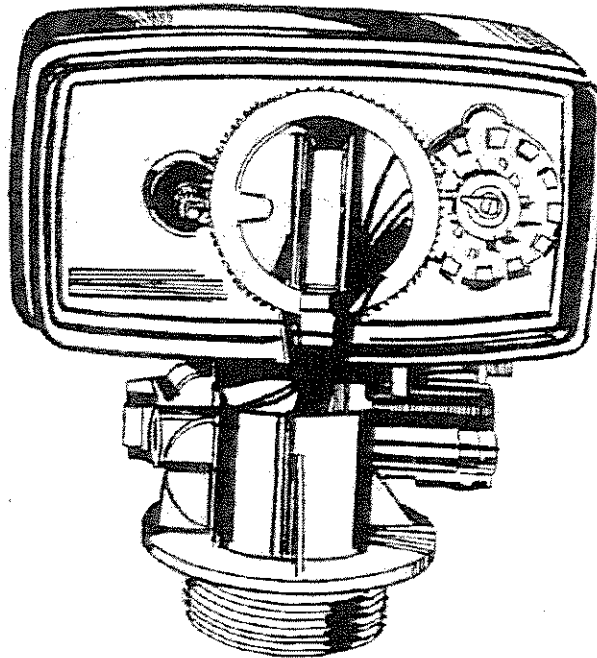


**WATER
TENDER®**

Quality Water Treatment Products



**WTF Time Clock Series Residential
Filters**

Installation and Operation Manual

March 2015 Version

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Installation and Operating Instructions for WTF
Top Mount Filters

Model #:

_____	WTF15ACV	Carbon Filter
_____	WTF25ACV	Carbon Filter
_____	WTF10ANXV	Neutralizer
_____	WTF15ANXV	Neutralizer
_____	WTF25ANXV	Neutralizer
_____	WTF10AGV	Turbidity Filter
_____	WTF15AGV	Turbidity Filter
_____	WTF15FEV	Iron Filter

Shipping Carton Description / unit:

# of cartons	Contents	Description
1	Mineral tank	Distributor pipe installed
1	WTF control valve	WTF control valve and bypass
	Carbon Media	0.5 CF Boxes
	Filter Ag	0.5 CF Boxes
	Greensand	0.5 CF Boxes

Filter Media is Packaged as Follows:

Model #	Media
WTF15ACV	1.5 CF Carbon
WTF25ACV	2.5 CF Carbon
*WTF10ANXV	Neutralizing Media
*WTF15ANXV	Neutralizing Media
*WTF25ANXV	Neutralizing Media
WTF15AGV	1 CF Filter Ag Plus
WTF15AGV	1.5 CF Filter Ag Plus
WTF15FEV	1.5 CF Greensand

Note: Gravel preloaded at factory.

*Media sold separately. Contact installer for specific neutralizing media selection.

NOTE: THIS FILTER IS NOT INTENDED TO BE USED FOR TREATING WATER THAT IS MICROBIOLOGICALLY UNSAFE OR OF UNKNOWN QUALITY WITHOUT ADEQUATE DISINFECTION WHETHER BEFORE OR AFTER THE SYSTEM.

Water Filter Positioning:

1. Place water filter in desired position, far enough from walls and other obstructions to allow for servicing the unit.
2. Place the water filter within reasonable access to a grounded 115V/60 HZ circuit and a legal drain line connection.

Water Filter Tank Loading:

1. **(Note: only for the WTF15FE units)** Center the distributor and make sure it is resting on the bottom of the tank. The top of the distributor pipe should be **flush with the top of the tank** (this was prefitted at the factory).
2. Cover the top opening of the distributor pipe before filling the tank with media.
4. Pour the appropriate media provided with the unit into the top of the tank. See page one for your specific model number unit to determine the amount of media to load into the mineral tank.

Model #	Media
WTF15ACV	1.5 CF Carbon
WTF25ACV	2.5 CF Carbon
*WTF10ANXV	Neutralizing Media
*WTF15ANXV	Neutralizing Media
*WTF25ANDV	Neutralizing Media
WTF10AGV	1 CF Filter Ag Plus
WTF15AGV	1.5 CF Filter Ag Plus
WTF15FEV	1.5 CF Greensand

*Media sold separately. Contact installer for specific neutralizing media selection.

5. Remove the material used to cover the top opening of the distributor pipe.

WTF Control Valve:

1. Turn the control valve upside down and ensure that the control valve distributor o'ring is in place. Use silicone lubricant on the o'ring.
2. Place the control valve onto the distributor pipe and into the tank opening.

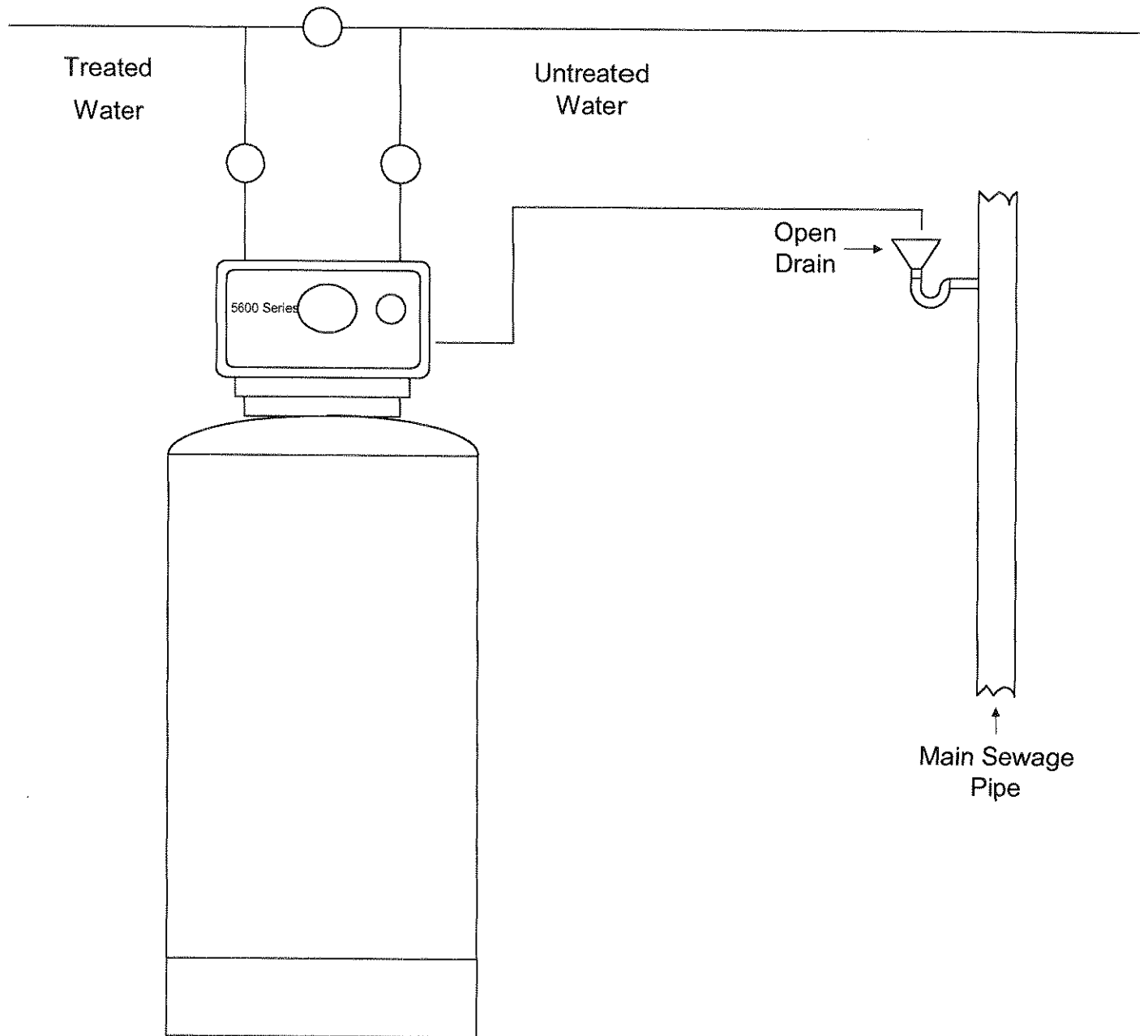
3. Thread the control valve hand tight . Do not overtighten.
4. The control valve's drain connection is 1/2" npt and is located on the back right of the control valve.

Service and Drain Piping:

1. Pipe filter system into the service lines (see Figure 1) using the bypass valve assembly supplied with the unit. The inlet and outlet connections of the control valve are located on the back of the valve body. As you face the timer the inlet is on the right and the outlet is on the left. Always follow local plumbing codes when installing our water treatment equipment.
2. If sweat fittings are used, be sure soldering is done in such a manner as not to allow heat to reach the valve. If Schedule 80 PVC is used make sure to follow the proper primer and solvent instructions.
3. The drain line connection is located on the top of the valve body as you face the timer. The drain line must be of adequate size to allow for full regeneration flow.
 - The control valve drain connection is 1/2" npt.
 - Never decrease the drain piping size to below 5/8".
 - Maximum drain line length is 20 feet.
 - Maximum drain line height is 8 feet above the control valve.
 - The end of the drain line must be piped to an open drain.
 - Always follow local plumbing codes when piping drain lines to a waste pipe.

UNDER NO CIRCUMSTANCES SHOULD THERE BE A DIRECT CONNECTION WITH SANITARY SEWAGE FACILITIES.

Figure 1



Electrical Requirements:

Always follow all local electrical codes when installing our water treatment equipment.

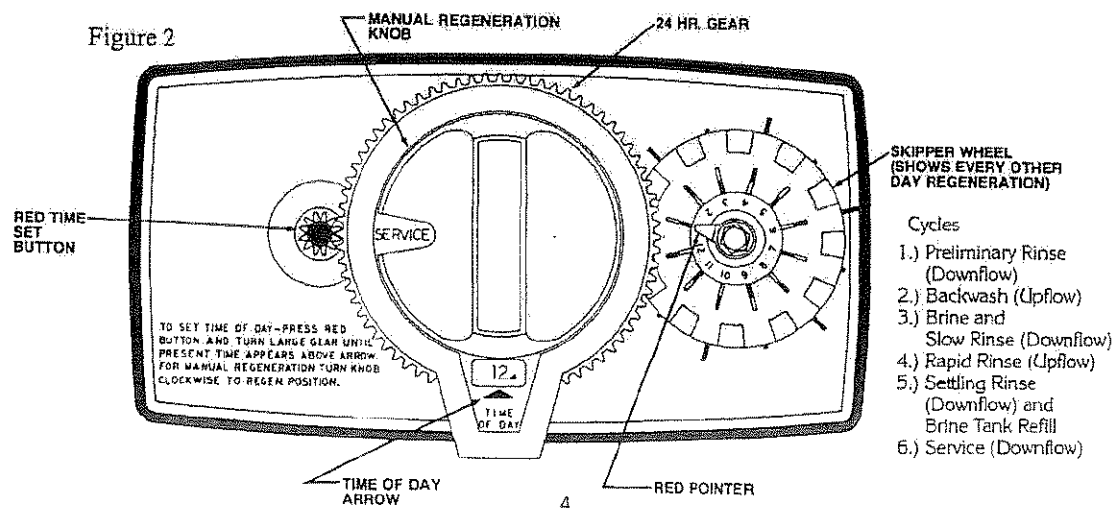
1. Provide a properly grounded 115V/60 HZ electrical outlet.
2. Maximum amperage required is 3 amps.

3. Make sure the electrical service provides power 24 hours per day. Avoid using outlets that are switch controlled.
4. Follow all local electrical codes when installing our water treatment equipment.

Filling Water Filter with Water:

1. Close inlet and outlet ball valves.
2. Turn Manual Regeneration Knob in a clockwise direction until you reach the Backwash position.
3. Open inlet ball valve 1/4 turn and allow water to fill tank slowly for approximately 10 minutes. After all air has been purged from tank, fully open inlet ball valve and allow water to run in this position for 15 minutes.
4. Turn the Manual Regeneration Knob in a clockwise direction until you reach the Rapid Rinse position. Allow the unit to stay in this position for approximately 10 minutes to purge the media fines to drain.
5. Plug the timer into the electrical outlet. The timer will automatically advance to the service position after completing the Rapid Rinse cycle. If water runs dirty to service, place unit in backwash position and allow the timer to go through a complete regeneration. The total regeneration will take approximately 2 hours. The unit will be in the service position after regeneration is complete.

WTF Control Valve Timer Settings:



Time of Day Setting

- 1) To set the proper time of day, depress the Red Time Set Button and turn the 24 Hour Gear until the correct time of day is aligned with the Time of Day Arrow. **Note whether the time is A.M. or P.M.**
- 2) The timer is preset to regenerate at 12:00 AM.

Time of Regeneration Setting (1-99 Days Between Regeneration Option) (the factory default is 2 AM)

- 1) Locate the Skipper Wheel on the timer. (See Figure 2).
- 2) The Skipper Wheel has a total of 12 pins which means you have a variety of choices for regeneration frequency. To set a regeneration simply slide a pin to the outside of the Skipper Wheel. This exposes the pin beyond the outer edge of the Skipper Wheel and will engage a regeneration cycle on that day. **le:** Sliding the # 1 pin to the outside sets the timer to regenerate once every 12 days.
- 3) The recommended regeneration frequency will change according to your water quality problems. We usually recommend a regeneration frequency of 1x6 days for normal water conditions and 1x3 days for severe water conditions. Please contact installer for assistance.

Final Check:

1. Make sure the drain line connection meets all plumbing codes and that the drain line size can handle the backwash flow rate of the softener.
2. Make sure the Inlet and Outlet on bypass valves are open.
3. Make sure the control valve timer is plugged into an dedicated electrical outlet with power 24 hours per day.
4. Check all piping for leaks.

Troubleshooting

Symptom: Unit Fails to Regenerate

Cause	Solution
Faulty electrical supply	Verify that electrical power is getting to the outlet
Low inlet water pressure	Verify a minimum 20 psi inlet water pressure
Drain line is restricted	Insure that the drain line is free of blockage
Defective timer motor	Replace the timer motor
Plugged backwash flow control	Clean or replace the backwash flow control
All skipper pins are slid inward	Slide the desired number of pins outward

Symptom: Poor Water Quality When Unit is in Service Position

Cause	Solution
The bypass valve is open or defective	Insure that the bypass valve is in the service position
Excessive water usage	Set the timer to regenerate more often
Loss of filter media	See symptom: Loss of filter media
Change in raw water quality	Test the raw water quality and adjust regeneration frequency
Leak at the distributor tube	Verify that the distributor is flush with the top of the tank

Symptom: Loss of Filter Media

Cause	Solution
Backwash flow control is missing or is the incorrect size	Verify that the proper backwash flow control is installed
Air in the system	Verify that the well system is operating properly

Symptom: Continuous Flow to Drain

Cause	Solution
Defective or damaged piston/spacers assembly	Replace the piston/spacers assembly
Piston rod assembly is damaged	Replace piston rod assembly
Drive motor failure	Replace the drive motor

Symptom: Loss of Water Pressure

Cause	Solution
Dirt build-up in filter tank	Clean or replace the Filter media
Dirt build-up in the inlet piping to the Filter Unit	Clean or replace the inlet piping
Distributor pipe is plugged	Clean or replace the distributor pipe

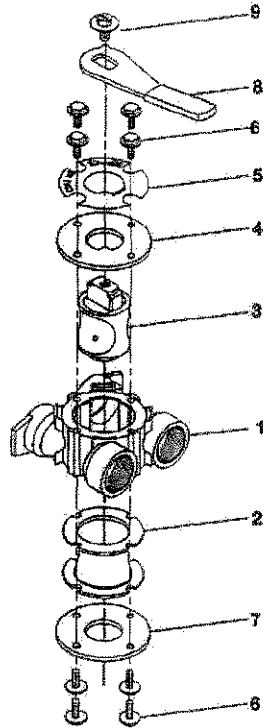
Symptom: Control Valve Cycles Continuously

Cause	Solution
Defective timer assembly	Replace the timer assembly

WTF FILTER CONTROL VALVE & PARTS

MODEL 5600

by-pass valve assembly



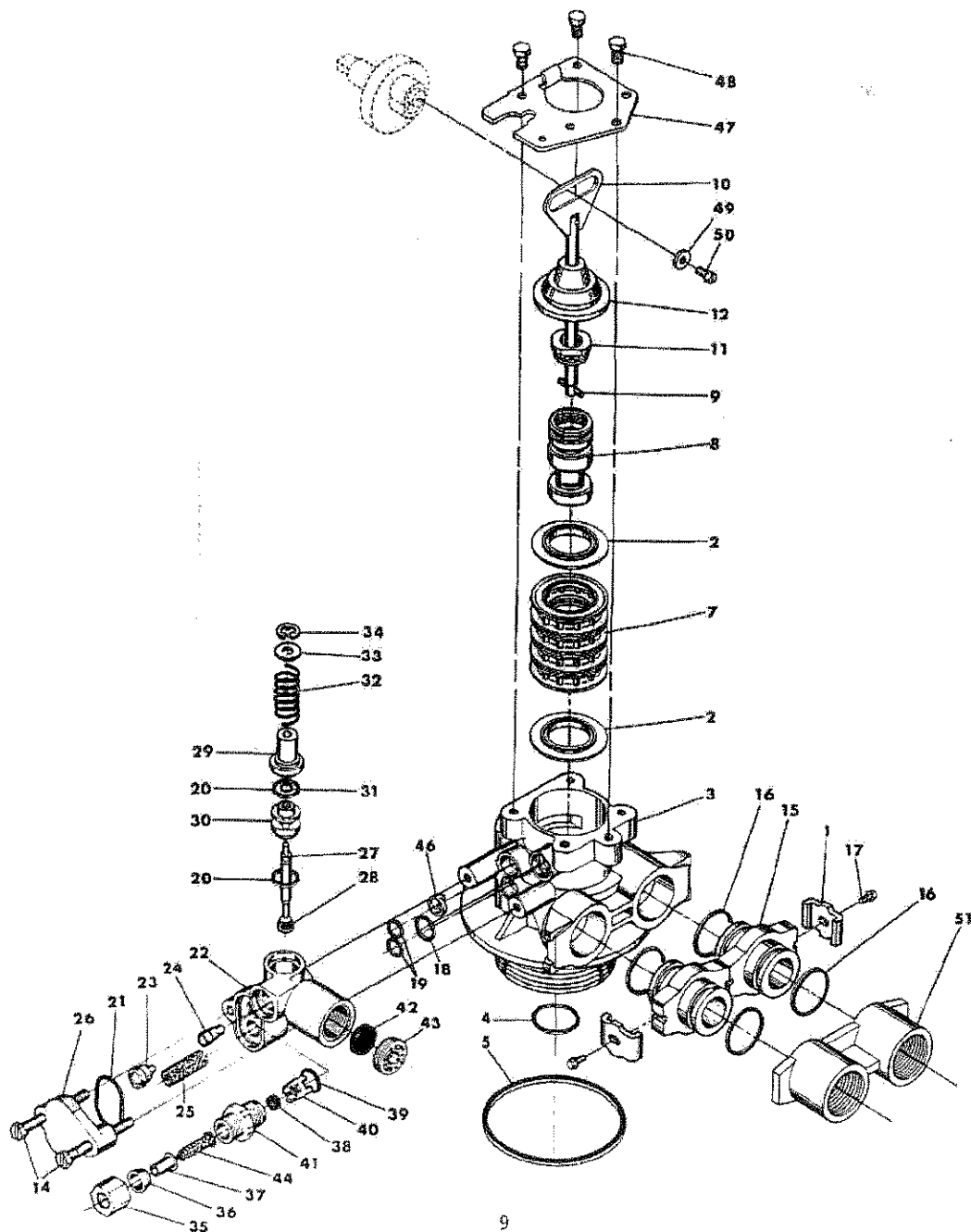
PARTS LIST

Item No.	Quantity	Part No.	Description
1	1	17290	By-Pass Valve Body, 3/4"
	1	17290NP	By-Pass Valve Body, 3/4" Nickel Plate
	1	13399	By-Pass Valve Body, 1"
	1	13399NP	By-Pass Valve Body, 1", Nickel Plate
2	1	11726	Seal, By-Pass
3	1	11972	Plug, By-Pass
4	1	11978	Side Cover
5	1	13604-01	Label
6	8	15727	Screw
7	1	11986	Side Cover
8	1	11979	Lever, By-Pass
9	1	11989	Screw, Hex Head, 1/4-14

MODEL 5600

control valve assembly

(see opposite page for parts list)



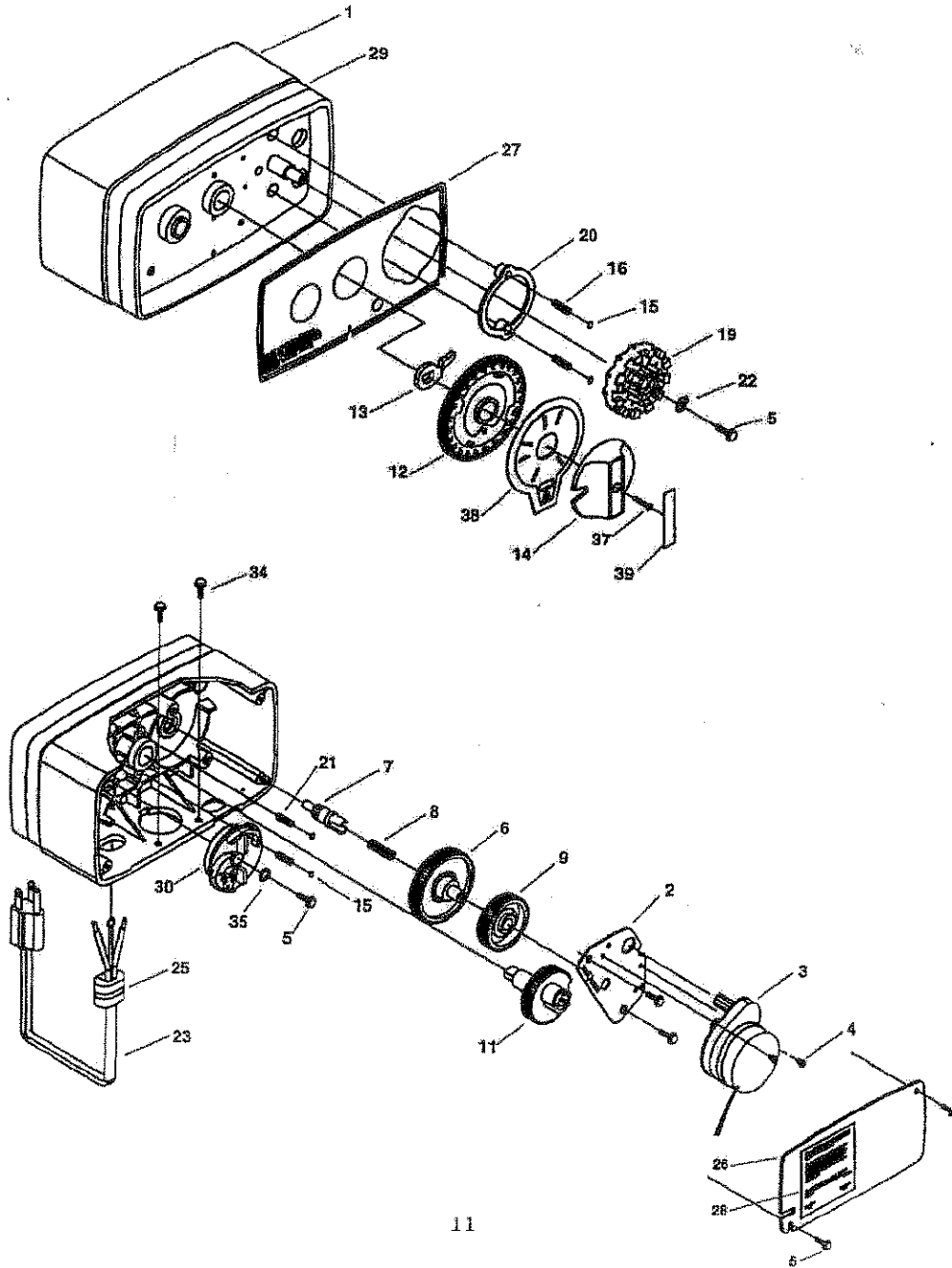
**MODEL 5600
CONTROL VALVE ASSEMBLY
PARTS LIST**

ITEM NO.	NO. REQ'D.	PART NO.	DESCRIPTION
1	2	13255	Adapter Clip
2	5	13242	Seal
3	1	14449	Valve Body Assembly - 1" Dist.
	1	14450	Valve Body Assembly - 1 1/16" Dist.
4	1	13304	"O" Ring - Distributor Tube - 1"
	1	10244	"O" Ring - Distributor Tube - 1 1/16"
5	1	12281	"O" Ring - Top of Tank
6			Not Assigned
7	4	14241	Spacer
8	1	13247	Piston - Standard
	1	13781	Piston - Low Water
	1	13852	Piston - Filter
9	1	10696	Piston Pin
10	1	13001	Piston Rod Assembly
11	1	12953	Piston Retainer
12	1	13446	End Plug Assembly Std. - White
	1	13446-10	End Plug Assembly Filter - Black
	1	13446-20	End Plug Assembly Low Water - Gray
13			Not Assigned
14	2	13315	Screw - Injector Mounting
15	2	13709	Adapter Coupling
16	4	13305	"O" Ring - Adapter Coupling
17	2	13314	Screw - Adapter Coupling
18	1	12638	"O" Ring - Drain
19	2	13301	"O" Ring - Injector
20	2	13302	"O" Ring - Brine Spacer
21	1	13303	"O" Ring - Injector Cover
22	1	13163	Injector Body
23	1	10913	Injector Nozzle - Specify Size
24	1	10914	Injector Throat - Specify Size
25	1	10227	Injector Screen
26	1	13166	Injector Cover
27	1	13172	Brine Valve Stem
28	1	12626	Brine Valve Seat
29	1	13165	Brine Valve Cap
30	1	13167	Brine Valve Spacer
31	1	12550	Quad Ring
32	1	11973	Spring - Brine Valve
33	1	16096	Washer - Brine Valve
34	1	11981-01	Retaining Ring
35	1	10329	B.L.F.C. Fitting Nut
36	1	10330	B.L.F.C. Ferrule
37	1	10332	B.L.F.C. Tube Insert
38	1	12094	B.L.F.C. Button - .25 GPM
	1	12095	B.L.F.C. Button - .50 GPM
39	1	12977	"O" Ring - B.L.F.C.
40	1	13245	B.L.F.C. Button Retainer
41	1	13244	B.L.F.C. Fitting
42	1		D.L.F.C. Button - Specify Size
43	1	13173	D.L.F.C. Button Retainer
44	1	12767	Screen - Brine Line
45	1	15346	"O" Ring - D.L.F.C. (not shown)
46	1	13497	Air Dispenser
47	1	13546	End Plug Retainer
48	3	12112	Screw
49	1	13363	Washer
50	1	13296	Screw
51	1	13708	Adapter - 3/4" N.P.T.
	1	13398	Adapter - 1" N.P.T.

MODEL 5600

control valve drive assembly

(see opposite page for parts list)



**MODEL 5600
CONTROL VALVE DRIVE ASSEMBLY
PARTS LIST**

ITEM NO.	NO. REQ'D.	PART NO.	DESCRIPTION
1	1	13162-000	Drive Housing
2	1	13175	Motor Mounting Plate
3	1	13400	Motor - 110V., 60 Hz.
	1	13494	Motor - 24V., 60 Hz.
4	3	11384	Screw - Motor Mtg. & Ground Wire
5	6	13296	Screw - Component Mounting
6	1	13017	Idler Gear
7	1	13018	Idler Pinion
8	1	13312	Spring - Idler
9	1	13164	Drive Gear
11	1	13170	Main Gear & Shaft
12	1	19205	24 Hour Gear Assembly, Silver
	1	19205-01	24 Hour Gear Assy, Tan
13	1	13011	Cycle Actuator Gear
14	1	14177	Knob - Manual Regeneration
15	4	13300	Ball - 1/4" Dia.
16	2	13311	Spring - Detent - Skipper Wheel
19	1	14381	Skipper Wheel Assembly - 12 Day
	1	14860	Skipper Wheel Assembly - 7 Day
20	1	13864	Skipper Wheel Ring
21	2	14457	Spring - Detent - Main Gear
22	1	13014	Regeneration Pointer
23	1	11842	Electrical Cord - Standard
24	2	12681	Wire Connector - (Not Shown)
25	1	13547	Strain Relief
26	1	13229	Back Cover
27	1	13309	Front Label - Brown on Beige
	1	13437	Front Label - Blue/Silver on Black
28	1	13310	Rear Label
29	1	13348	Tape Stripe - Brown on Beige
	1	13436	Tape Stripe - Blue on Silver
30	1	60514	Brine Cam Assembly, 3-18
	1	60514-01	Brine Cam Assy., 6-36
34	2	12473	Screw-Drive Mounting
35	1	12037	Washer
37	1	15151	Screw - Knob
38	1	14176	Valve Position Dial - Standard
	1	14278	Valve Position Dial - Low Water
	1	15478	Valve Position Dial - Chemical Filter
	1	16715	Valve Position Dial - Filter
39	1	14175	Knob Label - Beige
	1	14207	Knob Label - Silver

