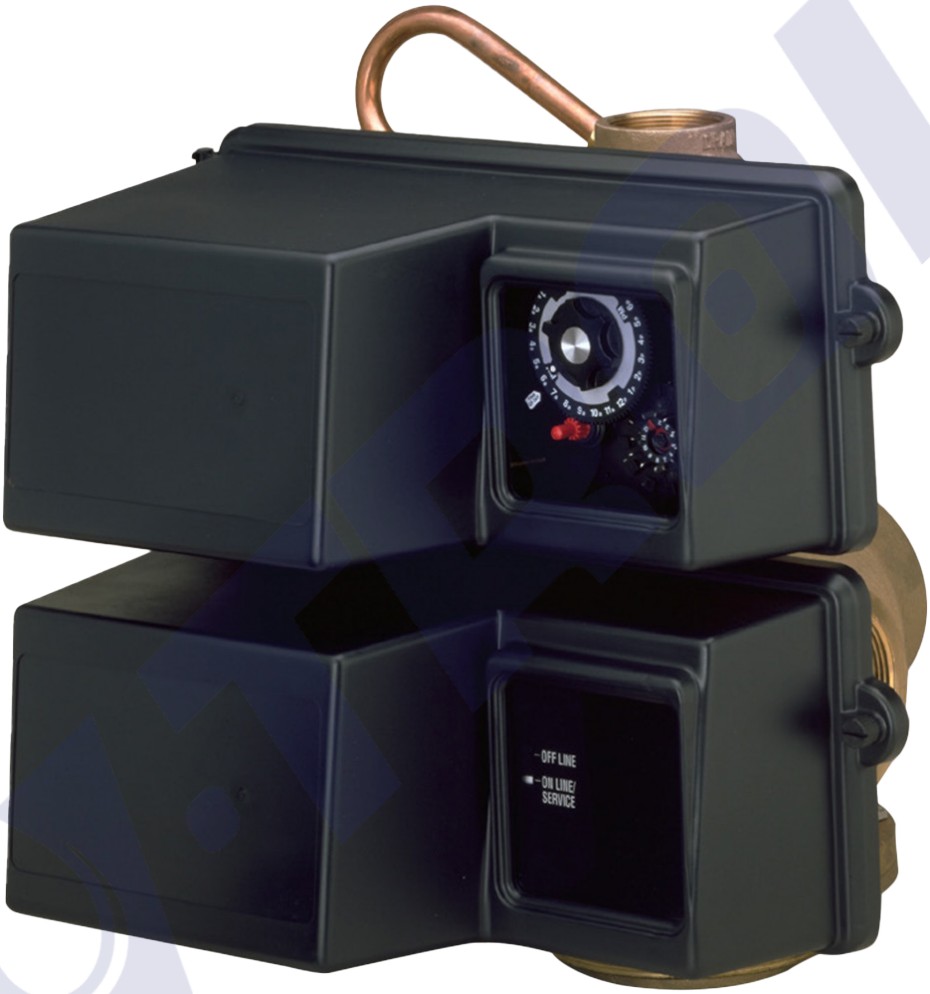
V·TROL
ELECTRONIC AND MANUAL VALVES

Vtrol V39 Flow Timer & Meter Control Valve (3900)



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ECO FRIENDLY

Eagle Redox Alloy® Filtration Media Technology

CERTIFIED ISO 9001:2015 COMPANY

V·TROL
ELECTRONIC AND MANUAL VALVES

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JOB SPECIFICATION SHEET

1. Type of Timer:2. Downflow: Upflow
Upflow Variable3. Meter Size:4. System Type:
5. Timer Program Settings:
6. Drain Line Flow Control: _____ gpm
7. Brine Line Flow Controller: _____ gpm
8. Injector Size#:
9. Piston Type:

CALIFORNIA PROPOSITION 65 WARNING

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

V-TROL
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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: OTHER VOLTAGES ARE AVAILABLE. PLEASE MAKE 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 with any non-petroleum oil (do not use coconut oil). Place the main control valve on tank.
6. Solder joints near the drain must be done prior to connecting the Drain Line Flow Control fitting (DLFC). Leave at least 6 inches (15 cm) between the DLFC and solder joints when soldering pipes that are connected on the DLFC. Failure to do this could cause interior damage to the DLFC.
7. Thread seal 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 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.

NOTE: ALL ELECTRICAL CONNECTIONS MUST BE CONNECTED ACCORDING TO LOCAL CODES. BE CERTAIN THE OUTLET IS UNINTERRUPTED.

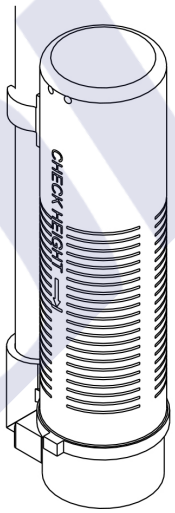


Figure 1: Residential Air Check Valve

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 regeneraton 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.

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START-UP INSTRUCTIONS *CONTINUED*

NOTE: DO NOT USE GRANULATED OR ROCK SALT.

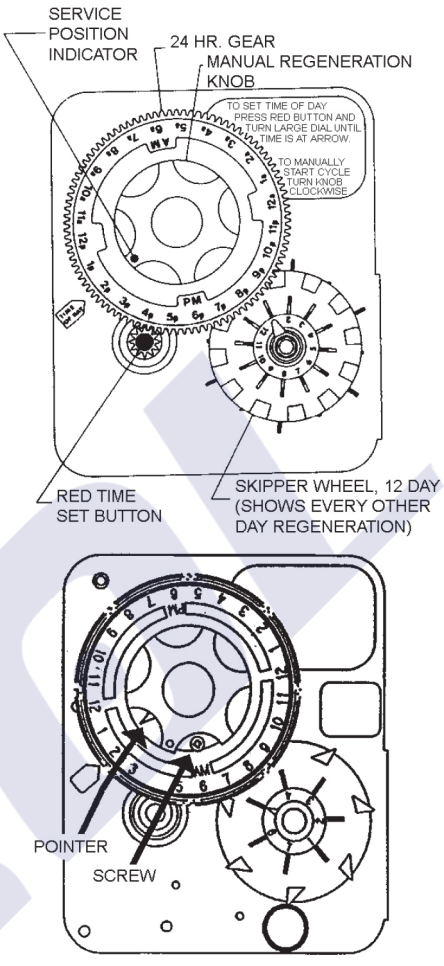
3200 TIMER SETTING PROCEDURE

How To Set Days On Which Water Conditioner Is To Regenerate (Figure 2)
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.
5. In any event, conditioned water may be drawn after rinse water stops flowing from the water conditioner drain line.

How to Adjust Regeneration Time
1. Disconnect the power source.
2. 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.
3. Loosen each screw slightly to release the pressure on the time plate from the 24-hour gear.
4. Locate the regeneration time pointer on the inside of the 24-hour dial in the cut out.
5. Turn the time plate so the desired regeneration time aligns next to the raised arrow.
6. Push the red button in and rotate the 24-hour dial. Tighten each of the three screws.
7. Push the red button and locate the pointer one more time to ensure the desired regeneration time is correct.
8. Reset the time of day and restore power to the unit.



3200 ADJUSTABLE REGENERATION TIMER

Figure 2

IMPORTANT: SALT LEVEL MUST ALWAYS BE ABOVE WATER LEVEL IN BRINE TANK.

3210 & 3220 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 3).

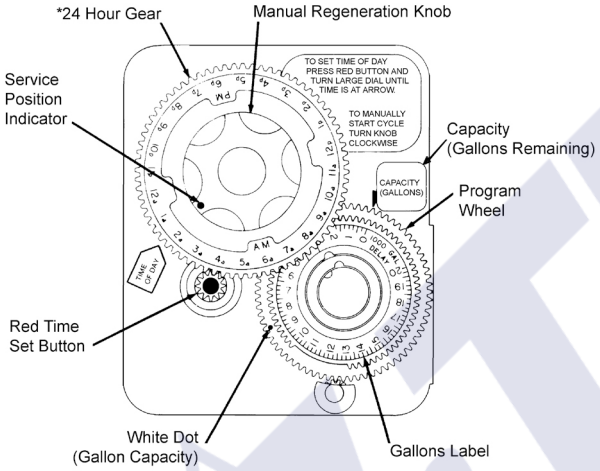
NOTE: DRAWING SHOWS 8,750 GALLON SETTING. THE CAPACITY (GALLONS) ARROW (15) SHOWS ZERO GALLONS REMAINING. THE UNIT WILL REGENERATE TONIGHT AT THE SET REGENERATION TIME.

How To Set The Time Of Day
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.

How To Manually Regenerate Your Water Conditioner At Any Time
1. Turn the manual regeneration knob clockwise.

3210 & 3220 TIMER SETTING PROCEDURE *CONTINUED*

Immediate Regeneration TimersNOTE: **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 3

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 4)
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.

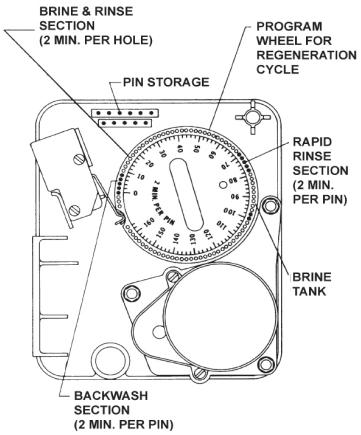
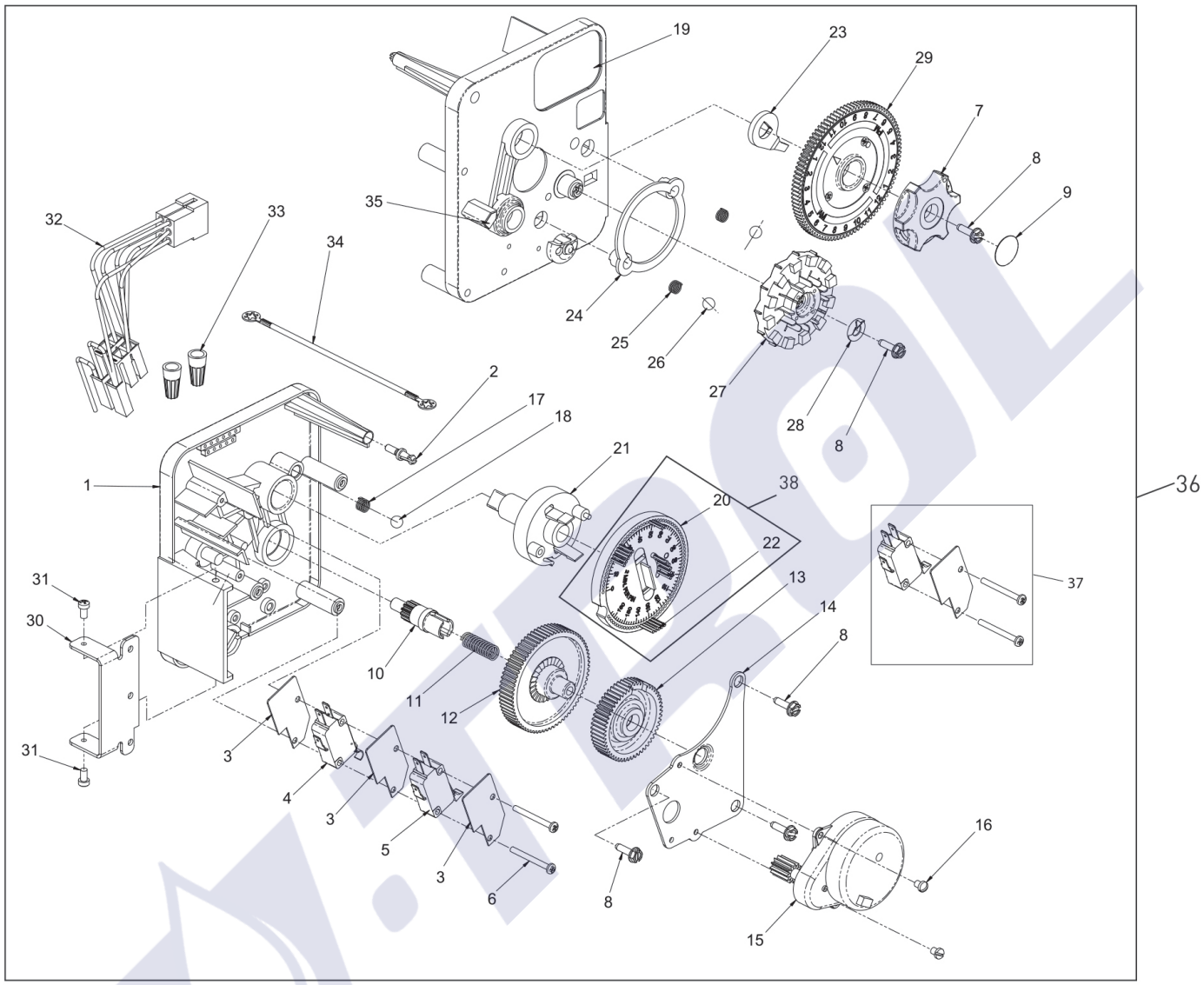


Figure 4

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3200 TIME CLOCK TIMER ASSEMBLY



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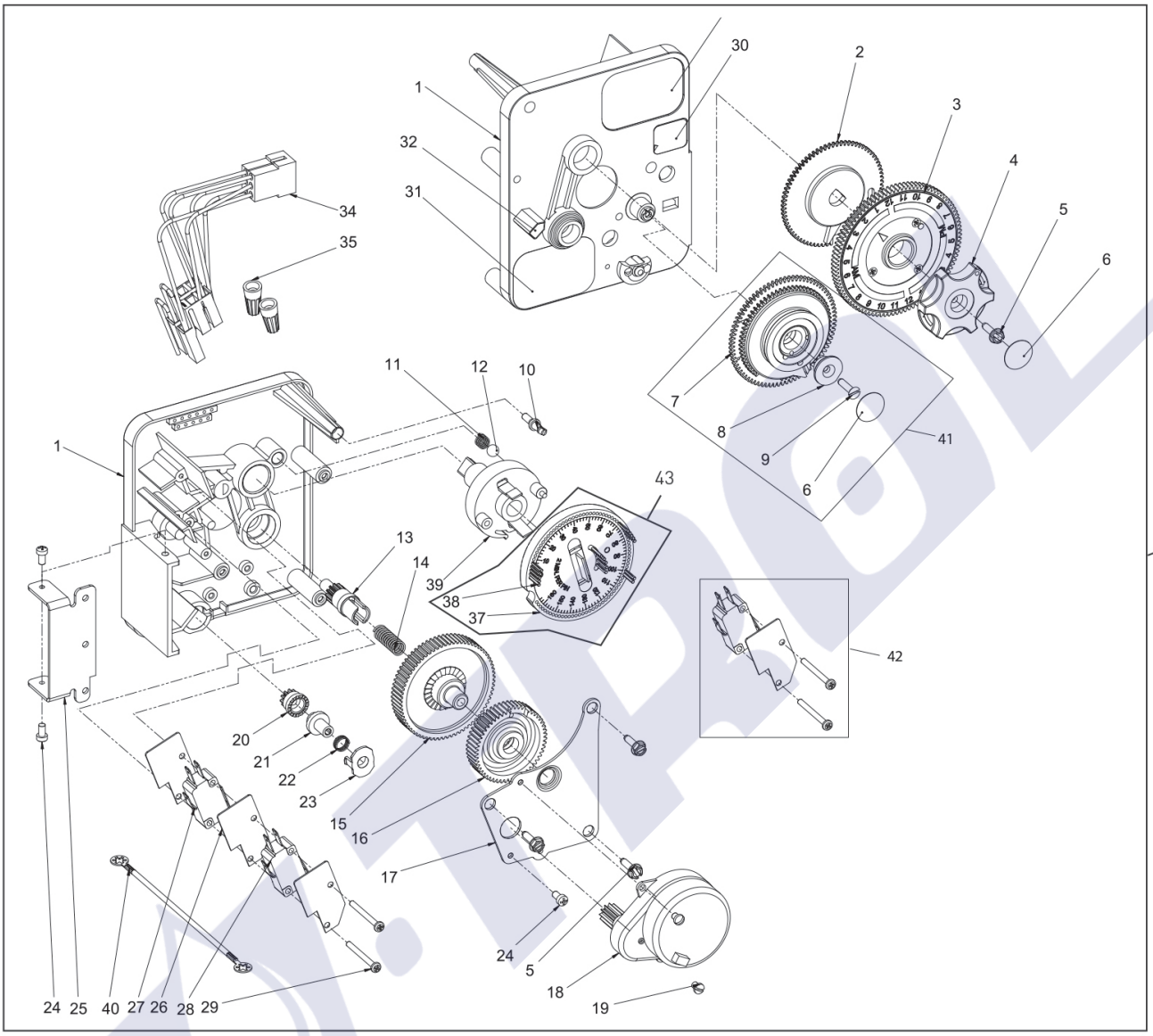
3200 METER DELAYED TIMER ASSEMBLY
CONTINUED

Item No.	QTY	Part No.	Description
1	1	13870	Housing, Timer, 3200
2	1	14265	Clip, Sping
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
	1	18752-1	Motor, 100V, 50Hz, 1/30 RPM
	1	18824-1	Motor, 230V, 50Hz, 1/30 RPM
	1	18826-1	Motor, 24V, 50Hz, 1/30 RPM
	1	19659-1	Motor, 24V, 60Hz, 1/30 RPM
	1	19660-1	Motor, 230V, 60Hz, 1/30 RPM
16	2	13278	Screw, Sltd 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
	1	14860	Skipper Wheel Assy, 7 Day
28	1	13014	Pointer, Regeneration
29	1	40096-24	Dial, 12 AM Regen Assy, Black
	1	40096-02	Dial, 2 AM Regen Assy, Black
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

*Call your distributor for Part Number

V·TROL
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3210 METER DELAYED TIMER ASSEMBLY



3210 METER DELAYED TIMER ASSEMBLY
CONTINUED

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
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		60405-80	Program Wheel, w/3-inch STD Label 63,750 gal
		60405-90	Program Wheel, w/3-inch EXT Label 320,000 gal
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

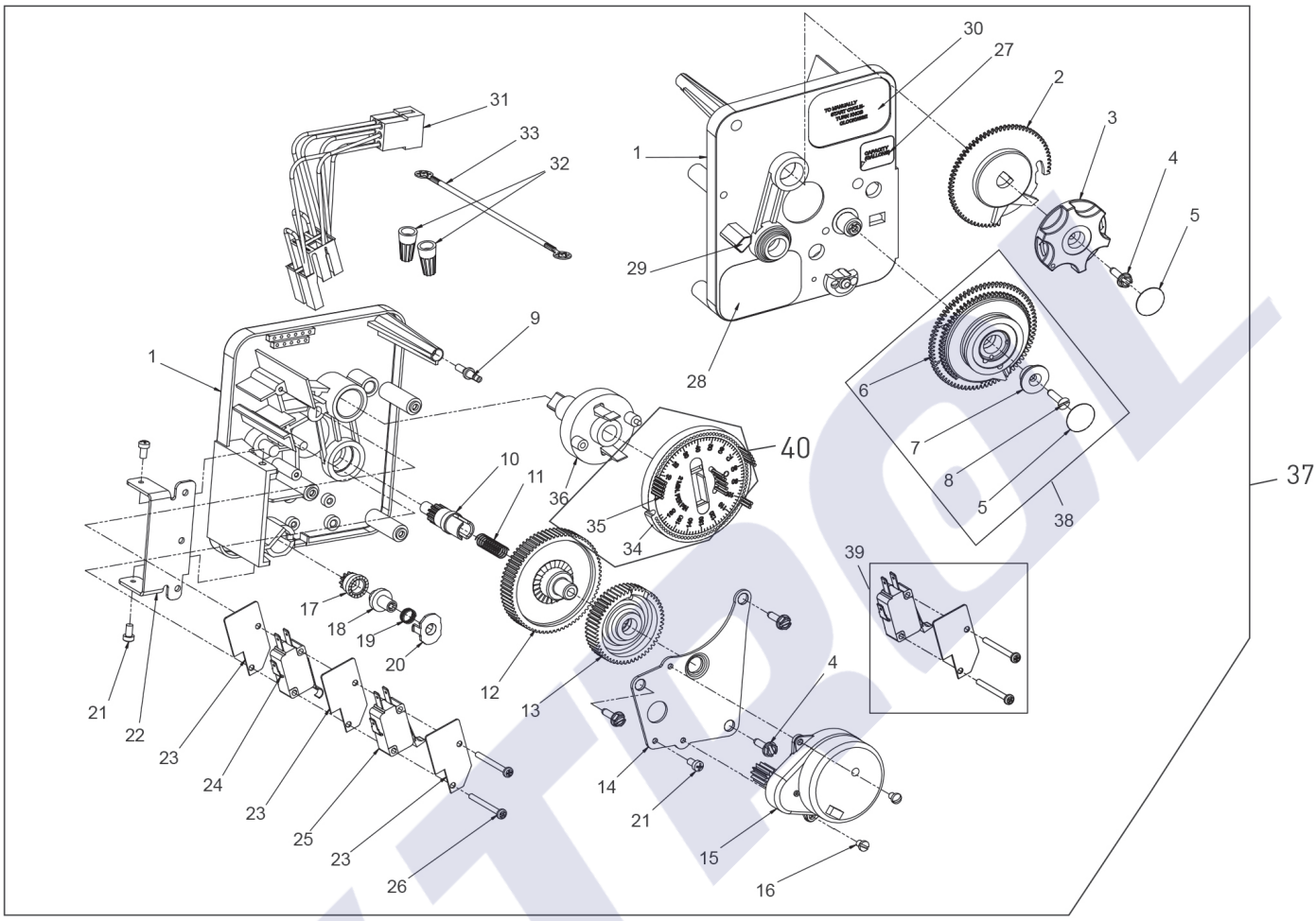
Not Shown:

	25141	Label, STD M^3, Gallon 240, 3-inch
	25142	Label, EXT M^3, Gallon 1200, 3-inch

*Call your distributor for Part Number

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3220 METER IMMEDIATE TIMER ASSEMBLY



3220 METER IMMEDIATE TIMER ASSEMBLY
CONTINUED

Item No.	QTY	Part No.	Description
1	1	13870	Housing, Timer
2	1	15431	Gear, Cycle Actuator, System #5
3	1	13886	Knob, 3200
4	4	13296	Screw, Hex Wsh, 6-20 x 1/2
5	2	11999	Label, Button
6	1	13807	Gear, Program Drive Wheel
7	1	13806	Retainer, Program Wheel
8	1	13748	Screw, Flt Hd St, 6-20 x 1/2
9	1	14265	Spring Clip
10	1	13018	Pinion, Idler
11	1	18563	Idler Shaft Spring
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
35	17	41754	Pin, Spring, 1/16 x 5/8 Stainless Steel, Timer
36	1	15055	Gear, Main Drive
37	1	*	Complete 3220 Meter Immediate Timer Assy
38		60405-80	Program Wheel, w/3-inch STD Label 63,750 gal
		60405-90	Program Wheel, w/3-inch EXT Label 320,000 gal
39		60320-02	Switch Kit, 3200/9000 Timer Auxiliary, Optional
40		61420-06	Program Wheel, Gear Assy, Softener Immediate 2 Min Per Pin
		61420-42	Program Wheel, Gear Assy, Filter Immediate 2 Min Per Pin

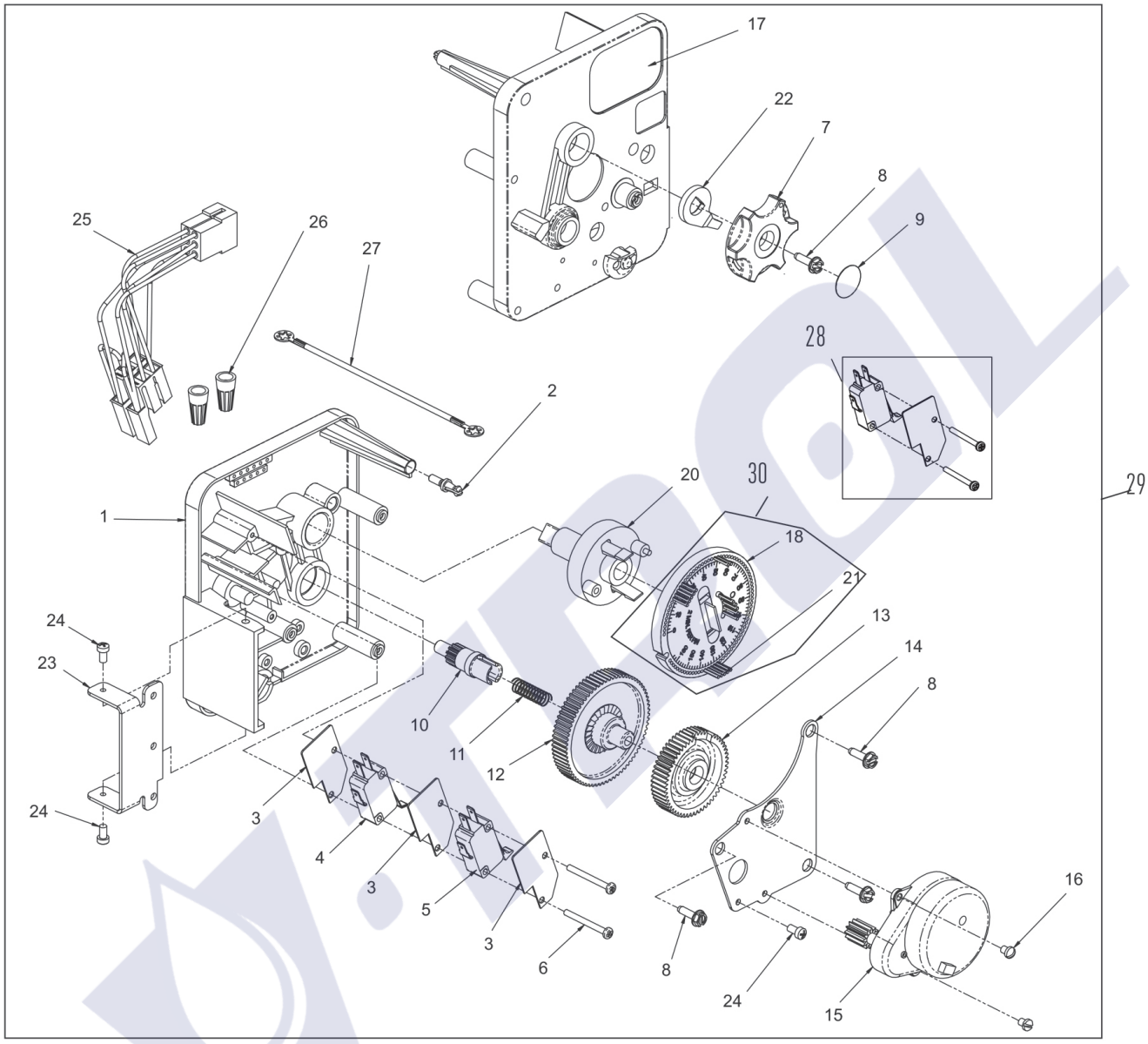
Not Shown:

	25141	Label, STD M^3, Gallon 240, 3-inch
	25142	Label, EXT M^3, Gallon 1200, 3-inch

*Call your distributor for Part Number

V·TROL
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3230 REMOTE START TIMER ASSEMBLY

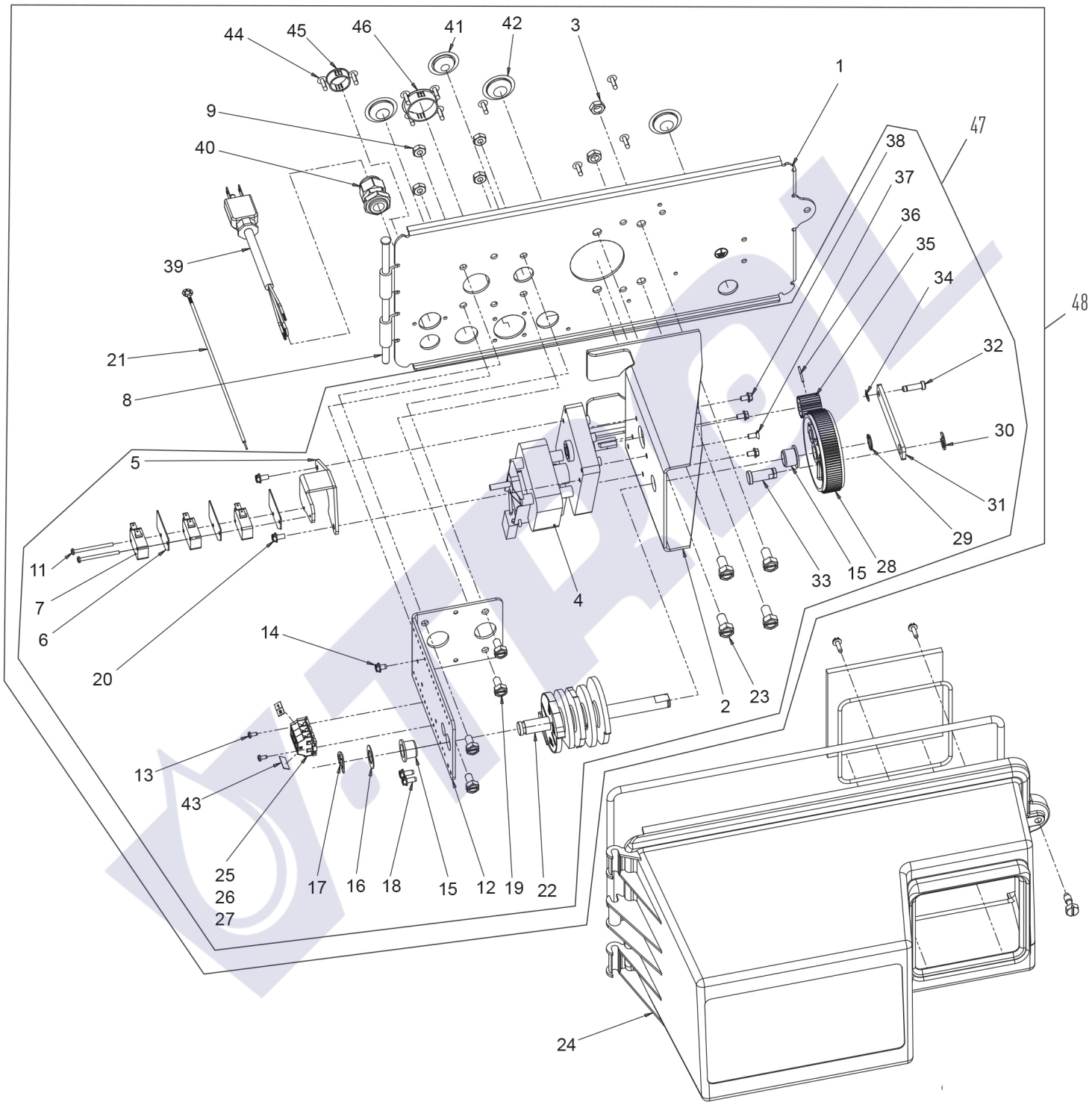


3230 REMOTE START TIMER ASSEMBLY
CONTINUED

Item No.	QTY	Part No.	Description
1	1	13870	Housing, Timer
2	1	14265	Spring Clip
3	3	14087	Insulator
4	1	15314	Micro Switch
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	4	13296	Screw, Hex Wsh, 6-20 x 1/2
9	1	11999	Label, Button
10	1	13018	Pinion, Idler
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
	1	18752-1	Motor, 100V, 50Hz, 1/30 RPM
	1	18824-1	Motor, 23V, 50Hz, 1/30 RPM
	1	18826-1	Motor, 24V, 50Hz, 1/30 RPM
	1	19659-1	Motor, 24V, 60Hz, 1/30 RPM
	1	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
22	1	13011	Cycle Actuator Arm
23	1	13881	Bracket, Hinge Timer
24	3	11384	Screw, Phil, 6-32 x 1/4 Zinc
25	1	16336	Harness, 3230R
26	2	40422	Nut, Wire, Tan
27	1	15354-01	Wire, Ground, 4 inches
28		60320-02	Switch Kit, 3200/9000 Timer Auxiliary, Optional
29		*	3230 Timer Assy
30		61420-06	Program Wheel, Gear Assy, Softener Immediate 2 Min Per Pin
		61420-42	Program Wheel, Gear Assy, Filter Immediate 2 Min Per Pin

*Call your distributor for Part Number

CONTROL DRIVE ASSEMBLY



CONTROL DRIVE ASSEMBLY *CONTINUED*

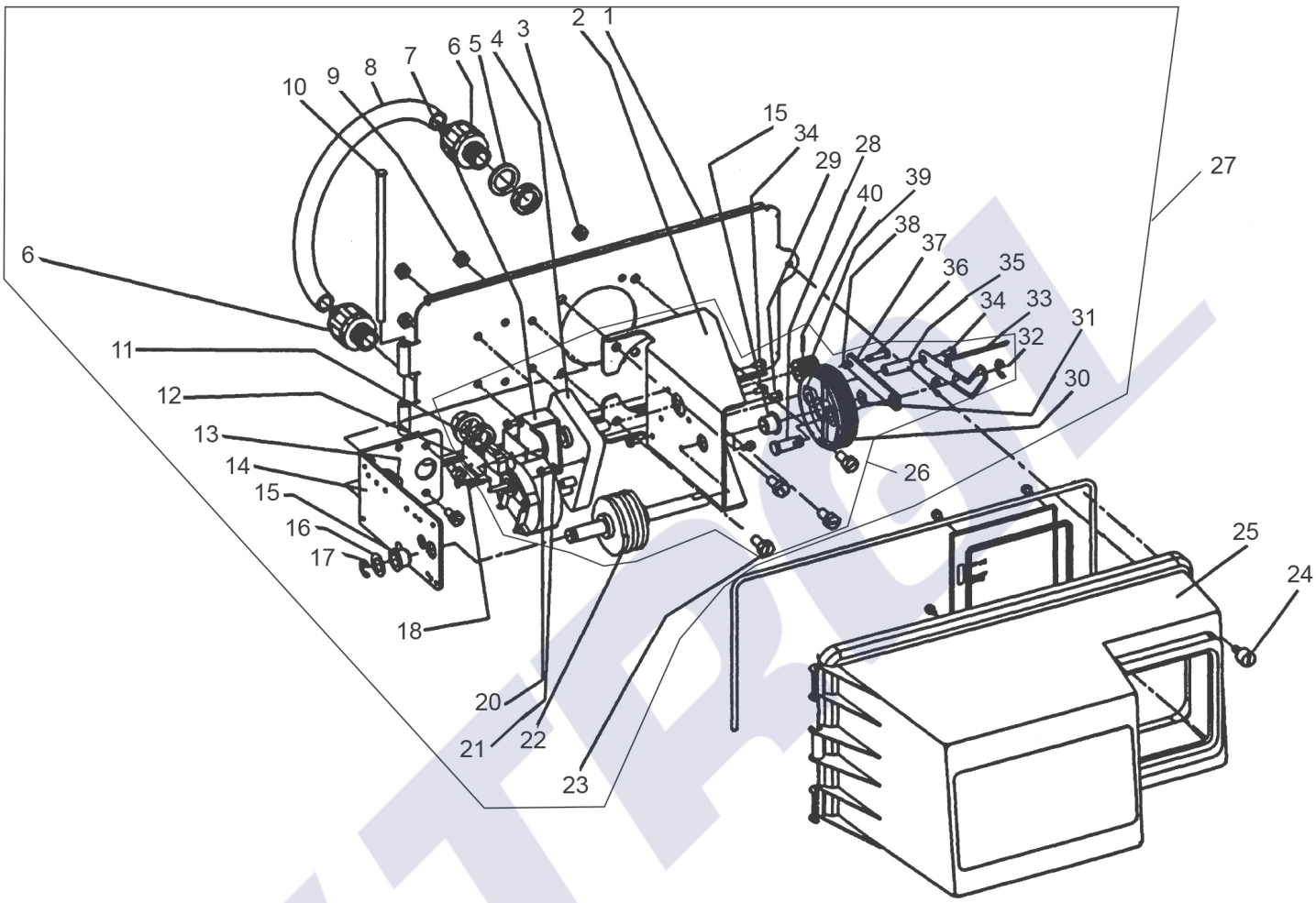
Item No.	QTY	Part No.	Description
1	1	19304-04	Backplate, 3150/3900, Upper, NEMA 3R
2	1	15120-01	Bracket, Motor Mtg, 3150/3900 Environmental
3	2	16346	Nut, Hex, Jam, 5/16 - 18
4	1	40392	Motor, Drive, 115V, 50/60 Hz, Sp
		40390	Motor, Drive, 220V, 50 Hz, Sp, Fam 3
		42581	Motor, Drive, 24VAC/DC, 50-60 Hz, Fam 3
5	1	17797	Bracket, Switch Mounting, 3150/3900
6	4	10302	Insulator, Limit Switch
7	3	10218	Switch, Micro
8	1	17845-03	Pin, Hinge, 3150/3900, Env
9	4	11235	Nut, Hex, 1/4 -20, Mach Screw, Zinc
10	2	13365	Washer, Lock, #4, External
11	2	40080	Screw, Rd Hd, 4-40 x 1-1/2 inch
12	1	16053	Bracket, Brine Side
13	2	40133	Screw, Pan Hd, 4-40 x 1/4-inch
14	2	40133	Screw Pan HD, 4-40 x 1/4-inch
15	2	16052	Bushing, 3150/3900
16	1	16059	Washer, SS, .88, 3150/3900
17	1	16051	Ring, Retaining, Bowed
18	2	10300	Screw, Slot Hex Wsh, 18-8 x 3/8
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, Upflow, 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	5	41084	Terminal Block, Segment, Gray
26	1	41085	Endplate, Terminal Bloack, 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 feet US, Round, 120V
		40085-12	Power Cord, 12 feet US, Round, 240V
		11545	Power Cord, 4 feet European, Black
		19303	Power Cord, 8 feet, Australian
		19885	Power Cord, Japanese, 110V/120V
40	1	17967	Fitting Assy, Liquid Tight, Blk
41	1	19691	Plug, .750 Dia, Recessed, Black
42	3	19591	Plug, .8750 Hole, Recessed, Black
43	2	15250	Label, Terminal Strip
44	10	19800	Plug, .140 Dia, White
45	1	15806	Plug, Hole, Heyco #2693
46	1	17421	Plug, 1.20 Hole
47		60057-01	Drive Assy, 3150, 120V, SYS 5 & 7, Signal After Brine Tank Fill
		60057-03	Drive Assy, 3150, 24V, 3900 Upper, SYS #5 or SYS #7
		60057-11	Drive Assy, 3150, 120V, 3900 Upper, SYS #4 or SYS #6
		60057-21	Drive Assy, 3150, 120V, Upflow, 3900 Upper, SYS 5 or SYS 7, Brine Draw First
48	*		3150 Powerhead Assembly

Not Shown

1	17470	Cable Guide Assy, 2850/3150
1	19856	Ring, Retaining (Used on Cover)
1		Timer (See Timer Section)
1	16427-04	Wire, Lead, 12 inches, White
1	40396	Harness, Drive, Environmental
1	14924	Strain Relief Heyco #1247
1	15513	Meter Cable, 17.5 inches, 2 inches
1	15216	Meter Cable, 15.25 inches, 1.5 inches
1	18585	Harness, 3900, Aux Switch

*Call your distributor for Part Number

ADAPTER CONTROL DRIVE LOWER POWERHEAD



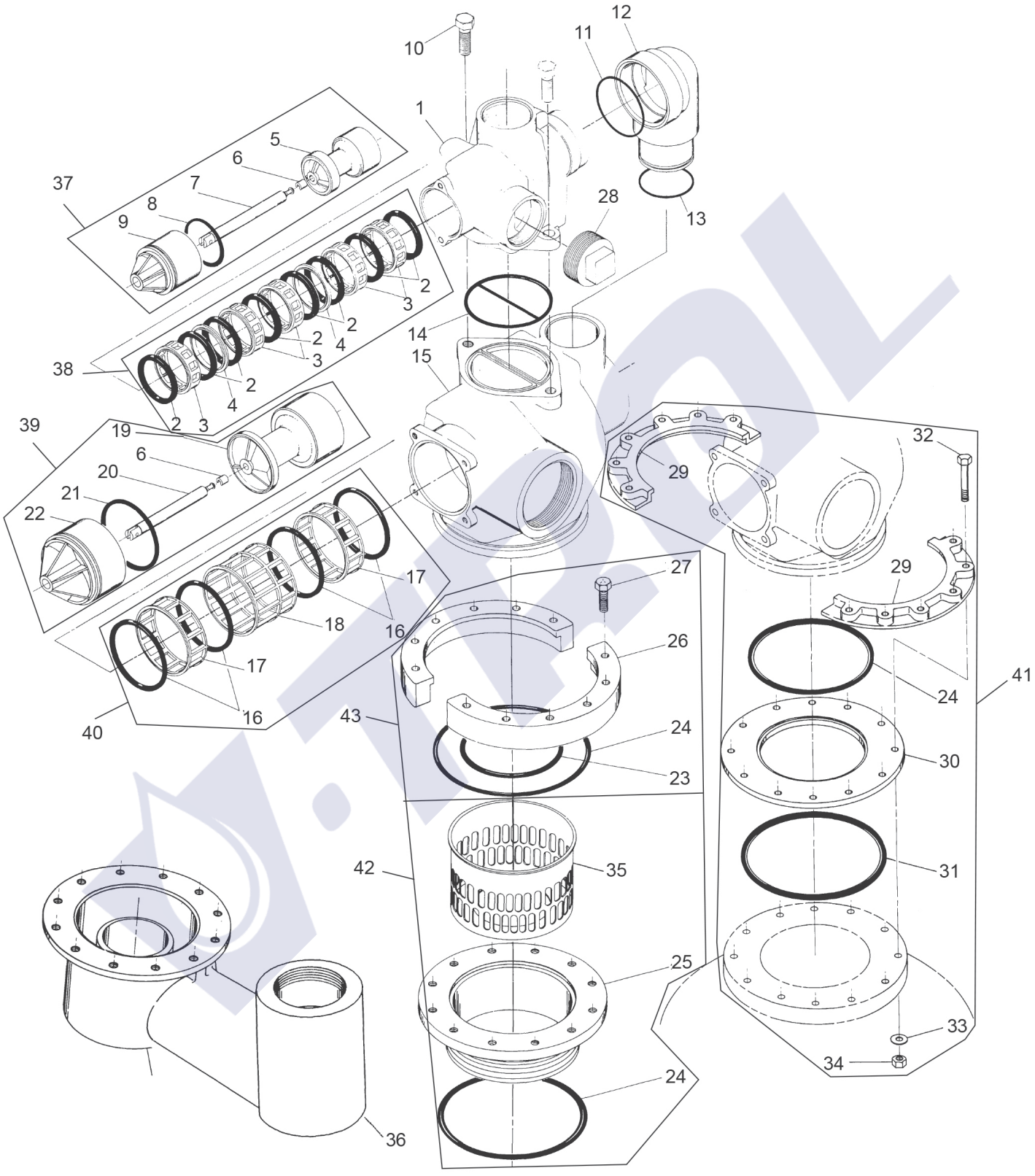
V·TROL
ELECTRONIC AND MANUAL VALVES

ADAPTER CONTROL DRIVE LOWER POWER-HEAD *CONTINUED*

Item No.	QTY	Part No.	Description
1	1	19305	Back Plate, 3900 Lower, Environmental
2	1	16086	Bracket - Motor Mounting
3	2	16346	Nut
4	1	40392	Drive Motor - 115 V. 50/60 Hz.
		40390	Drive Motor - 220 V. 50/60 Hz.
		42581	Drive Motor - 24 VAC/DC 50/60 Hz.
5	2	18692	Washer, Sealing
6	2	18691	Connector, Conduit
7	1	17797	Bracket - Switch Mounting
8	1	18693	Conduit, Interdrive
9	4	11235	Nut, 1/4-20
10	1	17845-03	Pin, Hinge
11	1	10218	Switch
12	2	10302	Insulator - Switch
13	4	10231	Screw - Hex Head, 1/4-20 x 1/2, 18-8 S.S.
14	1	16053	Bracket - Brine Side
15	2	16052	Bushing
16	1	16059	Washer
17	1	16051	Retaining Ring - Bowed "E"
18	2	11805	Screw, RD HD, 4-40 x 5/8-inch, Type 1, Steel/Zinc
20	2	17567	Screw - Hex Head, WSH, 8 x 1/2, Type B, 18-8, S.S.
21	2	12288	Washer, Lock, Internal #8
22	1	16495	Cam Assembly
23	4	11224	Screw - Hex Head, 5/16-18 x 5/8, S.S.
24	1	19813/41536	Screw O-ring, Cover
25	1	60240-22	Cover, Black, Lower, Environmental

Item No. QTY Part No. DescriptionNot Shown:

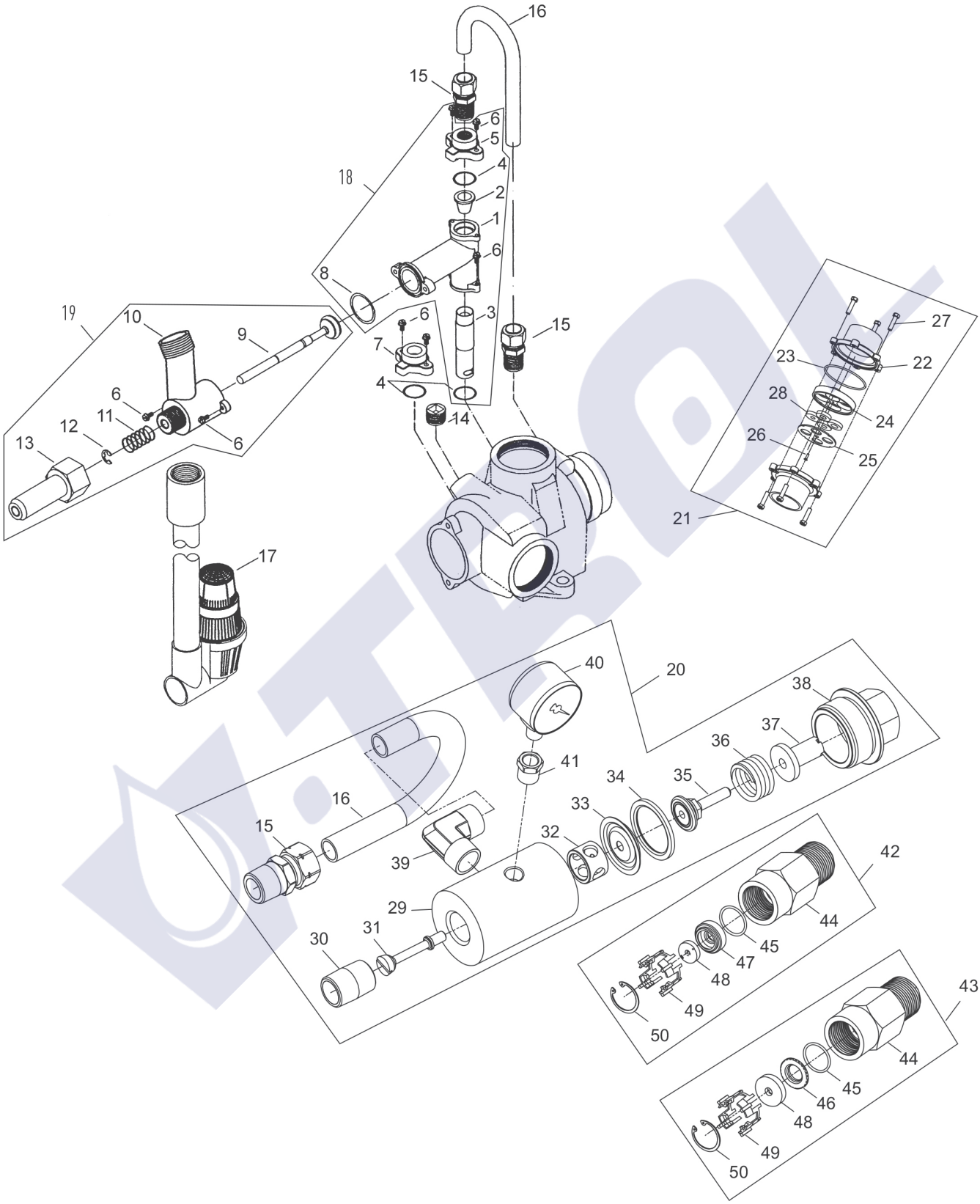
CONTROL VALVE



CONTROL VALVE *CONTINUED*

Item No.	QTY	Part No.	Description	Options
1	1	15114	Valve Body	
2	8	11720	Seal	
		11720-02	Seal, Silicone	
3	5	10369	Spacer - Port	
4	2	10368	Spacer	
5	1	16130	Piston	
6	2	14818	Clip - Piston Rod	
7	1	15125	Piston Rod	
8	1	14922	O-ring -035	
9	1	16398-01	End Plug Assembly	
10	2	40118	Screw - Hex Head	
11	1	16078	O-ring - 149	
12	1	16074	Coupling	
13	1	16077	O-ring - 140	
14	1	15112	Seal	
15	1	16067-02	3-inch Adapter Body	
16	4	16068	Seal	
		41534	Seal, 3900, 558 BP	
17	2	16069	Spacer - Narrow	
18	1	16070	Spacer - Wide	
19	1	16071	Piston	
		16082	Piston - No Hard Water Bypass	
20	1	16072	Piston Rod	
21	1	16076	O-ring - 042	
22	1	16399-01	End Plug Assy - White	
		16399-11	End Plug Assy - Black, NHWB-P	
23	1	16800	O-ring - 238	
24	2	16345	O-ring - 362	
25	1	16255	Tank Adapter - 6-inch -8	
26	2	16257	Flange Segment	
27	12	11238	Screw - Hex Head	
28	1	16088	Pipe Plug - 2-inch NPT	
35	1	16258	Flow Disperser	
37		60106-00	Piston Assy, 3900/3150 STD	
		60106-10	Piston Assy, 3150, Upflow	
38		60131	Seal & Spacer Kit, 3900 Upper, 3150	
		60131-10	Seal & Spacer Kit, Silicone, Chemical Resistant, 3900 Upper, 3150	
39		60107-00	Piston Assy, 3900, HWBP, Lower	

1800 SERIES BRINE SYSTEM AND DRAIN LINE FLOW CONTROL ASSEMBLY



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

Item No.	QTY	Part No.	Description
1	1	16340	Body, Injector, 1800 D/F
		16340-20	Body, Injector, 1800, Downflow, Metric
		16340-01	Body, Injector, 1800 Upflow
		16340-21	Body, Injector, 1800, Upflow, Metric
2	1	15128-xx	Injector Nozzle
		15128-04	#4 Green
		15128-05	#5 Red
		15128-06	#6 White
		15128-07	#7 Blue
		15128-08	#8 Yellow
		15128-09	#9 Violet
		15128-10	#10 Black
3	1	15127-xx	Injector Throat
		15127-04	#4 Green
		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-inch 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, Upflow
17	1	60009-00	Air Check, #900, Commercial Less Fittings
		60009-01	Air Check, #900, Commercial, HW Less Fittings
18		60277-04	Injector Assy, 1800, #4, Downflow
		60272-04	Injectory Assy, 1800, #4, Upflow
		60277-05	Injectory Assy, 1800 #5, Downflow
		60272-05	Injector Assy, 1800, #5, Upflow
		60277-06	Injector Assy, 1800, #6, Downflow
		60277-07	Injector Assy, 1800, #7, Downflow

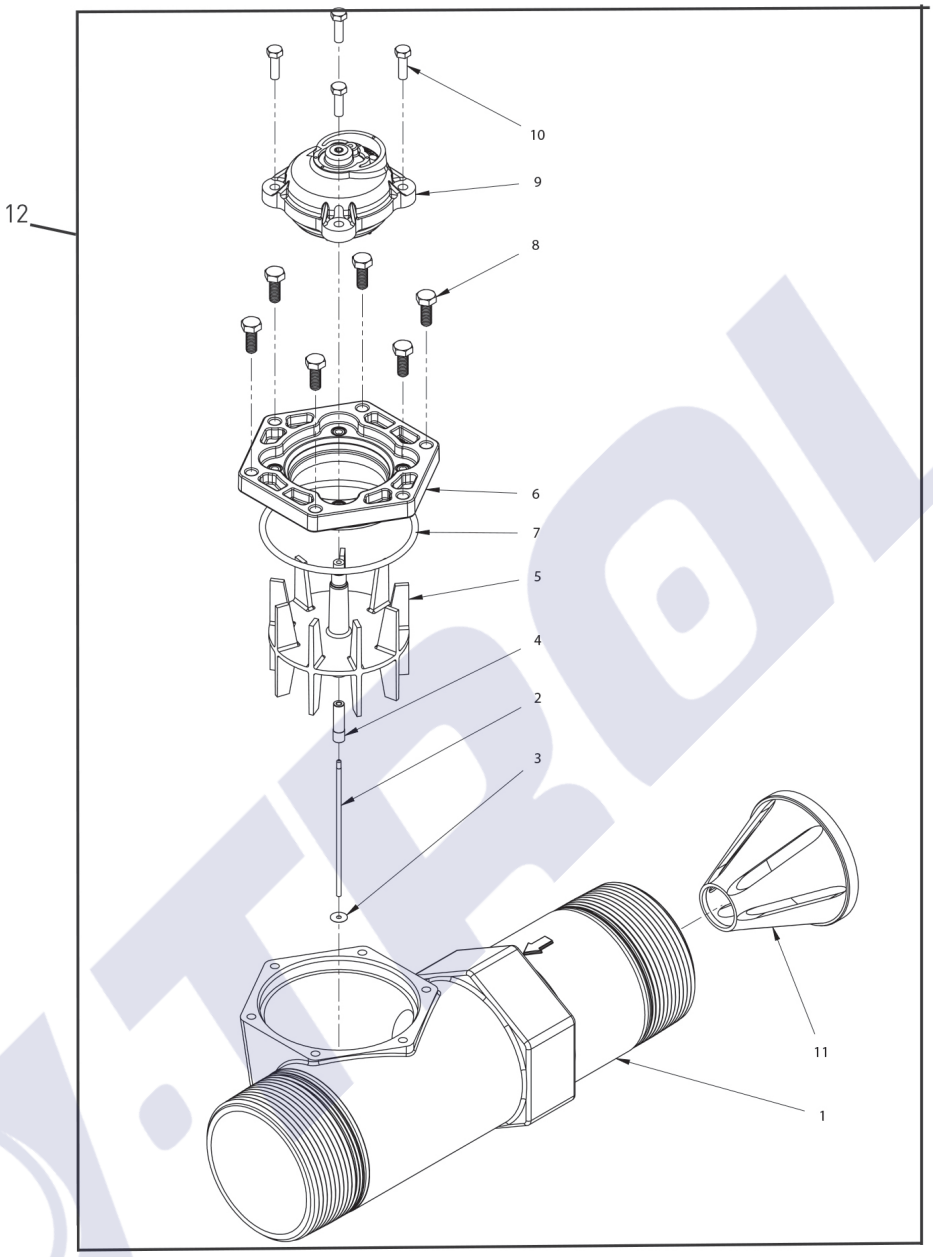
1800 SERIES BRINE SYSTEM AND DRAIN LINE FLOW CONTROL ASSEMBLY *CONTINUED*

Item No.	QTY	Part No.	Description
		60812-75	DLFC, 2-inch BSP/Metric, 75 gpm
		60812-80	DLFC, 2-inch BSP/Metric, 80 gpm
		60812-90	DLFC, 2-inch BSP/Metric, 90 gpm
		60812-95	DLFC, 2-inch BSP/Metric, 95 gpm
		60812-100	DLFC, 2-inch BSP/Metric, 100 gpm
22	2	27913-21	Housing, Flow Control, 2-inch BSP
23		16804	O-ring, -150
24	1	16649	Holder, DLFC Button
25	1	16650	Cover Plate DLFC
26	1	13898	Screw, Flat HD, Phil, Steel
27	6	13386	Screw, Hex HD MACH, 1/4-20 x 1 OR Slot Hex Cap Screw 18-8 S.S.
		17976	Screw, Hex HD, M6 x 25 mm
28		16529	Washer, Flow, 10.0 gpm
		16736	Washer, Flow, 15.0 gpm
		16528	Washer, Flow, 20.0 gpm
		16737	Washer, Flow, 25.0 gpm
29	1	19089	Body Regulator 3150
30	1	10242	Fitting, Nipple, 1/2-inch, Close
31	1	19091	Pin, Regulator 3150
32	1	19093	Stand-Off Regulator 3150
33	1	19095	Diaphragm, Regulator 3150
34	1	19094	Washer, Regulator 3150
35	1	19092	Retainer, Regulator 3150
36	1	19101	Spring, Regulator 3150
37	1	19399	Washer, Calibration 3150
38	1	19090	Cap, Regulator 3150
39	1	19278	Fitting, Tube, 90 Deg
40	1	19693	Pressure Gauge
41	1	41232	Bushing Reducer 1/4 x 1/8
42		60710-1.2	BLFC, 1-inch F x 1-inch M, NPT, 1.2 gpm
		60710-2.0	BLFC, 1-inch F x 1-inch M, NPT, 2.0 gpm
		60710-2.4	BLFC, 1-inch F x 1-inch M, NPT, 2.4 gpm
		60710-3.0	BLFC, 1-inch F x 1-inch M, NPT, 3.0 gpm
		60710-3.5	BLFC, 1-inch F x 1-inch M, NPT, 3.5 gpm

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

Item No. QTY Part No. DescriptionNot Shown - Option Without Brine Valve

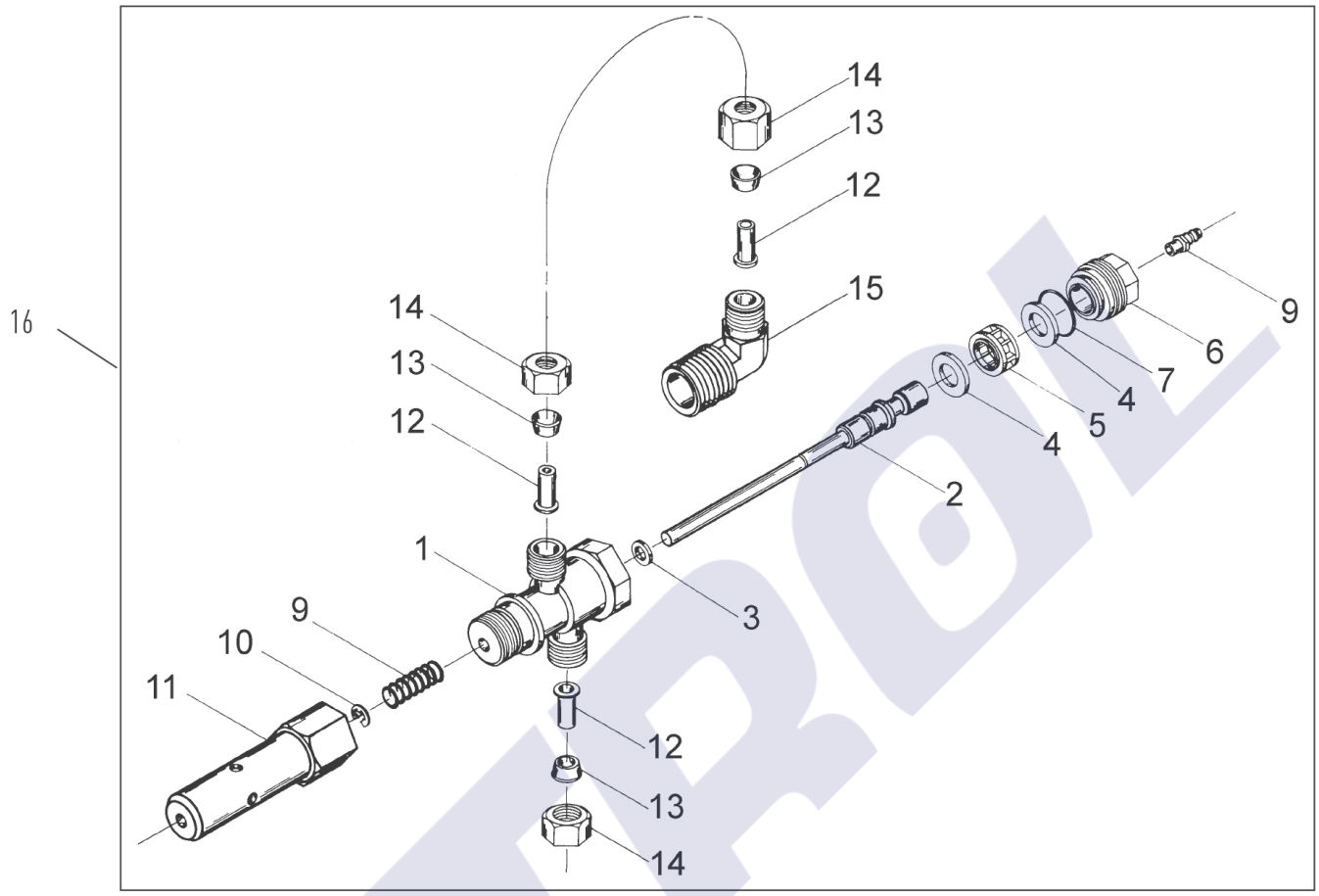
3-INCH METER ASSEMBLY



Item No.	QTY	Part No.	Description
1	1	43787-10	Body, Meter, 3", SS, NPT
	1	43787-20	Body, Meter, 3", SS, BSP
2	1	16279	Shaft, Impeller
3	1	16574	Washer, Plain, SS
4	1	15381	Plug, Impeller
5	1	16252-01	Impeller, 3900, PP
6	1	43982	Meter Plate, 3"
7	1	15707	O-Ring, -236
8	6	44074	Screw - Hex HD, M6X16MM, SS
9	1	61936	Meter Cap ASSY
		61936-01	Meter Cap ASSY, EXT Range
10	4	21716	Screw, Hex Head, MS X 16

Item No.	QTY	Part No.	Description
11	1	16280	Flow Straightener, 3"
12		61935-10	Meter Assy, 3" INLN, SS, NPT STD
		61935-11	Meter Assy, 3" INLN, SS, NPT EXT
		61935-20	Meter Assy, 3" INLN, SS, BSP STD
		61935-21	Meter Assy, 3" INLN, SS, BSP STD

SERVICE VALVE OPERATOR ASSEMBLY



Item No.	QTY	Part No.	Description
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

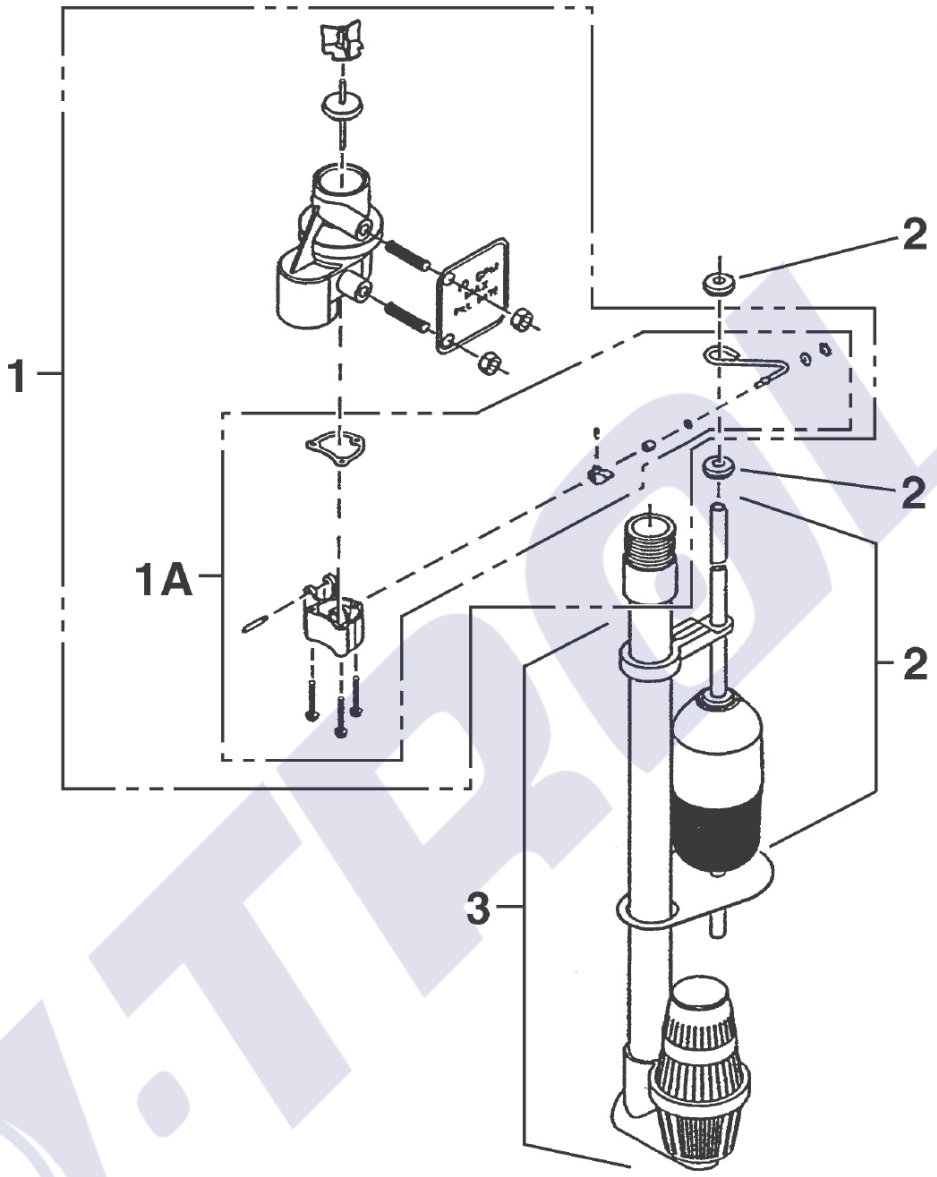
(Includes Items 1-15)

Not Shown

	1	16511	Tube, 3150, PVC, SVO

V·TROL
ELECTRONIC AND MANUAL VALVES

2350 SAFETY BRINE VALVE



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

Not Shown

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

TROUBLESHOOTING

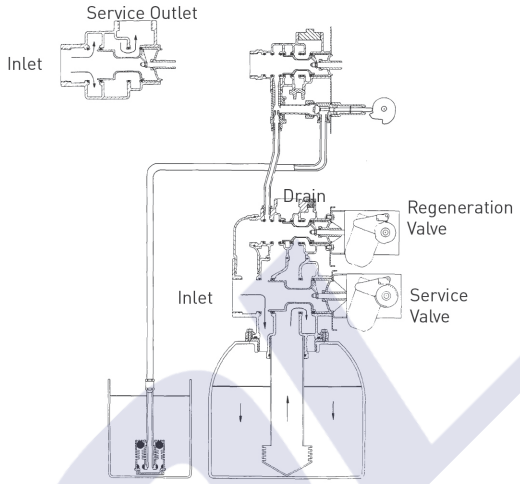
Problem	Cause	Correction
Water conditioner fails to regenerate.	Electrical service to unit has been interrupted.	Assure permanent electrical service (check fuse, plug, pull chain, or switch)
	Timer is defective.	Replace timer.
	Power failure.	Reset time of day.
Hard water.	By-pass valve is open.	Close 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.	Check for proper drain rate.
	Improperly sized drain line flow control.	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.
Excessive water in brine tank.	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 brine 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.

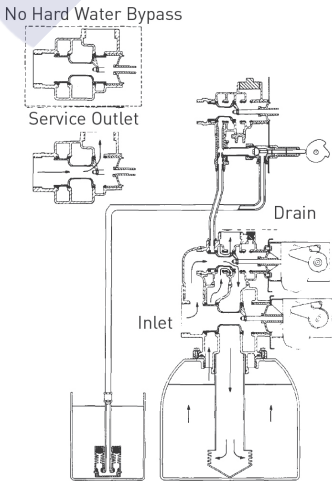
WATER CONDITIONER FLOW DIAGRAMS

1 Service Position



Hard water enters at valve inlet and flows down through mineral to the bottom distributor. Conditioned water flows up through the distributor tube, around the piston and out the outlet.

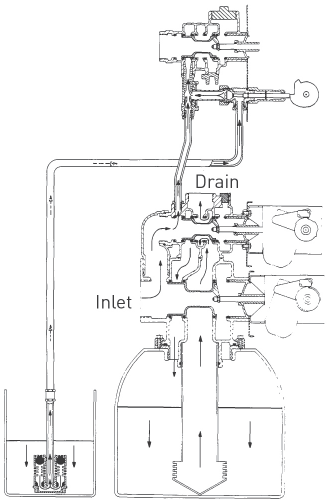
2 Backwash Position



Hard water enters at valve inlet – flows through service adapter piston for by-pass, and up through coupling to regeneration valve inlet. Flow continues through the regeneration valve piston – down the distributor tube – through the bottom distributor and up through the mineral – around the piston and out the drain. If optional no hard water by-pass piston is used, water flow to service outlet is prevented by an extension on the service outlet until the end of the rapid rinse cycle or brine tank refill cycle, depending on options chosen.

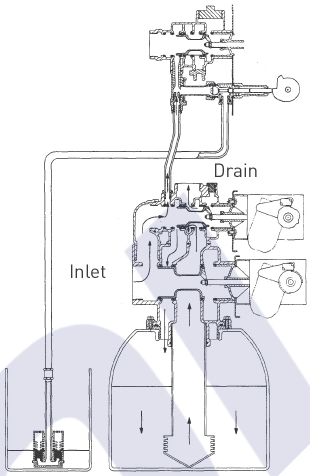
WATER CONDITIONER FLOW DIAGRAMS
CONTINUED

3 Brine Position



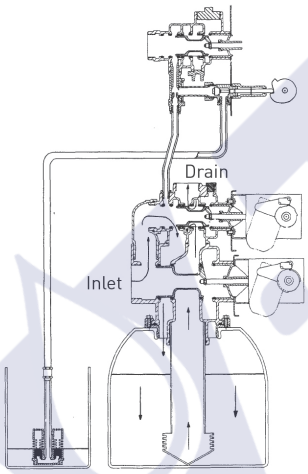
Hard water enters at valve inlet – flows through injector nozzle and throat to draw brine from the brine tank. Brine flows down through the mineral – into the bottom distributor – up the distributor tube – around the piston and out the drain.

5 Rapid Rinse Position



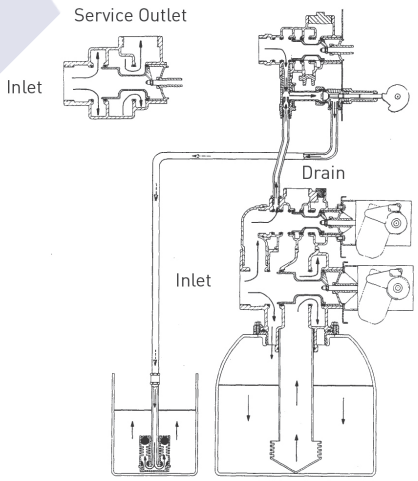
Hard water enters at valve inlet – flows through the regeneration valve directly down through the mineral – into the bottom distributor – up the distributor tube – around the piston and out the drain.

4 Slow Rinse Position



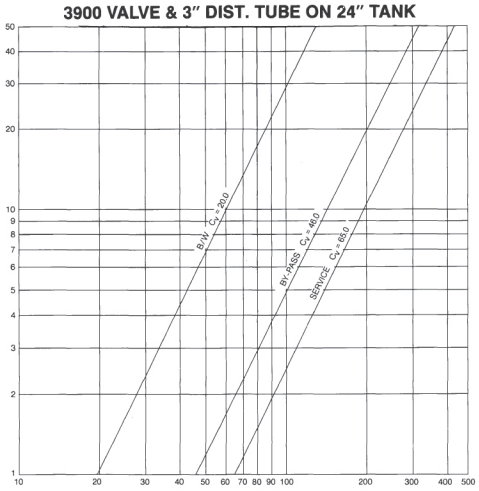
Hard water enters at valve inlet – flows through injector nozzle and throat – down through the mineral – into the bottom distributor – up the distributor tube – around the piston and out the drain.

6 Brine Tank Refill Position

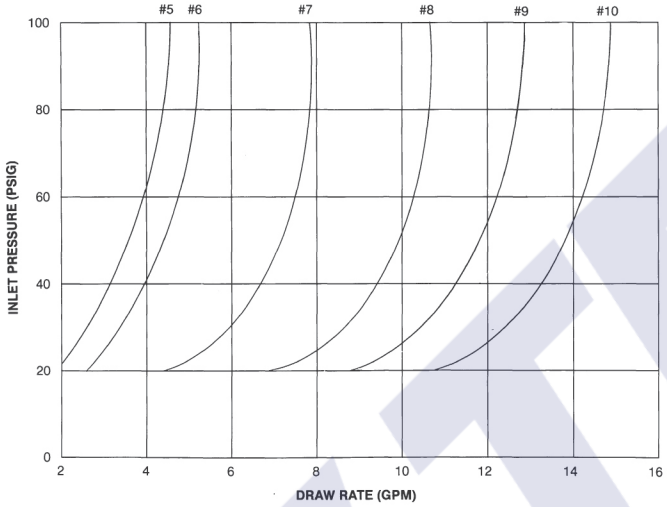


FLOW DATA & INJECTOR DRAW RATES

3900 VALVE & 3" DIST. TUBE ON 24" TANK

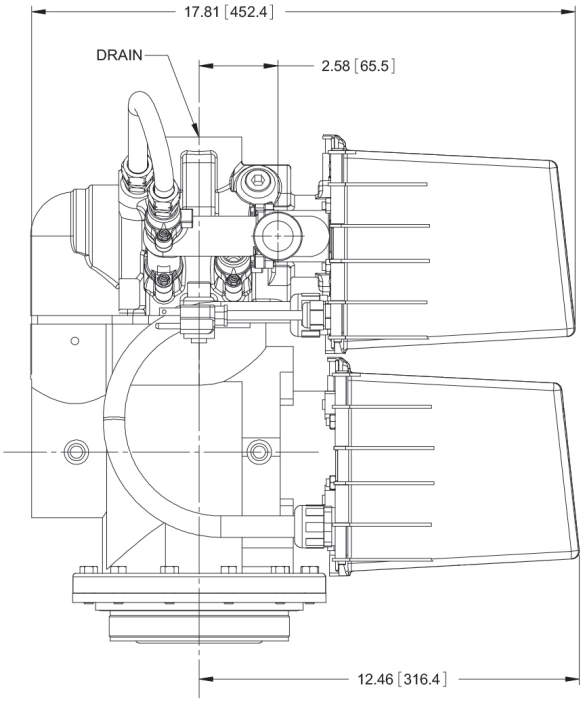


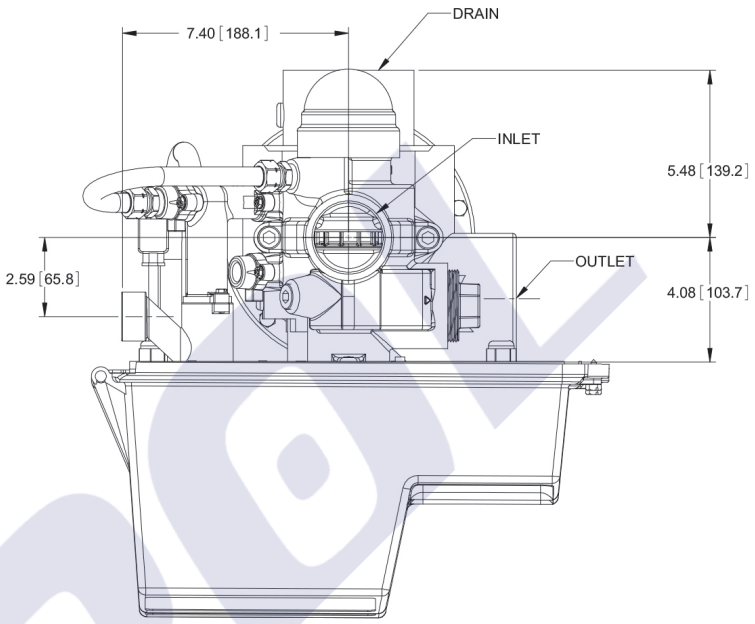
3900 ON EMPTY TANK

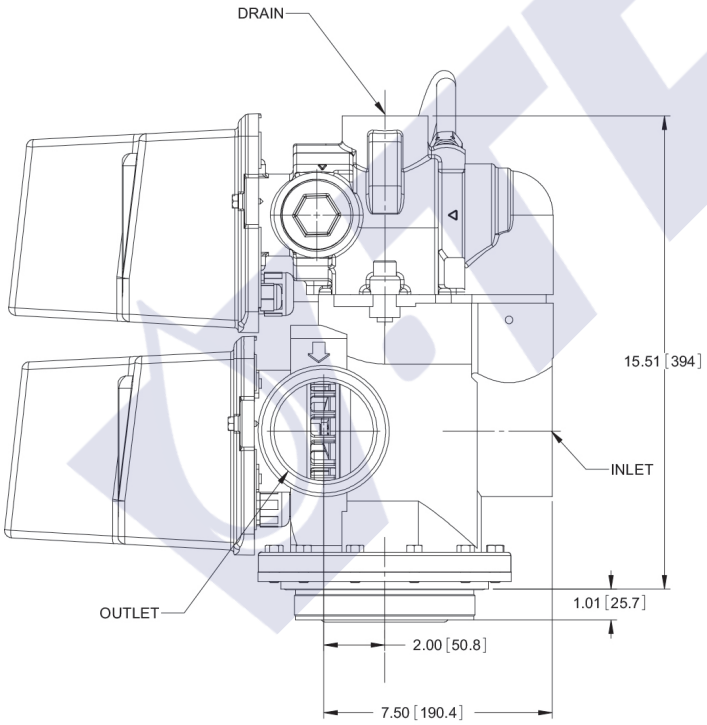


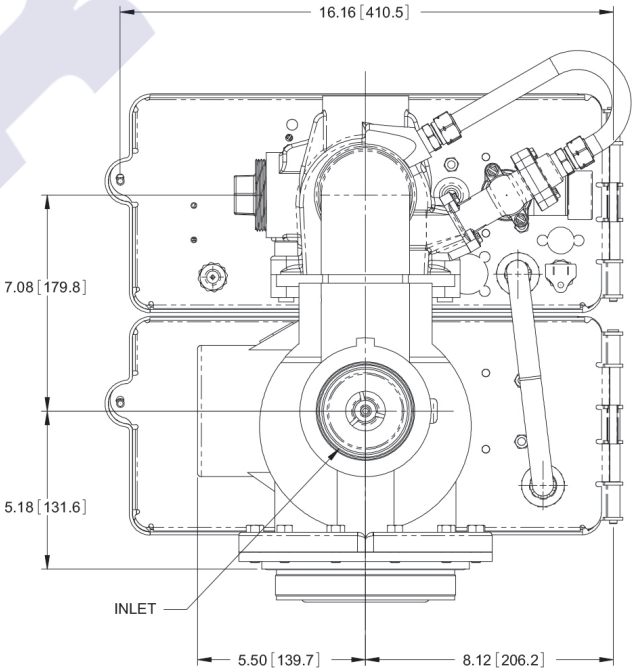
V·TROL
ELECTRONIC AND MANUAL VALVES

DIMENSIONAL DRAWING 3900 TOP MOUNT

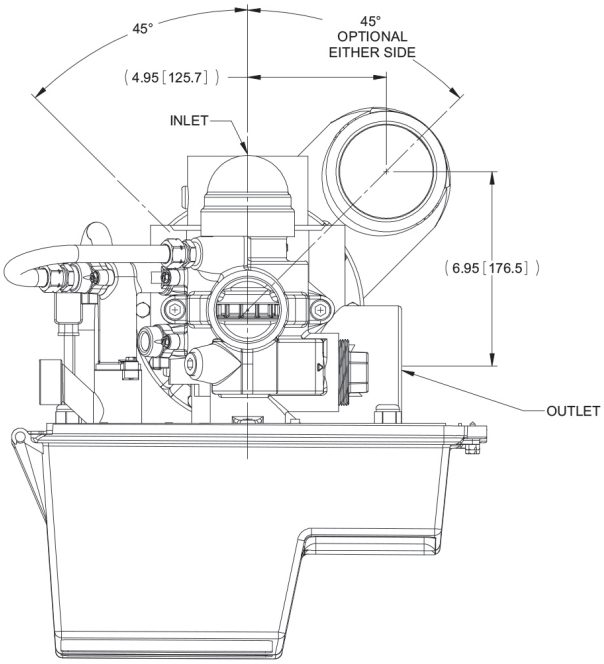


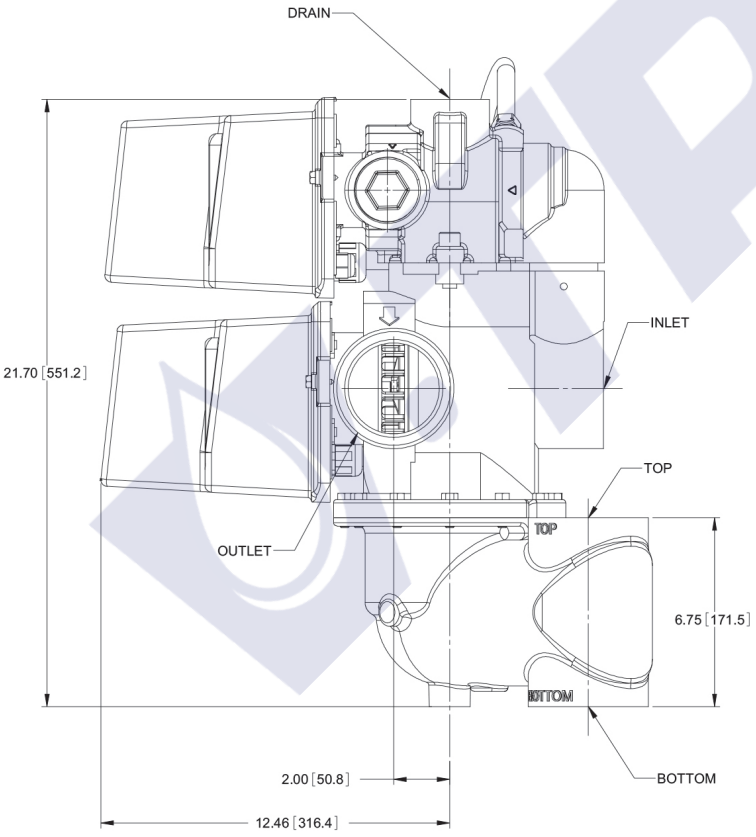


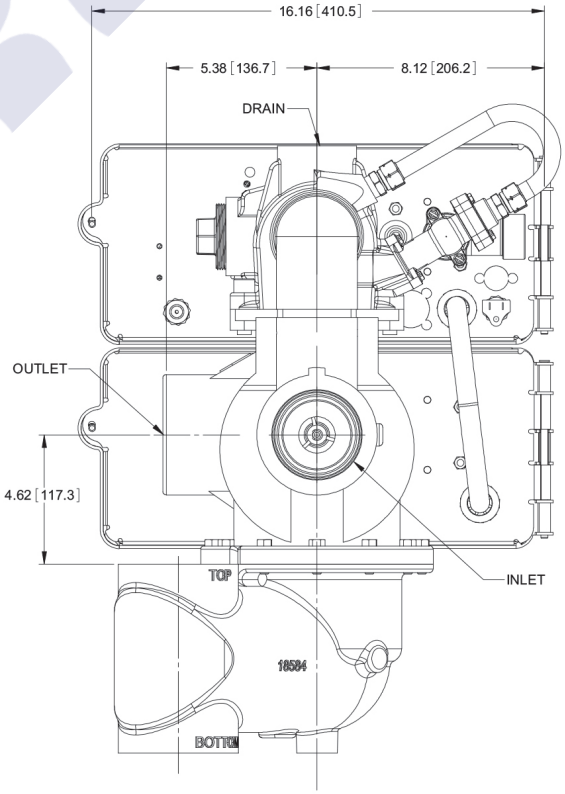




DIMENSIONAL DRAWING 3900 SIDE MOUNT

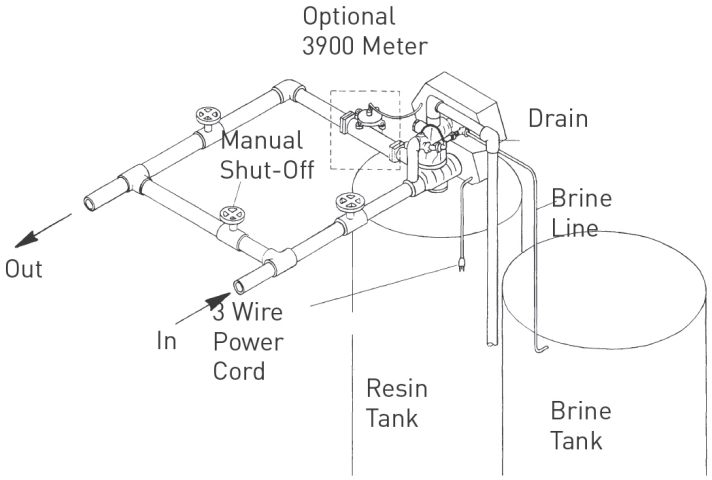




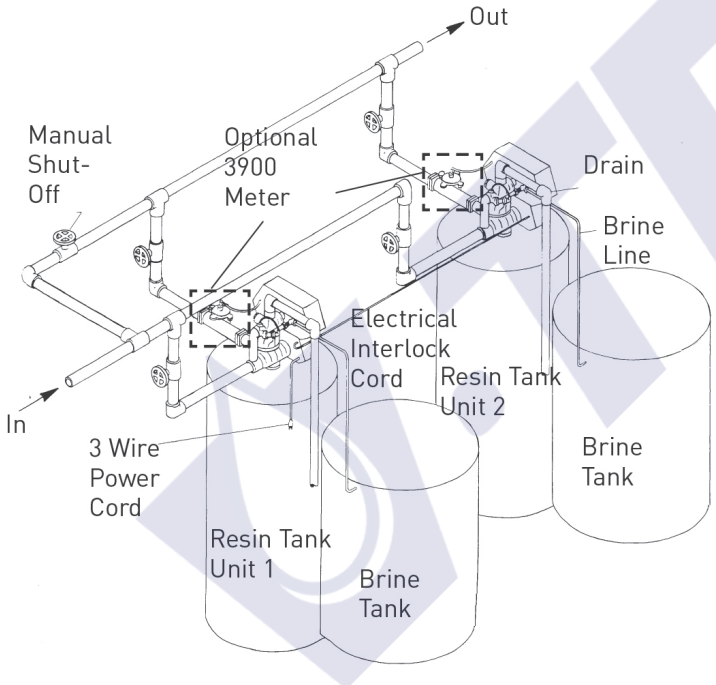


TYPICAL INSTALLATIONS

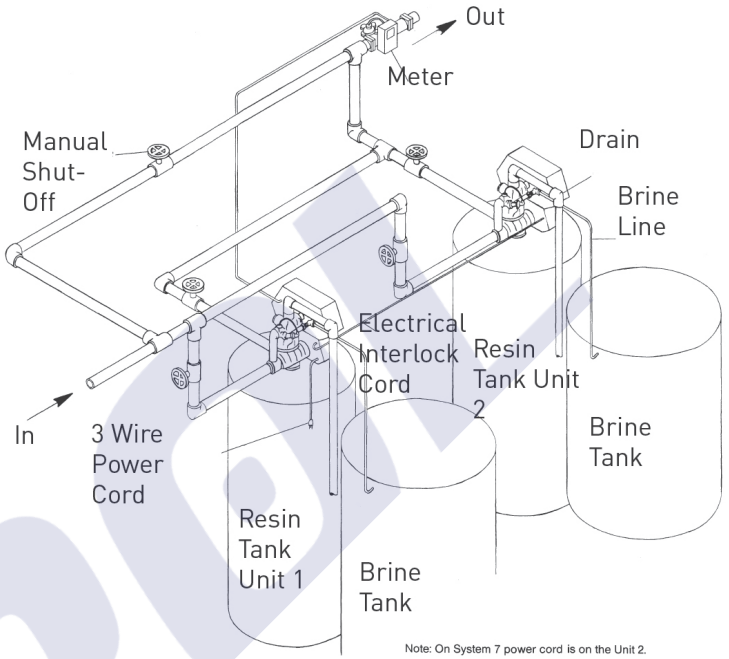
System #4 - Typical Single Tank Installation with Optional Meter



System #5 Interlock - Typical Twin Tank Installation with Optional Meter Interlock and No Hard Water Bypass



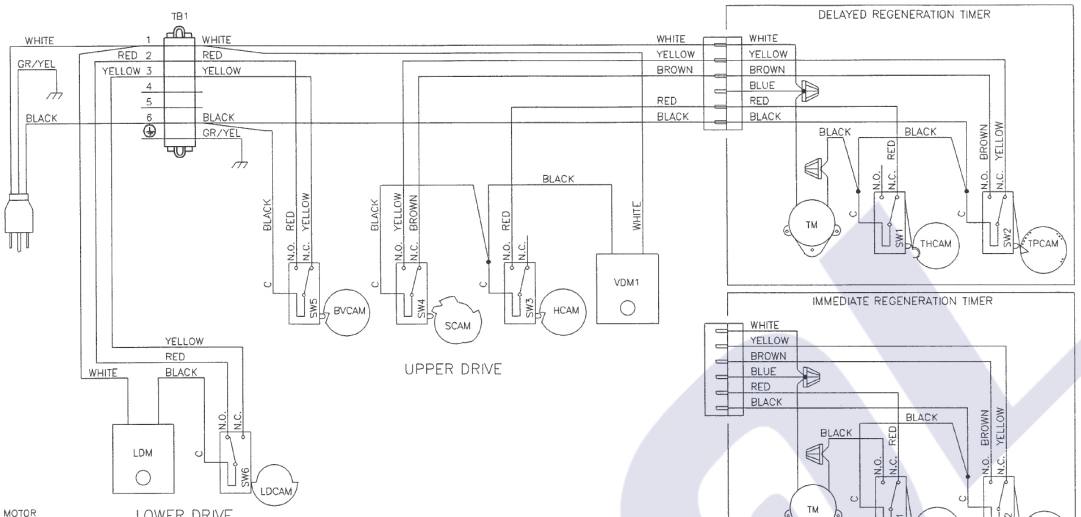
System #6 Interlock - Typical Twin Tank Installation with Optional Meter Interlock and No Hard Water Bypass



Note: On System 7 power cord is on the Unit 2.

VALVE WIRING

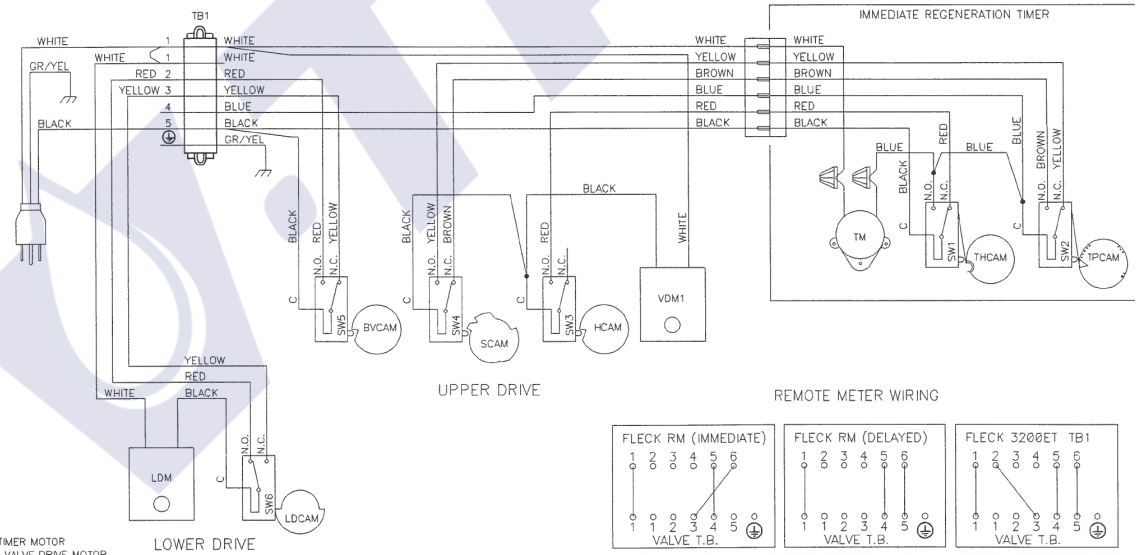
System #4



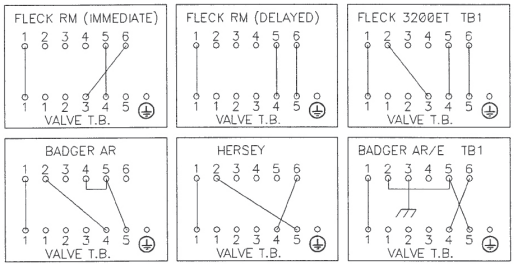
TM – TIMER MOTOR
VDM – VALVE DRIVE MOTOR
LDM – LOWER DRIVE MOTOR
SW1 – TIMER HOMING SWITCH
SW2 – TIMER PROGRAM SWITCH
SW3 – VALVE HOMING SWITCH
SW4 – VALVE STEP SWITCH
SW5 – BRINE CAM SWITCH
SW6 – LOWER DRIVE SWITCH
THCAM – TIMER HOMING CAM
TPCAM – TIMER PROGRAM CAM
HCAM – VALVE HOMING CAM
SCAM – VALVE STEP CAM
BVCAM – BRINE VALVE CAM
LDCAM – LOWER DRIVE CAM

NOTE:
SINGLE TANK TIMECLOCK, METER DELAYED, OR METER IMMEDIATE REGENERATION

System #4 with Remote Meter



REMOTE METER WIRING

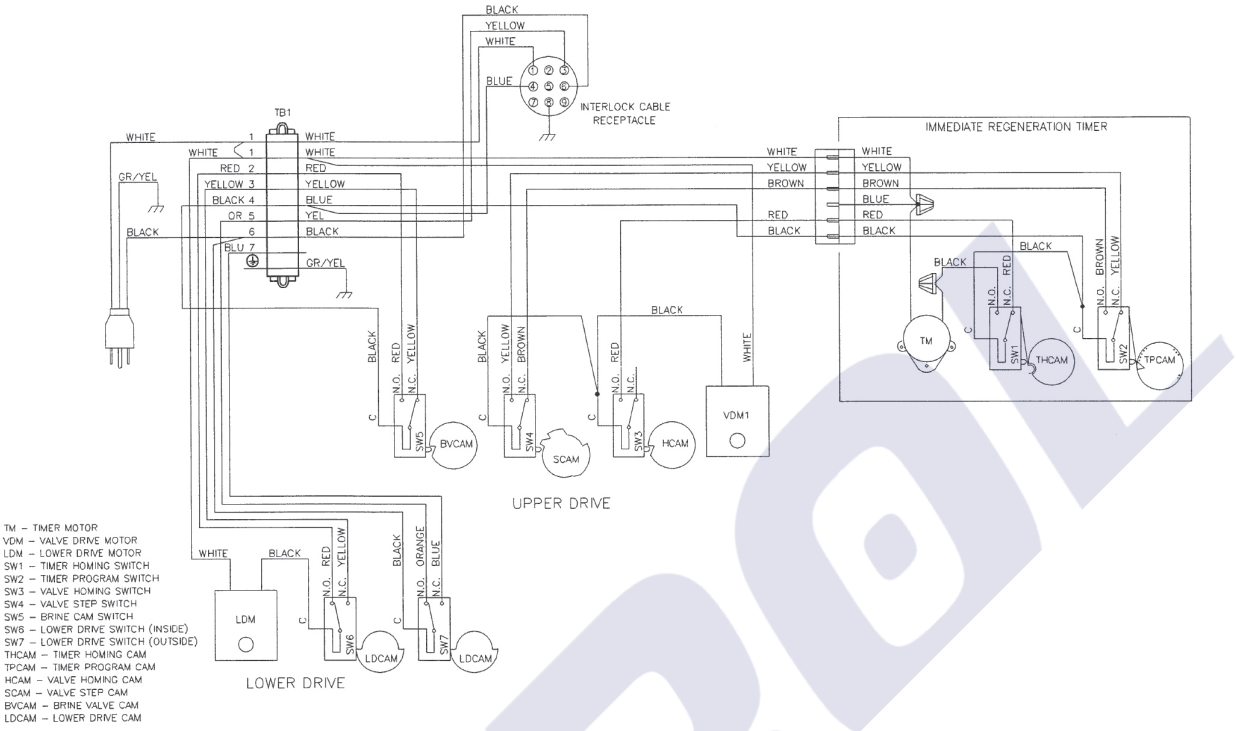


TM – TIMER MOTOR
VDM – VALVE DRIVE MOTOR
LDM – LOWER DRIVE MOTOR
SW1 – TIMER HOMING SWITCH
SW2 – TIMER PROGRAM SWITCH
SW3 – VALVE HOMING SWITCH
SW4 – VALVE STEP SWITCH
SW5 – BRINE CAM SWITCH
SW6 – LOWER DRIVE SWITCH
THCAM – TIMER HOMING CAM
TPCAM – TIMER PROGRAM CAM
HCAM – VALVE HOMING CAM
SCAM – VALVE STEP CAM
BVCAM – BRINE VALVE CAM
LDCAM – LOWER DRIVE CAM

NOTE:
SINGLE TANK REMOTE METER DELAYED, OR IMMEDIATE REGENERATION

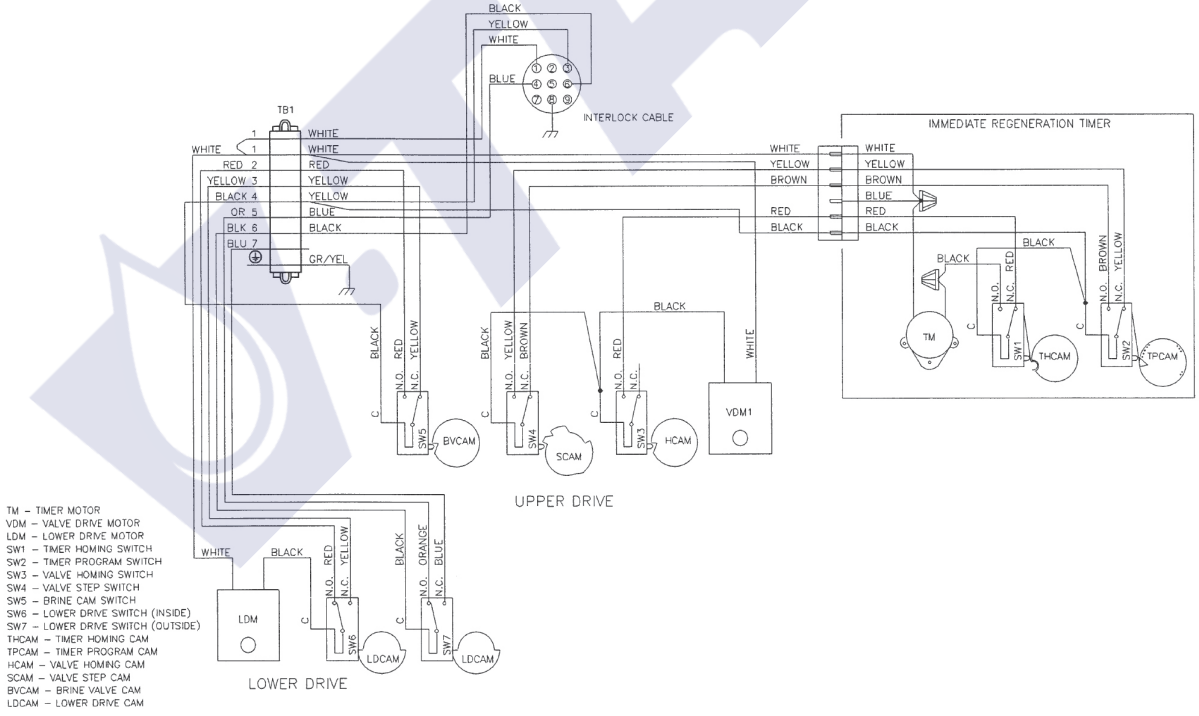
VALVE WIRING *CONTINUED*

System #5



TM – TIMER MOTOR
VDM – VALVE DRIVE MOTOR
LDM – LOWER DRIVE MOTOR
SW1 – TIMER HOMING SWITCH
SW2 – TIMER PROGRAM SWITCH
SW3 – VALVE HOMING SWITCH
SW4 – VALVE STEP SWITCH
SW5 – BRINE CAM SWITCH
SW6 – LOWER DRIVE SWITCH (INSIDE)
SW7 – LOWER DRIVE SWITCH (OUTSIDE)
THCAM – TIMER HOMING CAM
TPCAM – TIMER PROGRAM CAM
HCAM – VALVE HOMING CAM
SCAM – VALVE STEP CAM
BVCAM – BRINE VALVE CAM
LDCAM – LOWER DRIVE CAM

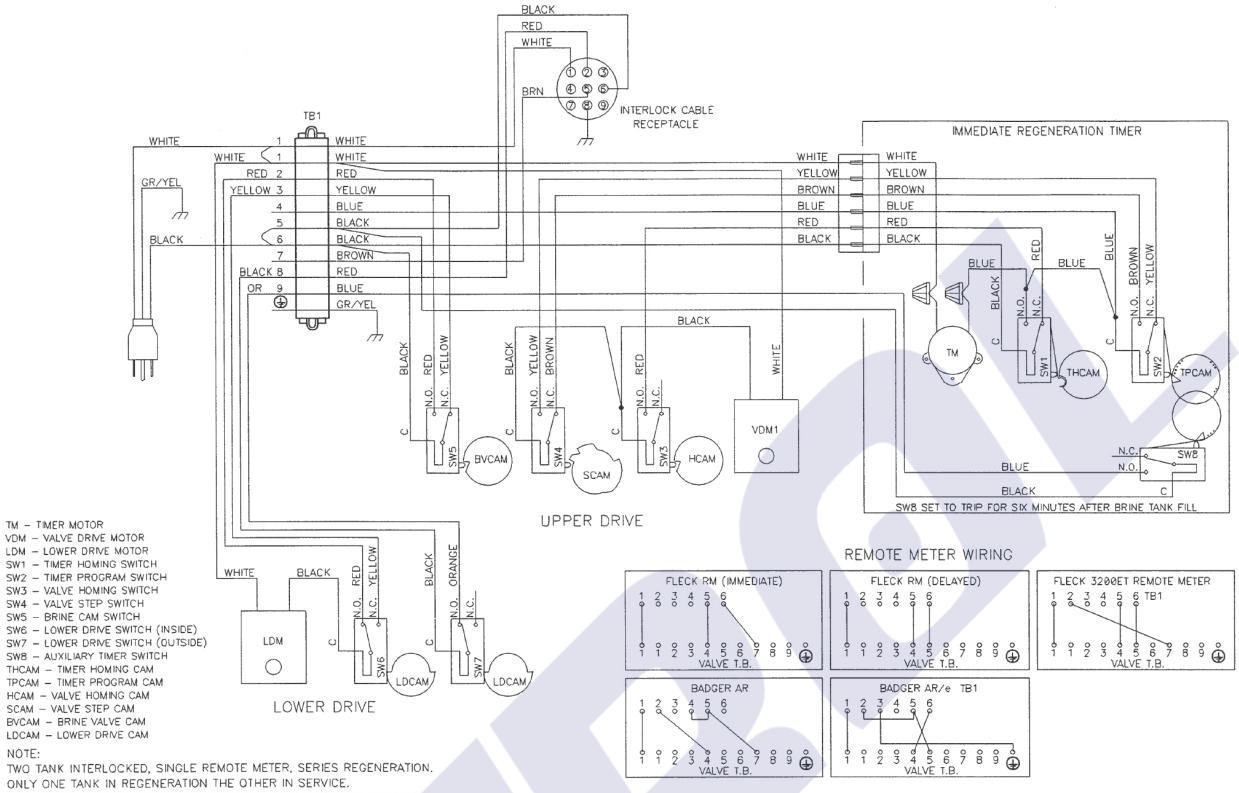
NOTE:
TWO TANK INTERLOCKED, INDIVIDUAL METER, IMMEDIATE REGENERATION.
ONLY ONE TANK IN REGENERATION THE OTHER IN SERVICE.



TM – TIMER MOTOR
VDM – VALVE DRIVE MOTOR
LDM – LOWER DRIVE MOTOR
SW1 – TIMER HOMING SWITCH
SW2 – TIMER PROGRAM SWITCH
SW3 – VALVE HOMING SWITCH
SW4 – VALVE STEP SWITCH
SW5 – BRINE CAM SWITCH
SW6 – LOWER DRIVE SWITCH (INSIDE)
SW7 – LOWER DRIVE SWITCH (OUTSIDE)
THCAM – TIMER HOMING CAM
TPCAM – TIMER PROGRAM CAM
HCAM – VALVE HOMING CAM
SCAM – VALVE STEP CAM
BVCAM – BRINE VALVE CAM
LDCAM – LOWER DRIVE CAM

VALVE WIRING *CONTINUED*

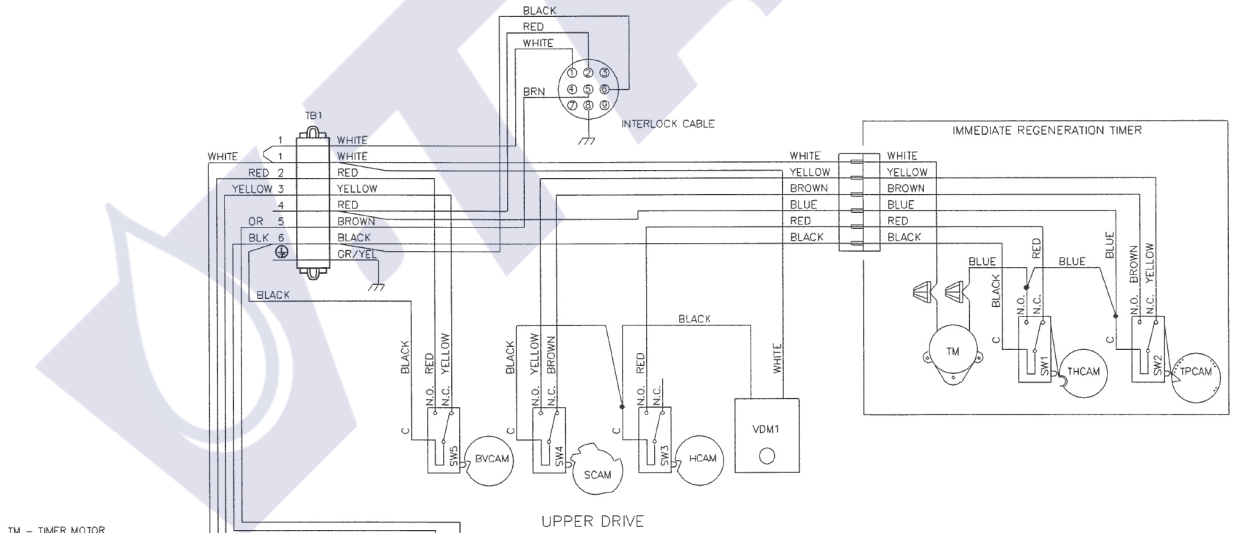
System #6



TM – TIMER MOTOR
VDM – VALVE DRIVE MOTOR
LDM – LOWER DRIVE MOTOR
SW1 – TIMER HOMING SWITCH
SW2 – TIMER PROGRAM SWITCH
SW3 – VALVE HOMING SWITCH
SW4 – VALVE STEP SWITCH
SW5 – BRINE CAM SWITCH
SW6 – LOWER DRIVE SWITCH (INSIDE)
SW7 – LOWER DRIVE SWITCH (OUTSIDE)
SW8 – AUXILIARY TIMER SWITCH
THCAM – TIMER HOMING CAM
TPCAM – TIMER PROGRAM CAM
HCAM – VALVE HOMING CAM
SCAM – VALVE STEP CAM
BVCAM – BRINE VALVE CAM
LDCAM – LOWER DRIVE CAM

REMOTE METER WIRING

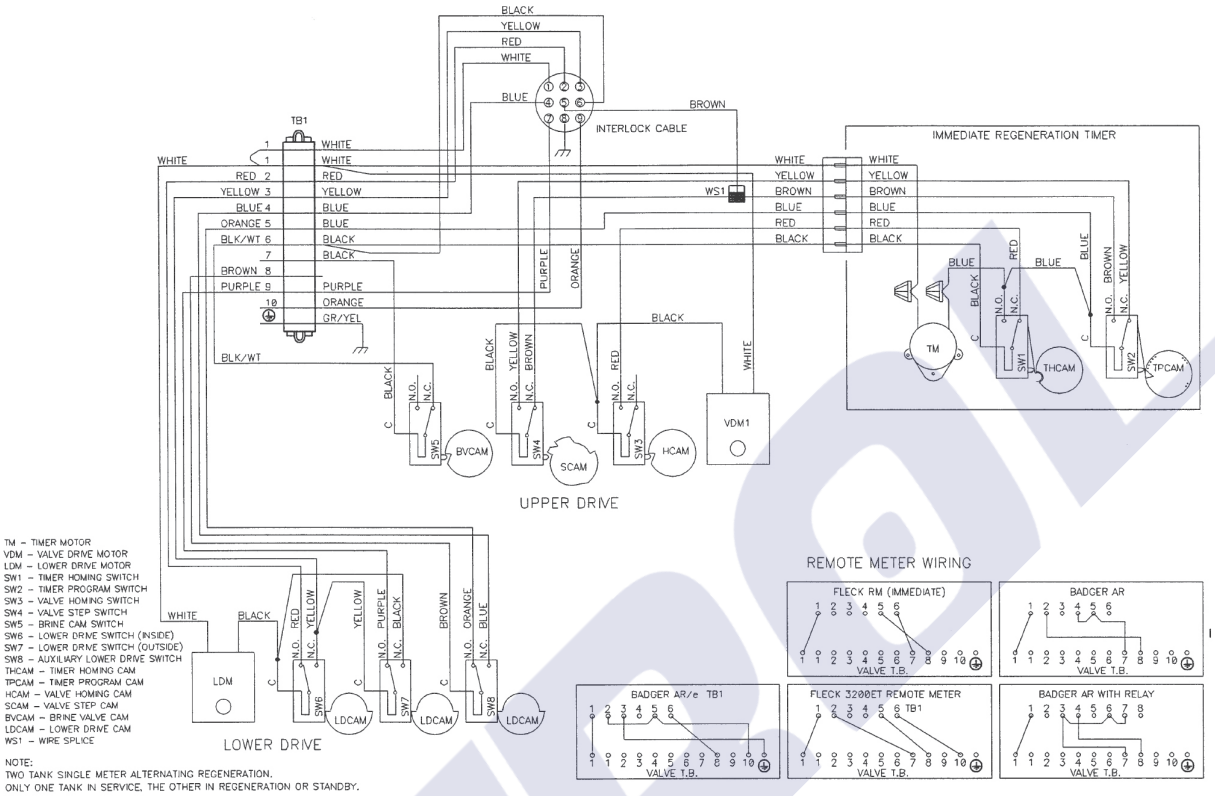
NOTE:
TWO TANK INTERLOCKED, SINGLE REMOTE METER, SERIES REGENERATION.
ONLY ONE TANK IN REGENERATION THE OTHER IN SERVICE.
LEAD VALVE REGENERATES FIRST, FOLLOWED IMMEDIATELY BY LAG VALVE.



TM – TIMER MOTOR
VDM – VALVE DRIVE MOTOR
LDM – LOWER DRIVE MOTOR
SW1 – TIMER HOMING SWITCH
SW2 – TIMER PROGRAM SWITCH
SW3 – VALVE HOMING SWITCH
SW4 – VALVE STEP SWITCH
SW5 – BRINE CAM SWITCH
SW6 – LOWER DRIVE SWITCH (INSIDE)
SW7 – LOWER DRIVE SWITCH (OUTSIDE)
THCAM – TIMER HOMING CAM
TPCAM – TIMER PROGRAM CAM
HCAM – VALVE HOMING CAM
SCAM – VALVE STEP CAM
BVCAM – BRINE VALVE CAM
LDCAM – LOWER DRIVE CAM

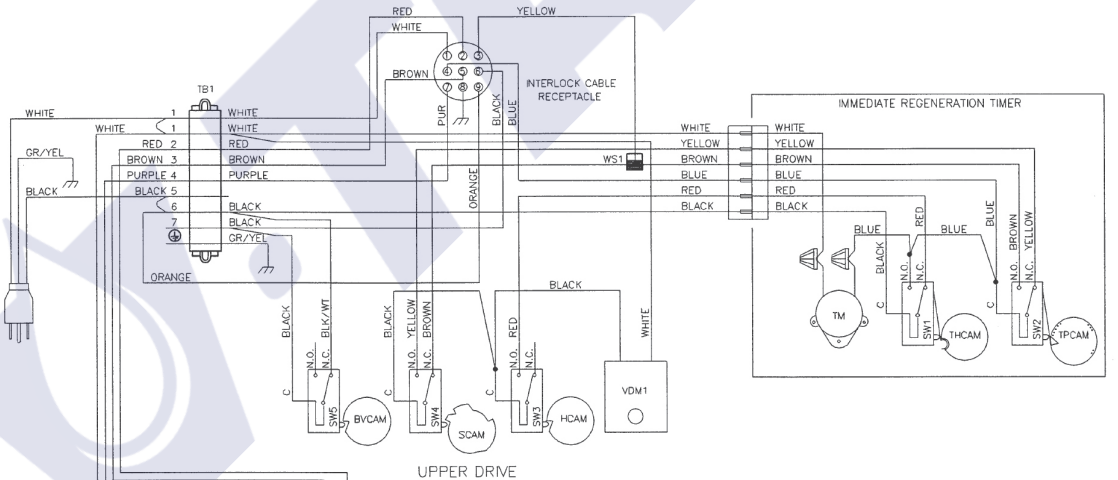
VALVE WIRING *CONTINUED*

System #7



TM – TIMER MOTOR
VDM – VALVE DRIVE MOTOR
LDM – LOWER DRIVE MOTOR
SW1 – TIMER HOMING SWITCH
SW2 – TIMER PROGRAM SWITCH
SW3 – VALVE HOMING SWITCH
SW4 – VALVE STEP SWITCH
SW5 – BRINE CAM SWITCH
SW6 – LOWER DRIVE SWITCH (INSIDE)
SW7 – LOWER DRIVE SWITCH (OUTSIDE)
SW8 – AUXILIARY LOWER DRIVE SWITCH
THCAM – TIMER HOMING CAM
TPCAM – TIMER PROGRAM CAM
HCAM – VALVE HOMING CAM
SCAM – VALVE STEP CAM
BVCAM – BRINE VALVE CAM
LDCAM – LOWER DRIVE CAM
WS1 – WIRE SPLICE

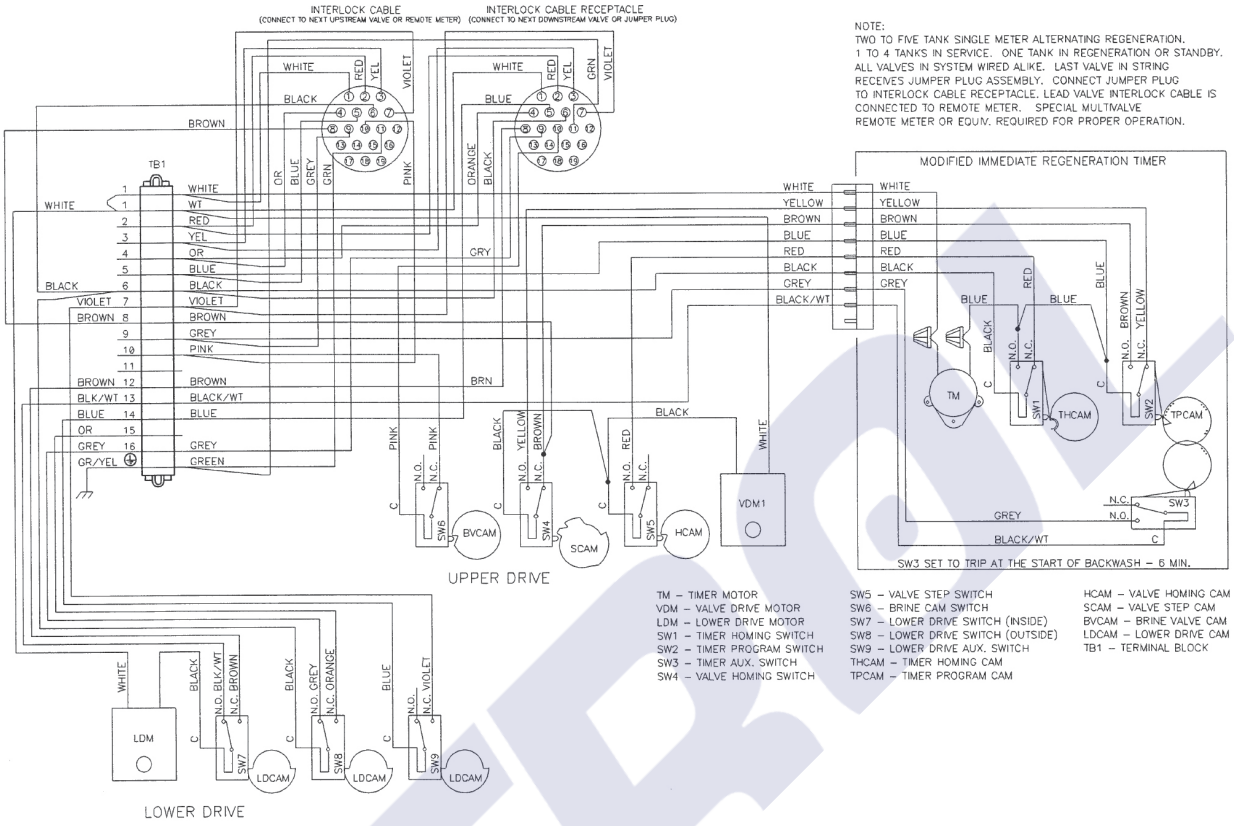
NOTE:
TWO TANK SINGLE METER ALTERNATING REGENERATION.
ONLY ONE TANK IN SERVICE, THE OTHER IN REGENERATION OR STANDBY.



TM – TIMER MOTOR
VDM – VALVE DRIVE MOTOR
LDM – LOWER DRIVE MOTOR
SW1 – TIMER HOMING SWITCH
SW2 – TIMER PROGRAM SWITCH
SW3 – VALVE HOMING SWITCH
SW4 – VALVE STEP SWITCH
SW5 – BRINE CAM SWITCH
SW6 – LOWER DRIVE SWITCH (INSIDE)
SW7 – LOWER DRIVE SWITCH (OUTSIDE)
THCAM – TIMER HOMING CAM
TPCAM – TIMER PROGRAM CAM
HCAM – VALVE HOMING CAM
SCAM – VALVE STEP CAM
BVCAM – BRINE VALVE CAM
LDCAM – LOWER DRIVE CAM
WS1 – WIRE SPLICE

VALVE WIRING *CONTINUED*

System #7 Multi-valve



SERVICE ASSEMBLIES

60036-02 1800 Brine Valve:60277-xx 1800 Injector Assembly:60106-00 3900 Upper Piston Assembly:
60107-00 3900 Lower Piston - Hard Water Bypass:
60107-10 3900 Lower Piston - No Hard Water Bypass:
60131 3900 Upper Seal Kit:
60132 3900 Lower Seal Kit:
60057-01 3900 Upper Drive Motor Assembly - 115 V:

60058-01 3900 Lower Drive Motor Assembly - 115 V System #4:
10302 ..... Insulator - Switch
10872 ..... Screw - Hex Head
11080 ..... Screw - Flat Head
10218 ..... Switch
10300 ..... Screw - Hex Head
11805 ..... Screw - Pan Head
40392 ..... Drive Motor - 115V. 50/60 Hz
17797 ..... Bracket - Switch Mounting
16086 ..... Bracket - Motor Mounting

60131-10 3900 Upper Seal Kit:
10368 ..... Spacer
10369 ..... Spacer
11720-02 ..... Seal, 1-1/2-inch, Silicone

60132-10 3900 Lower Seal Kit:
41534 ..... Seal, 3900, 558 Bypass
16069 ..... Spacer, 3900
16070 ..... Spacer, 3900

60038 Safety Brine Valve, 2350:
60028-30 ..... Float Assembly, White
60009-00 ..... #900 Air Check, Less Fittings
18602 ..... Kit, Fitting, 1700 Brine, 900 Air Check
18603 ..... Kit, Fitting, 1700 Brine, 2350 Safety

61417 Adapter Assy, Side Mount, 3900:
18584-02 ..... Adapter, 3900 Side Mount
16257 ..... Segment, Flange
11238 ..... Screw, Hex, 5/16-18 x 1, 18-8 Stainless Steel
16345 ..... O-ring, 362
16800 ..... O-ring, 238
11533 ..... Plug, Pipe 1/4-inch

60150-3150 SVO, Assembly, 3150/3900
Drain Line Flow Controls (DLFC):
60711-00 ..... 2-inch NPT, Less BTTNS, w/2 Holes
60711-000 ..... 2-inch NPT, Less BTTNS, w/3 Holes
60711-01 ..... 2-inch NPT, Less BTTNS, w/1 Hole
60711-20 ..... 2-inch NPT, 20 gpm
60711-25 ..... 2-inch NPT, 25 gpm, Brass
60711-30 ..... 2-inch NPT, 30 gpm
60711-35 ..... 2-inch NPT, 35 gpm
60711-40 ..... 2-inch NPT, 40 gpm
60711-45 ..... 2-inch NPT, 45 gpm
60711-50 ..... 2-inch NPT, 50 gpm
60711-55 ..... 2-inch NPT, 55 gpm
60711-60 ..... 2-inch NPT, 60 gpm
60711-65 ..... 2-inch NPT, 65 gpm
60711-70 ..... 2-inch NPT, 70 gpm
60711-75 ..... 2-inch NPT, 75 gpm
60711-80 ..... 2-inch NPT, 80 gpm
60711-85 ..... 2-inch NPT, 85 gpm
60711-90 ..... 2-inch NPT, 90 gpm
60711-95 ..... 2-inch NPT, 95 gpm
60711-100 ..... 2-inch NPT, 100 gpm
60812-30 ..... 2-inch BSP/ Metric, 30 gpm
60812-35 ..... 2-inch BSP/ Metric, 35 gpm
60812-45 ..... 2-inch BSP/ Metric, 45 gpm
60812-50 ..... 2-inch BSP/ Metric, 50 gpm
60812-55 ..... 2-inch BSP/ Metric, 55 gpm
60812-70 ..... 2-inch BSP/ Metric, 70 gpm
60812-75 ..... 2-inch BSP/ Metric, 75 gpm
60812-80 ..... 2-inch BSP/ Metric, 80 gpm
60812-90 ..... 2-inch BSP/ Metric, 90 gpm
60812-95 ..... 2-inch BSP/ Metric, 95 gpm
60812-100 ..... 2-inch BSP/ Metric, 100 gpm

KEEP THIS MANUAL FOR FUTURE REFERENCE AND UNIT MAINTENANCE.

Product design is subject to change without notice.