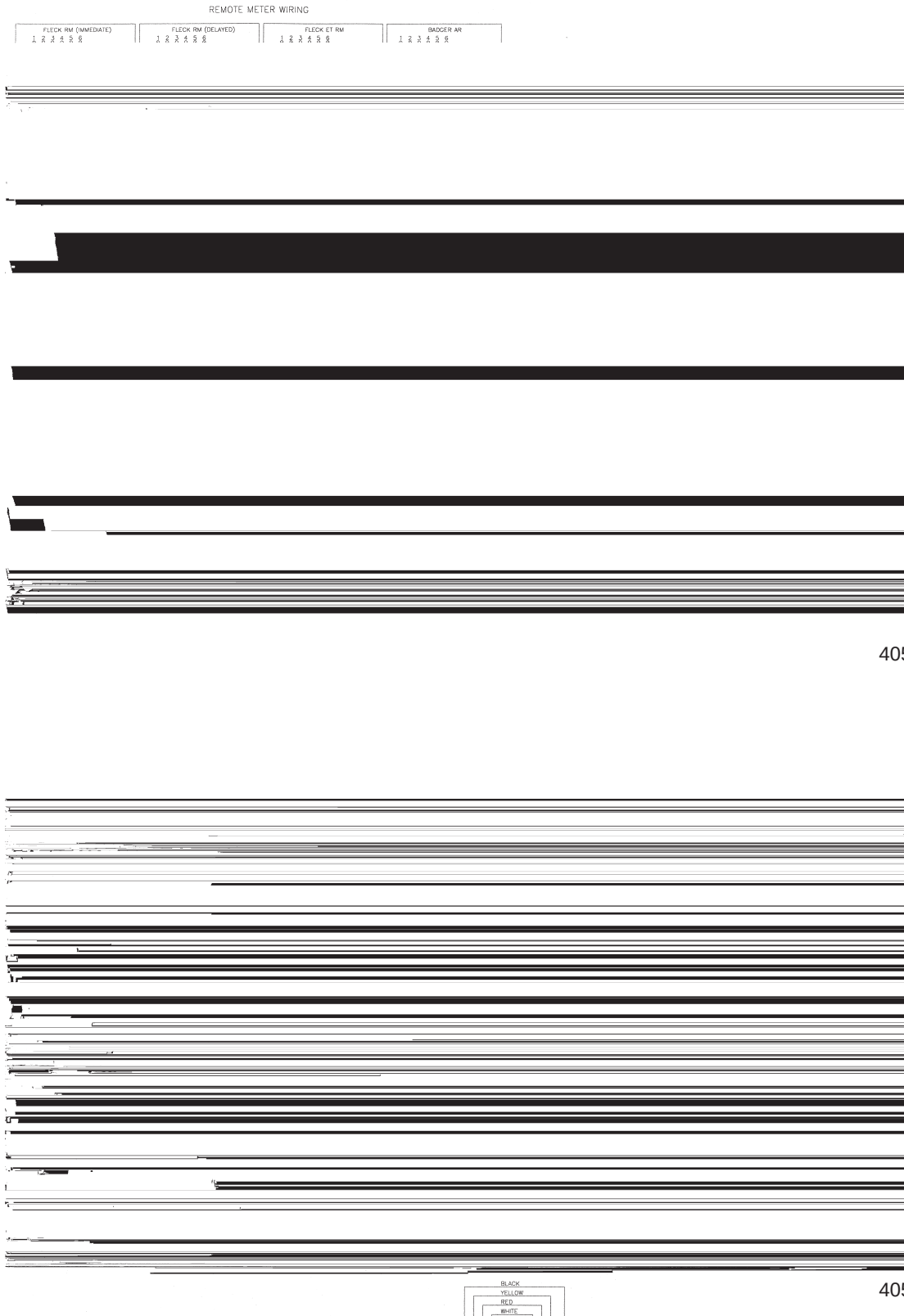
LEAD



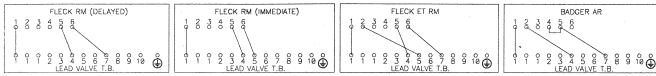
18671-01 Rev E

18671-02 Rev E

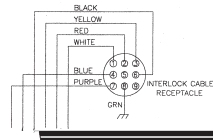
Wiring



REMOTE METER WIRING



LEAD



40504-01_REVC

40504-02_REVC

11772.....Spring, 3150 Brine Valve
 11774.....Ring, Retaining
 18713.....Brine Valve Body, 1800
 16497-01Stem Assy, 1800 Brine Valve New Style
 16498-01Stem Guide Assy, Brine

12473.....Screw, Hex Wsh, 10-24 x 5/8
 15127.....Injector Throat Assy
 15128-xx.....Injector Nozzle - Specify Size
 15246.....O-ring, -116
 16340.....Body, Injector, 1800, D/F
 16341-01Cap, Injector, 1800

14818.....Ring, Piston Rod, Snap
 14922.....O-ring, -035, Piston
 16130.....Piston, High Backwash
 15125.....Rod, Piston, 3150
 16398-01End Plug Assy, 3150, White

16398-01End Plug Assy, 3150, White
 19611-01.....Piston Assy, 3150, NHWBP, O-ring
 19708.....Rod, Piston, 3150 NHWBP
 14818.....Ring, Piston Rod, Snap

10368.....Spacer, Narrow, 3150/3900
 10369.....Spacer, 2", 2900/3150
 11720.....Seal, Piston, 2900/3150

Sys #4 or Sys #6

61414.....Adapter, Assy, Sdmnt, 3130/3150
 Rotating
 61414NP.....Adapter Assy, Sdmnt, 3130/3150 Nickel
 Plated Rotating
 61418.....Adapter Assy, Sdmnt, 3150

10368.....Spacer
 10369.....Spacer
 11720-02.....Seal, 1-1/2", Silicone

60028-30Float Assembly, White
 60009-00#900 Air Check, Less Fittings
 18602.....Kit, Fitting, 1700 Brine, 900 Air Check
 18603.....Kit, Fitting, 1700 Brine, 2350 Safety

60711-00.....2" NPT, Less BTTNS, w/2 Holes
 60711-000.....2" NPT, Less BTTNS, w/3 Holes
 60711-01.....2" NPT, Less BTTNS, w/1 Hole
 60711-20.....2" NPT, 20 gpm
 60711-25.....2" NPT, 25 gpm, Brass
 60711-30.....2" NPT, 30 gpm
 60711-35.....2" NPT, 35 gpm
 60711-40.....2" NPT, 40 gpm
 60711-45.....2" NPT, 45 gpm
 60711-50.....2" NPT, 50 gpm
 60711-55.....2" NPT, 55 gpm
 60711-60.....2" NPT, 60 gpm
 60711-65.....2" NPT, 65 gpm
 60711-70.....2" NPT, 70 gpm
 60711-75.....2" NPT, 75 gpm
 60711-80.....2" NPT, 80 gpm
 60711-85.....2" NPT, 85 gpm
 60711-90.....2" NPT, 90 gpm
 60711-95.....2" NPT, 95 gpm
 60711-100.....2" NPT, 100 gpm
 60812-302" BSP/ Metric, 30 gpm
 60812-352" BSP/ Metric, 35 gpm
 60812-452" BSP/ Metric, 45 gpm
 60812-502" BSP/ Metric, 50 gpm
 60812-552" BSP/ Metric, 55 gpm
 60812-702" BSP/ Metric, 70 gpm
 60812-752" BSP/ Metric, 75 gpm
 60812-802" BSP/ Metric, 80 gpm
 60812-902" BSP/ Metric, 90 gpm
 60812-952" BSP/ Metric, 95 gpm
 60812-1002" BSP/ Metric, 100 gpm

BLFC Assy

60710-1.2BLFC, 1"F x 1"M, NPT, 1.2 GPM
 60710-10BLFC, 1"F x 1"M, NPT, 10 GPM
 60710-12BLFC, 1"F x 1"M, NPT, 12 GPM
 60710-15BLFC, 1"F x 1"M, NPT, 15 GPM
 60710-2.0BLFC, 1"F x 1"M, NPT, 2.0 GPM
 60710-2.4BLFC, 1"F x 1"M, NPT, 2.4 GPM
 60710-20BLFC, 1"F x 1"M, NPT, 20 GPM
 60710-25BLFC, 1"F x 1"M, NPT, 25 GPM
 60710-3.0BLFC, 1"F x 1"M, NPT, 3.0 GPM
 60710-3.5BLFC, 1"F x 1"M, NPT, 3.5 GPM
 60710-30BLFC, 1"F x 1"M, NPT, 30 GPM
 60710-4.0BLFC, 1"F x 1"M, NPT, 4.0 GPM
 60710-5.0BLFC, 1"F x 1"M, NPT, 5.0 GPM
 60710-7.0BLFC, 1"F x 1"M, NPT, 7.0 GPM
 60710-9.0BLFC, 1"F x 1"M, NPT, 9.0 GPM