

# PURE WATER

## A-12<sup>a</sup>



## OWNERS MANUAL

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## IMPORTANT SAFETY INFORMATION

- ⌘ Operating pressure 30-100 PSI
  - ⌘ IF YOU ARE NOT SURE THAT YOUR ELECTRICAL OUTLET IS PROPERLY GROUNDED OR THAT THE CIRCUIT PROTECTION IS CORRECT, HAVE IT CHECKED BY A QUALIFIED ELECTRICIAN.
  - ⌘ Operate indoors only.
  - ⌘ The area MUST be well ventilated.
  - ⌘ WARNING: Disconnect before assembling, adjusting or servicing this appliance.
  - ⌘ NEVER immerse the distiller in water or any other liquid.
  - ⌘ NEVER operate the distiller with a damaged cord or allow the cord to become exposed to hot surfaces.
  - ⌘ DO NOT use an extension cord or any adapters.
  - ⌘ DO NOT let children play with the distiller.
  - ⌘ DO NOT touch the top of the distiller when it is operating because it becomes very hot.
  - ⌘ Exercise care when removing the boiling tank lid and never remove it when the distiller is operating.
  - ⌘ A-12 distillers are designed to work with a direct water hookup. Do not operate using manual water fill.
  - ⌘ The installation and use of this product must comply with all applicable state and local laws and regulations.
  - ⌘ Important notice: This distiller is designed to be used only with Pure Water accessories and replacement components.
  - ⌘ This product is equipped with fused pump circuitry. In the event of pump failure, check the pump fuse located on the panel under the switches. Replace only with a 1 amp slo-blo fuse. Never use any fuse larger than specified.
  - ⌘ System tested and certified by NSF International against ANSI/NSF Standard 62 for the reduction of arsenic, barium, cadmium, copper, fluoride, hexavalent chromium, lead, mercury, seleniu, TDS, and trivalent chromium.
  - ⌘ A-12 produces 12 gallons per day (.5 gallons per hour) under normal operating conditions.
- The physiological effects of the operation of this appliance, beneficial or otherwise have not been investigated by U.L.

## INTRODUCTION

Congratulations on purchasing the finest home water distillation system on the market. With proper care and attention, the Pure Water A-12 will give you many years of top performance and high-quality drinking water.

## FOR THE RECORD

The model and serial number are found on the back panel. You should record both the model and serial number below for future reference.

DATE OF PURCHASE \_\_\_\_\_

MODEL **A-12** \_\_\_\_\_

SERIAL NO. \_\_\_\_\_

## HOW YOUR A-12 WORKS

Your system operates using the combined technology of distillation and activated carbon filtration. This combined technology is designed to consistently produce high-quality water.

The principle of distillation is quite simple: Raw feed water is taken into the machine where it is heated and boiled. As the water boils, it kills any micro-organisms. The steam then rises, leaving behind virtually all the contaminants in the raw water. The cool air removes heat from the steam, converting it back to water. The water is stored in the storage tank until you are ready to use it. As a final step, the water passes through an activated carbon post filter to further improve water purity and overall taste.

## UNPACKING YOUR A-12

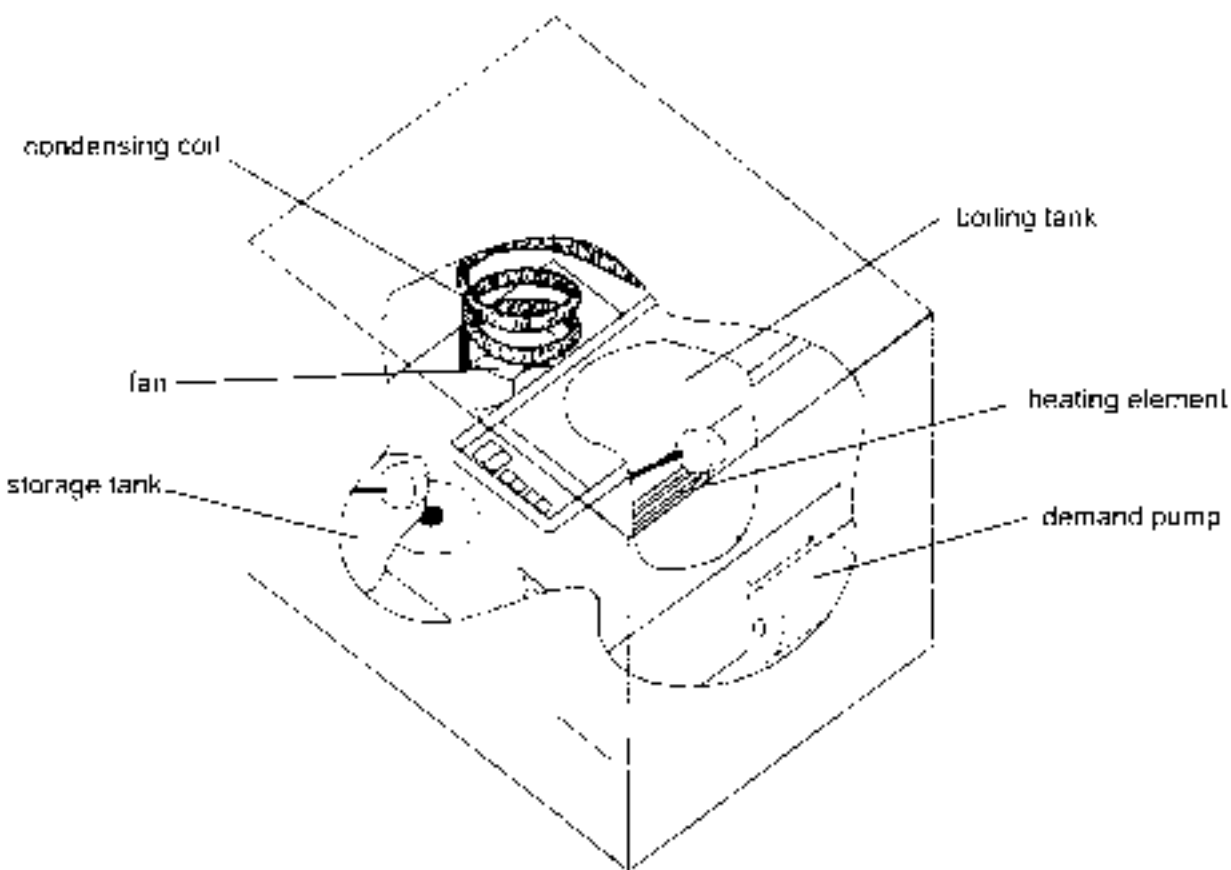
Your Pure Water A-12 is shipped to you with the following:

- ¥ A-12 distillation system
- ¥ Raw water hookup kit, stock # 4538
- ¥ Drain water hookup kit, stock #4539
- ¥ Distilled water hookup kit, stock #4537
- ¥ Owners manual and warranty card

## OPTIONAL ACCESSORIES FOR YOUR A-12

- ¥ Ice maker hookup kit for running distilled water to your refrigerator icemaker or water dispenser. Stock # 4540
- ¥ Pressure tank hookup kit to protect the pump and provide more storage capacity. Stock # 19001
- ¥ Lumen<sup>®</sup> cleaner and descaler for cleaning the boiling tank. Stock # 6603
- ¥ Stainless steel polish. Stock # 6606
- ¥ Post filter replacement cartridge. Stock # 32513
- ¥ Optional faucet (stock # 95302); tubing (stock #9577-1); and fittings (stock #9621)

## GETTING ACQUAINTED WITH YOUR A-12



**Figure 1**

Your A-12 consists of several major components concealed inside the stainless steel enclosure: (1) the distiller, where high-quality water is produced; (2) the storage tank, where distilled water is stored; and (3) the demand pump that distributes distilled water to your desired location.

The distiller contains the following: A boiling tank in which the raw water is boiled; a heating element; a condensing coil to collect and condense the steam; a fan to cool the steam; and various electrical controls and safety features (see figure 1). Inside the boiling tank is a float to control the water level. The storage tank is for distilled water. You can dispense the distilled water through the faucet provided. This faucet can be placed at a location of your choice. You can also purchase an optional icemaker hookup kit which will deliver distilled water to your refrigerator's icemaker and chilled water dispenser. There is also a float system inside the storage tank to control the distilled water level.

# INSTALLING YOUR A-12

Select an area that will allow the Pure Water A-12 to remain level. Improper leveling could affect the production rate.

Electrical requirements: Isolated 115 to 120 Volt AC, 20 Amp circuit (220 to 240 Volt AC, 10 Amp on some models). Check the electrical rating on the label on the rear of the distiller.

When connecting the tubing into the quick-connect fittings, it is critical the tubing be inserted fully! The tubing should insert into the fitting 1/2" - 3/4". Failure to do so could result in the tubing being released when the line is pressurized with water. This could cause water damage. We recommend that prior to inserting the tubing, you mark the tubing 1/2" from the end being inserted into the fitting, then pull back on the tubing to verify it is attached securely to ensure the tubing is properly and fully installed.

The distiller must be located in close proximity to a water supply, floor or other drain and appropriate electrical supply source. The distiller should also be located in a well-ventilated room.

**CAUTION:** The A-12 is rather heavy (66 pounds). Follow these instructions to prevent injury.

- a) Carefully remove the A-12 from the carton and remove the parts kits.

**Note:** You may wish to save the carton and packing materials for future use in the unlikely event your distiller should require sending to a service center for repair.

## A. CONNECTING THE WATERLINE

**Note:** The use of softened water for the raw water supply is recommended to minimize scale build-up in the boiling tank.

**Note:** The A-12 comes standard with a saddle tapping valve. In some jurisdictions a saddle tapping valve may not be permitted. In such instances, contact your authorized Pure & Secure, LLC Distributor for other waterline connection options.

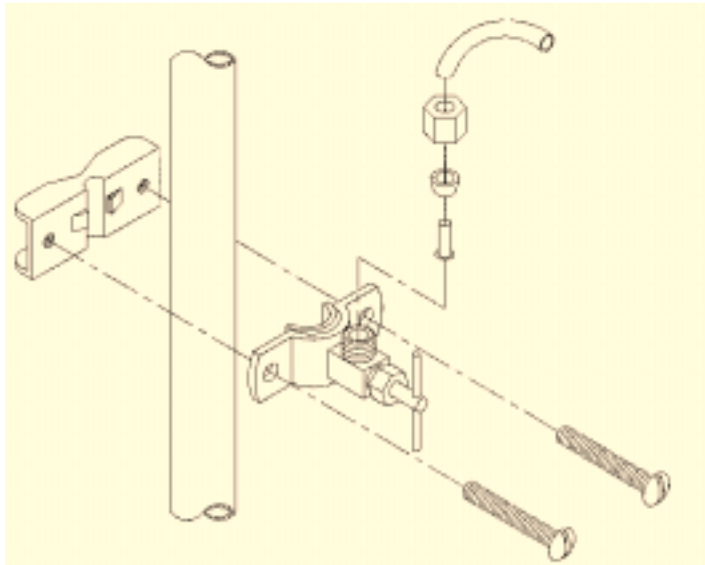
**CAUTION:** DO NOT USE HOT WATER LINE.

**CAUTION:** DO NOT TURN THE HANDLE BEFORE OR WHILE INSTALLING THE SADDLE TAPPING VALVE. BE SURE THE PIERCING LANCE DOES NOT PROTRUDE BEYOND THE RUBBER GASKET.

Locate the parts kit bag identified "Raw Water Hookup Kit".

- b) Turn the household water supply off.
- c) Install the saddle tapping valve on the COLD water copper tubing so the outlet is in a convenient direction.

- d) Tighten screws evenly. Brackets should be parallel. Tighten firmly. Do not over-tighten. See figure 2.
- e) Connect 1/4" tubing to the saddle tapping valve outlet.
- f) Coil a minimum of 8' (240 cm) of tubing behind the distiller. This will allow the distiller to be moved away from the wall for cleaning or service.
- g) Connect the 1/4" tubing from the distiller to the saddle tapping valve.
- h) Turn the saddle tapping valve handle clockwise until you feel it is firmly seated.  
*Note:* You have now pierced the copper tube and the valve is closed.
- i) Turn the handle counterclockwise to open the valve. Turn the household water supply on and check all connections for leaks.
- j) Open the saddle tapping valve completely. Check the line for leaks. Tighten where required.



**Figure 2**

## B. CONNECTING THE BOILING TANK DRAIN LINE

**CAUTION:** The boiling tank drain line delivers water in excess of 160° F to drain when actuated. Caution should be used when running this line to ensure safe placement of the tubing. The end of the tube should be secured so as to prevent movement during the draining cycle. If young children might be around the system, it is desirable to run the drain line through a large diameter piece of CPVC tubing which serves as a "shield".

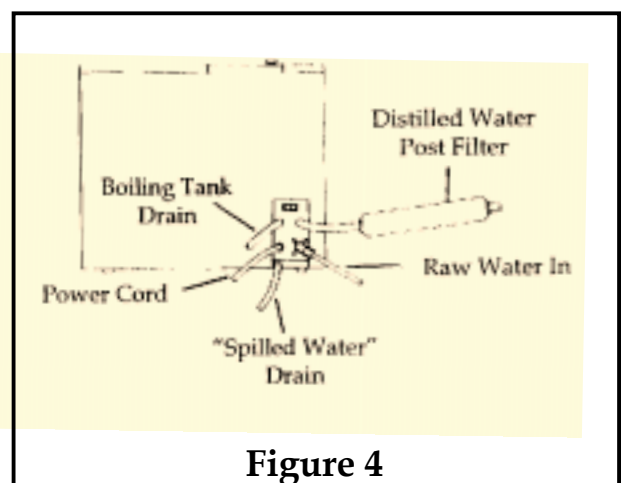
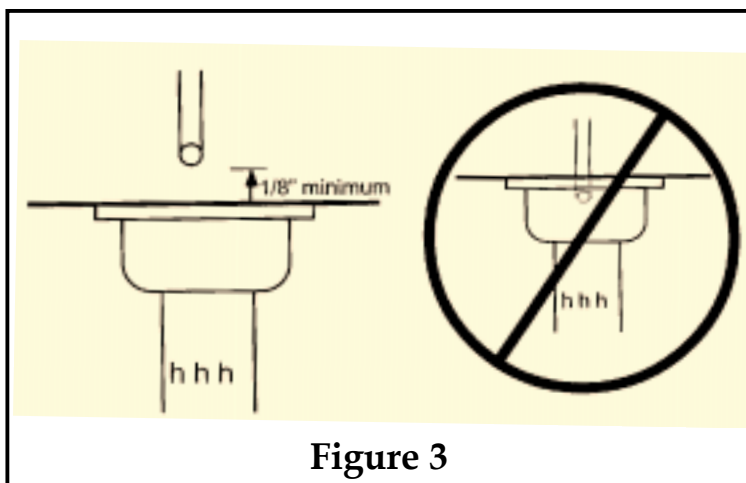
Do not connect the drain line directly to a waste water drain, sewer or trap. Always allow an air gap between the drain line and the wastewater to conform with local codes, and to prevent the possibility of waste water being forced back into the water distillation system. See figure 3.

If you are draining into plastic pipe, it must be rated CPVC at a minimum to handle the high temperatures of boiling water. PVC is unacceptable.

**Note:** This unit is self draining. It must be installed with a proper drain. The location of the boiling tank drain outlet on the rear of the machine **MUST** be higher than the household drain. Failure to install properly could result in the unit draining hot water onto the floor. If your installation plans do not call for installing with a drain, contact your authorized Pure & Secure, LLC Distributor immediately. Pure Water cannot be responsible for any damage resulting from improper installation.

Locate the parts kit bag identified "Drain Waterline Hookup Kit".

- Insert one end of the 1/2" high temperature tubing (rigid tubing) into the 1/2" x 1/2" speedfit elbow. Press in firmly.
- Insert the elbow into the fitting marked "BOILING TANK DRAIN" (red fitting) on the rear of the unit (see figure 4). Press in firmly.
- Run the drain line to the drain of your choice. Secure in place and allow an air gap between the end of the line and the drain. See figure 3.
- Slide the 5/8" hose clamp onto the end of the clear, flexible 3/8" tubing. Install the tubing onto the elbow marked "DRAIN" on the lower rear of the unit (see figure 4). Tighten the hose clamp securely.
- Run the clear drain line to the same location as the larger drain line.



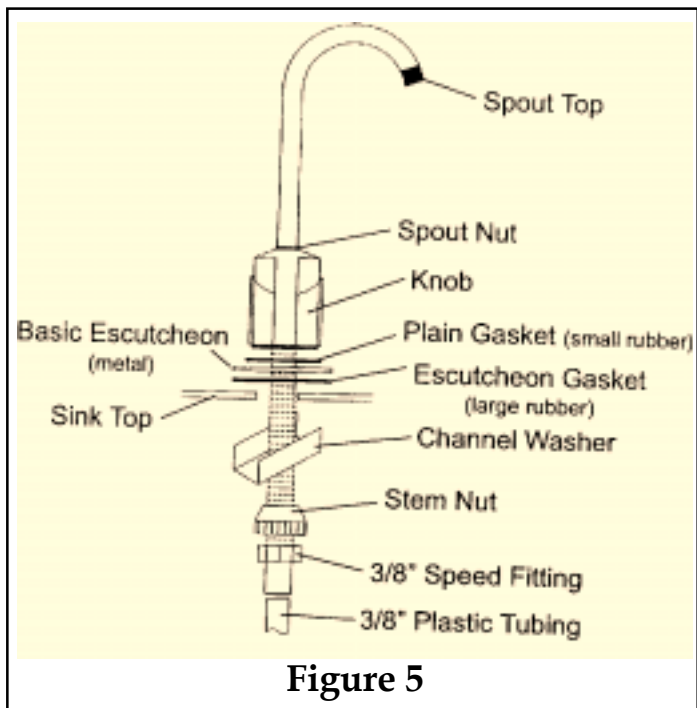
## C. CONNECTING THE DISTILLED WATERLINE

Locate the parts kit bag identified "Distilled Waterline Hookup Kit".

**Note:** Always use food-grade tubing (as included with the kit) for plumbing distilled water. NEVER USE COPPER, as it can dissolve in distilled water.

- a) Insert the 3/8" elbow into the fitting marked "DISTILLED WATER OUT" (blue fitting) on the rear of the unit (see figure 4). Press in firmly.

**Note:** If you purchased a pressure tank for your A-12, please take note of installation instructions included with your Pressure Tank Kit now. If no pressure tank will be used, please proceed.



**Figure 5**

- b) Cut the required length of 3/8" plastic tubing to run from the "DISTILLED WATER OUT" elbow on the rear of the unit to the post filter inlet. Insert one end of the tubing into the "DISTILLED WATER OUT" elbow. Press in firmly. Insert the other end into the post filter inlet (see figure 6 on page 13). Press in firmly.
- c) Wrap the stem of the faucet with Teflon tape and install the faucet at the desired point of dispensing as shown in figure 5.  
**Note:** The channel washer and stem nut should be tightened fully and be flush to the bottom of the sink top to hold the faucet in place.
- d) Determine the correct length of 3/8" tubing needed to connect the distiller to the faucet. Cut and route the tubing to the desired locations.
- e) Install the 3/8" speed fitting onto the bottom of the threaded stem of the faucet (with Teflon tape). Insert the tubing securely into the end of the fitting. Pull to test.  
**Note:** We recommend that you secure the 3/8" waterline to floor joists or other structural members of the house to prevent the tubing from banging during water dispensing.

## START-UP

**IMPORTANT NOTE:** Open the boiling tank lid and remove the wire tie restraining the float. This is used to prevent damage during shipment.

**Note:** This system must be fully grounded at all times. The electrical receptacle you use must be a fully grounded, single phase, AC 115-120 volt (240 volt in some locations), 20 amp minimum circuit. Where a two-pronged wall receptacle is encountered, it is the personal responsibility and obligation of the customer to contact a qualified electrician and have it replaced with a properly grounded three-pronged wall receptacle or have a grounding adaptor properly grounded. If an extension cord must be used, it should be a 3 wire, 20 amp minimum cord.



**CAUTION:** Do not, under any circumstances, cut or remove the round grounding prong from the electrical plug.

## **A. FIRST TIME START-UP, RINSING, STERILIZING, AND FILTER INSTALLATION**

Tools/Items Needed:      5 gallons of Distilled water at room temperature  
                                 Liquid chlorine bleach      Phillips screwdriver  
                                 Utility knife      Adjustable wrench

We recommend that you sterilize your A-12 before putting it into use in order to eliminate any microorganisms that may have collected in the storage tank.

### **TO STERILIZE YOUR A-12:**

1. Open the top door.
2. Remove the boiling tank lid by turning the knob and sliding the lid off. Remove and discard the wire tie restraining the float. Replace the lid.
3. Remove the cladding by removing the 12 screws with a phillips screwdriver.
4. Remove the storage tank lid and set aside.
5. Pour in 2 1/2 gallons of Distilled water from the 5 gallon bottle into the storage tank.
6. Add 1 teaspoon of liquid bleach to the storage tank and mix well.

**Caution:** Do not add more than 1 teaspoon of liquid bleach into the storage tank.

*Usage of safety glasses and rubber gloves is strongly recommended.*

7. Replace storage tank lid and cladding.
8. Plug the distiller into the power supply.
9. Turn the main power switch ON.
10. Open the faucet for 15 to 20 seconds ensuring there is a steady stream of water, then close the faucet.

**Caution:** Do not consume this solution.

11. Check water line for leaks. Tighten where required.

**Caution:** If a leak is present, the pump may start automatically.

12. Allow the solution to remain in the system for 10-15 minutes.
13. Open the faucet and pump the remaining water from the storage tank. When the pump shuts off, press the **OPUMP OVERRIDE** switch until no water is present. Close the faucet.

**Caution:** Do not install carbon filter until solution is completely drained.

14. Turn the function switch to DISTILL and the fan switch to STERILIZE. The fan will shut off.
15. Allow to steam sterilize for 45 minutes to 1 hour.

**Caution:** For proper sterilization, unit must run for at least 45 minutes, but longer than 1 hour may harm the distiller.

16. Switch the main power to OFF. Unplug the distiller from the power supply.

17. Remove the cladding and the storage tank lid.
18. Pour the remaining 2 1/2 gallons of distilled water into the storage tank.
19. Replace the storage tank lid and cladding.
20. Install the carbon filter.
21. Plug the unit into the power source and turn the main power switch ON.
22. Open faucet and pump out water from the storage tank until the pump shuts off. DO NOT CONSUME THIS SOLUTION.
23. Turn the fan switch to DISTILL.
24. Allow distiller to operate and fill up the storage tank. Distiller will shut off automatically. This will take approximately 12 hours.
25. Open the faucet and allow to run for 2-3 minutes to flush out the system. DO NOT CONSUME. Close the faucet. The pump should shut off and the machine will start-up.  
*Note:* If pump does not shut off, you may have a leak in your water line.
26. You now have approximately 2 1/2 gallons of water in the storage tank for consumption.

## MAINTENANCE AND CLEANING

The Pure Water A-12 is designed for low maintenance performance. The A-12 has a built-in drain valve that flushes the contaminants and residue out of the boiling tank after each full tank of distilled water is produced. This minimizes the build-up of scale in the boiling tank.

### A. OVERALL MAINTENANCE REQUIREMENTS

The following guide should be used for the maintenance of your distiller. The timing will vary according to your local water conditions. It is your responsibility to maintain your equipment. Without proper maintenance, your A-12 may not produce optimum results. The following times may be far too long for your particular area, so for the first several times, please keep track of the average time and adjust the schedule below:

*Every month or every 30 gallons\*:* Clean the boiling tank (see page 13).

*Every 3 months:*

- 1) Change the post filter (see page 13).
- 2) Sterilize (see page 9).
- 3) Clean the exterior.

\* More frequent if feed water is hard.

**Cleaning the interior:** We recommend the boiling tank be cleaned at least once a month (see page 13). Use Lumen<sup>a</sup> cleaner (Stock# 6603) and follow the directions provided.

Failure to clean the interior can result in:

- 1) Contaminant build-up (scale) causing premature failure of the heating element or drain valve.
- 2) Reduced purity of the purified water due to splash over of contaminants from the boiling tank.

## B. CLEANING THE BOILING TANK

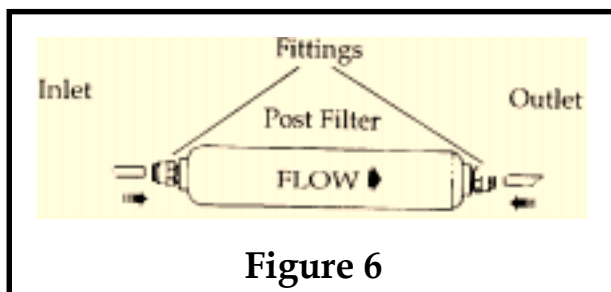
**CAUTION:** UNDER NO CIRCUMSTANCES SHOULD THE CLEANING SOLUTION BE HEATED AND RUN THROUGH A STEAM STERILIZATION OR DISTILLATION CYCLE.

USE THE FOLLOWING PROCEDURES FOR CLEANING THE A-12:

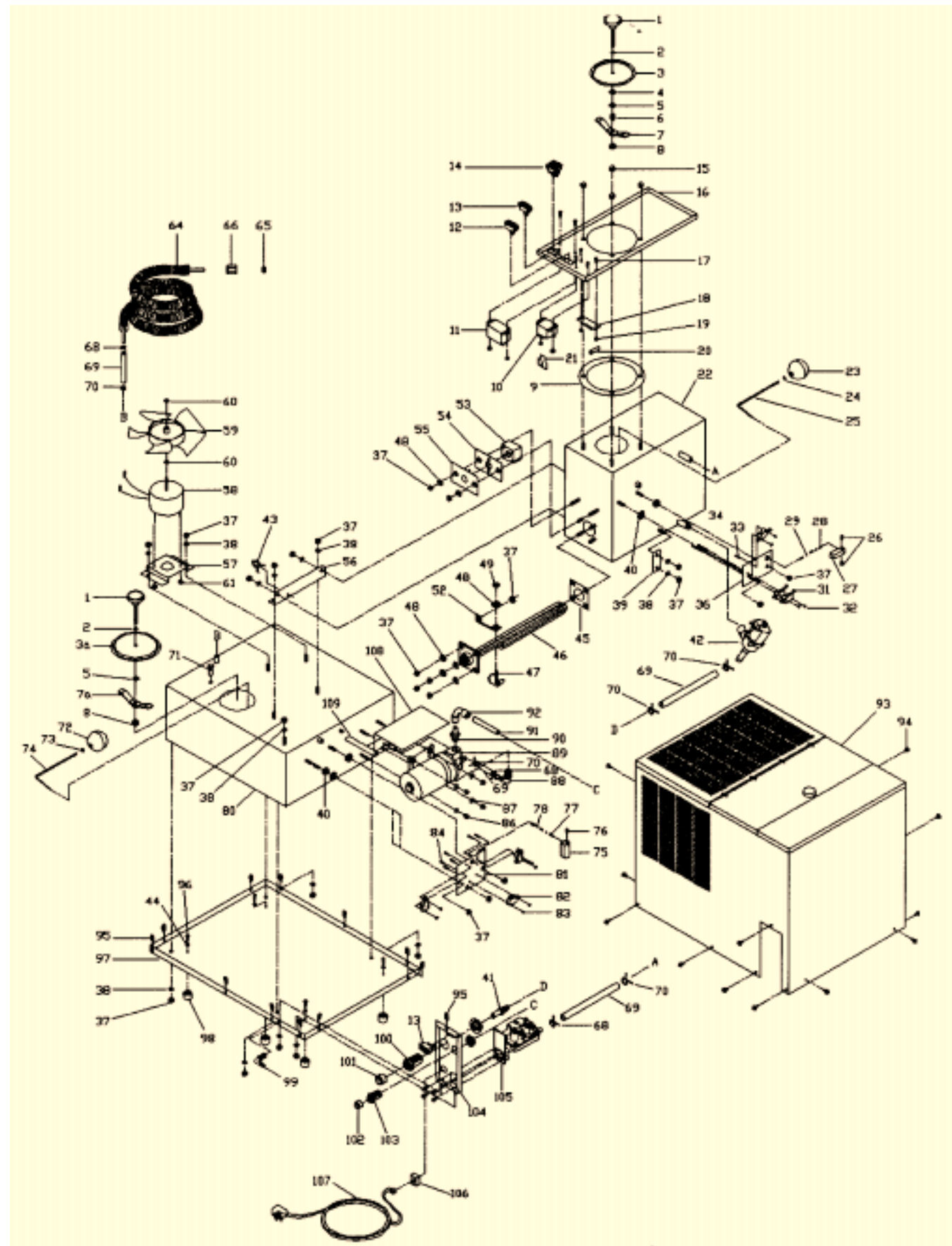
- a) Open the faucet on the sink and remove enough water to restart the unit. This will be evident because the fan will turn on. Open the top cover and move the function switch to the CLEAN position. At this time the fan will stop. Carefully feel the boiling tank lid and check the temperature of the unit. If it is hot, wait at least 30 minutes for the unit to cool.
- b) After the unit is cool, remove the boiling tank lid.
- c) Add Lumen, following the directions on the package. Mix well, and pour into the boiling tank.
- d) Add additional water using a jar or pitcher until the water level inside the boiling tank is above the scale line. **CAUTION:** Do not overfill.
- e) Let the solution stand overnight.
- f) After the scale has softened, turn the main power switch OFF. This will allow the boiling tank to drain. Once the boiling tank has drained, turn the main power switch ON and allow the boiling tank to refill. Turn the power off again, repeat this step several times to flush the boiling tank of cleaning solution and scale.
- g) Return the function switch to the DISTILL position. The unit is now ready for normal operation.

## C. CHANGING THE POST FILTER

- a) Turn the main power switch OFF and open the faucet at the sink to bleed the line of pressure. Close the faucet.
- b) Have a bucket available to catch any excess water in the line. Remove the filter by releasing the fittings on each end. Use care when removing the filter because you will need to reuse the fittings. Push in on the grey ring in the fitting, while pulling the tube out with the other hand.
- c) Remove the two fittings from the end of the filter (see figure 6). Wrap the threads of each fitting with new Teflon tape, and install in the new filter cartridge. Tighten securely.
- d) Connect the inlet side of the filter to the waterline.
- e) Using a bucket, hold the filter outlet over the bucket. Turn the main power switch ON and allow water to flush the carbon fines out of the new filter. If the storage tank is low, depress the pump switch and flush the filter.
- f) Now that the filter is flushed, reconnect the outlet side of the filter to the waterline.



EXPLODED VIEW



Key #	120V P/N	240V P/N	Description	Key #	120V P/N	240V P/N	Description
1	8009	8009	Lid Knob with Stud	55	424A	424A	Reset Retainer
2	6022	6022	Lid O-Ring	56	32007	32007	Boiling Tank Mounting Angle
3	519	519	Lid Disc, Boiling Tank	57	541	541	Fan Motor Mounting Bracket
3a	548	548	Lid Disc, Storage Tank	58	32504	32504V	Fan Motor
4	6049	6049	Gasket	59	7010	7010	Fan Blade
5	9009	9009	Flat Washer, 1/4"	60	9092	9092	Push Nut
6	9085	9085	Lid Spring	61	9003	9003	Lock Nut, 8-32
7	402B	402B	Lid Crossbar B/T, w/Nut	62*	653	653V	Fan & Motor Kit (inc. #58-#61)
7a	402C	402C	Lid Crossbar, S/T, w/Nut	63*	639	639	Fan Blade Kit (inc. #59-#60)
8	224-0003	224-0003	Locknut, 1/4-20	64	9513	9513	Condensing Coil
*	409	409	Lid Assembly, B/T (inc. #1-#8)	65	9530	9530	Compression Ring, 3/8"
*	410	410	Lid Assembly, S/T (inc. #1,2,3a,5,7a,8)	66	9510	9510	Compression Nut, 3/8"
9	6010	6010	Boiling Tank Gasket	67*	606	606	Condensing Coil Kit (inc. #64-#66)
10	7206	7206V	Relay, Heating Element	68	9922	9922	Hose Clamp, 19/32"
11	7208	7208V	Relay, Storage Tank	69	9541	9541	Silicon Tubing
12	7227	7227	Momentary Water Switch	70	9921	9921	Hose Clamp, 5/8"
13	7228	7228	On/Off Switch	71	8014	8014	Air Filter
14	7221	7221	Function Switch	72	9519	9519	Float Ball
15	9039	9039	Cap Nut, 1/4-20	73	9018	9018	Hex Nut, 6-32
16	32512	32512	Electrical Mounting Tray Welded	74	525	525	Float Rod
17	9095	9095	Screw, 8-32 x 1/2	75	9091	9091	Storage Tank Actuating Arm
18	7215	7215	Terminal Strip	76	9024	9024	Set Screw
19	9043	9043	Hex Nut, 8-32	77	9080	9080	Float Bushing
20	7217	7217	1 Amp Slo-Blo Fuse	78	6021	6021	Float O-Ring
21	7127	7127	3/16" Terminal Tab	79*	655	655	Float Kit (inc. #72-#78)
22	32501B-02	32501B-02	Boiling Tank Studded	80	32503A-02	32503A-02	Storage Tank Studded
23	9519	9519	Float Ball	81	32022	32022	Switch Mounting Plate
24	9018	9018	Hex Nut, 6-32	82	7209	7209	Microswitch
25	514	514	Float Rod	83	9041	9041	Hex Nut, 4-40
26	9024	9024	Set Screw	84	9001	9001	Screw, 4-40 x 5/8"
27	9098	9098	Actuating Arm	85*	660	660	Microswitch Kit (inc. #82-#84)
28	9080	9080	Float Bushing	86	9070	9070	Lock Nut, 10-24
29	6021	6021	Float O-Ring	87	9094	9094	Flat Washer, #10
30*	659	659	Float Kit (inc. #23-#29)	88	9573	9573	Nylon Hose Barb Elbow
31	7201	7201	Microswitch	89	32505	32505V	Demand Pump
32	9041	9041	Hex Nut, 4-40	90	9606	9606	Stem Adaptor
33	9001	9001	Screw, 4-40 x 5/8	91	9577	9577	3/8" Tubing
34	9030	9030	Screw, 4-40 x 1-8	92	9615	9615	Speedfit Union Elbow, 3/8"
35*	654	654	Microswitch Kit (inc. #31-#33)	93	32508SS	32508SS	Stainless Steel Cladding
36	32023	32023	Boiling Tank Switch Plate	94	9029	9029	Sheet Metal Screw
37	9045	9045	Hex Nut, 1/4-20	95	9047	9047	Speed Clip Nut
38	9032	9032	Lock Washer, 1/4"	96	9056	9056	Screw, 10-24 x 1/2"
39	32006	32006	Boiling Tank Mounting Bracket	97	32005	32005	Stainless Steel Tray
40	8070	8070	Nylon Spacer	98	8011	8011	Appliance Feet
41	9633	9633	Adaptor, STEM to BARB	99	95504	95504	Nylon Elbow
42	7257	7257V	Automatic Drain Valve	100	9611	9611	Bulkhead Union, 1/2"
43	7230	7230	Cable Holder with Latch	101	9617	9617	Red Collet Cover, 1/2"
44	9046	9046	Star Washer, #10	102	9618	9618	Blue Collet Cover, 3/8"
45	6005	6005	Heating Element Gasket	103	9612	9612	Bulkhead Union, 3/8"
46	7070	70100	Heating Element	104	32506A-02	32506A-02	Access Panel
47	400A-02	400A-02	U-Clamp with Stud	105	7219	7219V	Solenoid
48	9009	9009	Flat Washer, 1/4"	106	7015	7015	Cord Restraint
49	9061	9061	Hex Nut, 10-24	107	32507	32507	Power Cord
50*	634	634V	Heating Element Kit (inc. #45-#49)	108	32029	32029	Pump Cover Bracket
51*	661	661	U-Clamp Kit (inc. #47-#49)	109	6070	6070	Grommet Protector Strip
52	508	508	Heat Tab	**	32050	32050	Boiling Tank Side Insulation
53	7069	7069	Reset	**	32051	32051	Boiling Tank Bottom Insulation
54	510	510	Reset Retainer Board	* Parts Kit      ** Not shown on the exploded view			

# TROUBLESHOOTING

**CAUTION:** BE SURE THE ELECTRICAL POWER CORD IS UNPLUGGED FROM THE OUTLET AND REMOVE THE EXTERIOR CLADDING BY REMOVING THE SCREWS AT THE BASE OF THE UNIT BEFORE ATTEMPTING ANY REPAIRS.

<i><b>Problem</b></i>	<i><b>Observation</b></i>	<i><b>Probable Cause</b></i>	<i><b>Solution</b></i>
<b>A. The machine will not operate at all.</b>  <i>Note:</i> Fan & heating element do not operate until water level in boiling tank raises float to a safe operating level.  <i>Note:</i> Purified water in the storage tank must be below 1/2 tank before the distiller can be restarted.	Power cord plugged into outlet.	Wall outlet not working.	Check outlet, fuse, or circuit breaker of house.
	Main power switch is ON.	Defective ON/OFF power switch	Replace switch.
		Loose or damaged wires.	Replace or repair wiring. (Ensure correct wires are connected to terminals.)
	Function switch is in DISTILL position.	Defective function switch.	Replace switch.
		Loose or damaged wires.	Replace or repair wiring. (Ensure correct wires are connected to terminals.)
<b>B. Boiling tank will not fill with water automatically.</b>  <i>Note:</i> Make sure the saddle tapping valve or utility hookup valve is turned ON to supply feed water.	Float ball inside the boiling tank resting against float support arm..	Defective microswitch.	Replace switch.
		Loose or damaged wires.	Replace or repair wires.
	Float actuating arm is fully depressing the boiling tank low-level microswitch.	Defective microswitch.	Replace switch.
		Loose or damaged wires.	Replace or repair wires.
	Solenoid valve is wired and makes a faint buzzing sound.	Feed water supply not turned ON.	Open utility hookup valve or saddle tapping valve.
		Feed water supply clogged.	Clean strainer by disassembling solenoid valve
		Defective solenoid valve.	Replace solenoid valve.
	Heating element and fan is OFF.	If the heating element or the fan is running and the float ball inside the boiling tank is resting against the float support arm and the float actuating arm is fully depressing the boiling tank low-level microswitch, then you have a defective heating element relay.	Replace relay.
			Have service technician test relay.

## TROUBLESHOOTING (CONT'D.)

<i>Problem</i>	<i>Observation</i>	<i>Probable Cause</i>	<i>Solution</i>
C. Fan will not run or is making excessive noise.	Fan is tightly mounted on storage tank.	Defective fan motor.	Replace fan motor.
	Fan blade is not loose around shaft of motor.	Excessive vertical movement in the fan motor shaft.	Replace fan motor.
		Defective fan motor.	Replace fan motor.
	Fan blade spins freely when turning by hand, not hitting condensing coil or touching motor housing.	Excessive vertical movement in the fan motor shaft.	Replace fan motor.
		Defective fan motor.	Replace fan motor.
	Fan switch is ON.	Defective switch.	Replace switch.
		Loose or damaged wires.	Replace or repair wires.
	Function switch is in the ÒDISTILLÓ position.  <i>Note:</i> In normal operating mode, the heating element and fan will run simultaneously.	Defective function switch <b>only</b> if the heating element is not operating either.	Replace switch.
		Loose or damaged wires.	Replace or repair wires.
D. Distiller fills to normal operating level, but heating element will not heat or bring water to boil.	Reset button has/is not tripped.	Defective element.	Replace element.
		Loose or damaged wires.	Replace or repair wires.
	The fan is running and boiling tank is full of water.	Defective element.	Replace element.
		Loose or damages wires.	Replace or repair wires.
	Water fills right back into the boiling tank after completely draining the boiling tank.	Outside boiling tank high-level microswitch is defective <b>only</b> if fan doesn't run either.	Replace microswitch.
		Defective element.	Replace element.
	Function switch is in the ÒDISTILLÓ position.  <i>Note:</i> In normal operating mode, the heating element and fan will run simultaneously.	Defective function switch <b>only</b> is the fan doesn't run either.	Replace switch.

## TROUBLESHOOTING (CONT'D)

<i>Problem</i>	<i>Observation</i>	<i>Probable Cause</i>	<i>Solution</i>
<b>E. Boiling tank overflows with water.</b>  <i>Note:</i> If your machine is new, make sure you have removed the wire-tie used to restrain the float during transit.	Float actuating arm is fully depressing the bottom two boiling tank high-level microswitches.	Defective outside boiling tank high-level microswitch.	Replace microswitch.
		Defective heating element relay.	Have service technician test relay and/or solenoid.
		Defective solenoid.	Dirt or other fine foreign material may be preventing the solenoid valve from shutting the water off completely. Disassemble and clean the core of the solenoid valve.
	Boiling tank is full to the top of the tank.	Float not able to move freely.	Adjust float actuating arm so the float ball rests on the float support arm, the actuating arm is depressing the boiling tank low-level microswitch.
			Replace float ball if filled with water.
		Float actuating arm incorrectly set or adjusted.	Install bushing and o-ring float repair kit.
		Solenoid valve is defective.	Clean or replace solenoid valve
	The float rod moves freely and smoothing by hand.	Defective outside boiling tank high-level microswitch.	Replace microswitch.
		Defective heating element relay.	Have service technician test relay and/or solenoid.
		Defective solenoid.	Dirt or other fine foreign material may be preventing the solenoid valve from shutting the water off completely. Disassemble and clean the core of the solenoid valve.
	Float ball doesn't feel heavy and floats accordingly with the water level in the boiling tank.	Defective outside boiling tank high-level microswitch.	Replace microswitch.
		Defective heating element relay.	Have service technician test relay and/or solenoid.
		Defective solenoid.	Dirt or other fine foreign material may be preventing the solenoid valve from shutting the water off completely. Disassemble and clean the core of the solenoid valve.



## TROUBLESHOOTING (CONT'D)

<i>Problem</i>	<i>Observation</i>	<i>Probable Cause</i>	<i>Solution</i>
F. <b>Machine does not shut off when storage tank is full.</b>	Storage tank high-level microswitch is fully depressed.	Defective storage tank high-level microswitch.	Both the boiling tank and storage tank high-level microswitches must be fully depressed before the machine shuts off and drains the boiling tank. This allows flushing of the boiling tank. Depress the inside <u>boiling tank</u> high-level microswitch. Make sure the <u>storage tank</u> high-level microswitch is also fully depressed. If the machine does not shut down, remove one wire from the <u>boiling tank</u> high-level microswitch. If machine shuts down, replace that microswitch. If not, leave the wire off from the <u>boiling tank</u> high-level microswitch and remove one from the <u>storage tank</u> high-level microswitch. If machine shuts down, replace <u>storage tank</u> high-level microswitch. If machine still does not shut off, replace main control relay.
		Defective inside boiling tank high-level microswitch.	
		Defective main control relay.	
		Loose or damaged wires.	Replace or repair damaged wires.

## TROUBLESHOOTING (CONT'D.)

<i>Problem</i>	<i>Observation</i>	<i>Probable Cause</i>	<i>Solution</i>
<b>G. Automatic drain valve does not open or shut.</b>  <i>Note:</i> Storage tank must be at least 1/4 full to operate pump.	Distiller is turned ON and plugged into outlet.	<i>If water continues to drain out while distillation is taking place:</i>  Defective drain valve.	Clean boiling tank. Clean or replace the drain valve.
		Loose or damaged wires on drain valve.	Replace or repair damaged wires.
		Heavy scale build-up preventing drain valve from shutting completely.	Clean the drain valve by removing the four screws and the coil assembly from the plastic body.
	Machine had completed its distillation cycle and storage tank is full. (Distiller should not be running.)	Scale build-up can also prevent the drain valve from opening properly.	Clean boiling tank. Clean or replace the drain valve.
		Defective drain valve.  <i>Note:</i> Whenever main control relay is not powered, the drain valve should stay/remain open.	Replace drain valve.
<b>H. Demand pump not working properly or not at all.</b>  <i>Note:</i> Storage tank must be at least 1/4 full to operate pump.	Machine is plugged in and turned ON.	Blown fuse.	Replace fuse.  <i>Note:</i> Replace only with a 1 amp slo-blo fuse. Never use any fuse larger than specified.
		Defective pressure switch on pump.	Adjust or replace pressure switch.  <b>CAUTION:</b> Do not attempt to adjust pressure switch without the proper calibrating equipment or without the assistance from a factory service technician. To do so will void the warranty. Unrepairable damage could occur to pump.

## TROUBLESHOOTING (CONT'D.)

<i>Problem</i>	<i>Observation</i>	<i>Probable Cause</i>	<i>Solution</i>
(CONTINUED) <b>H. Demand pump not working properly or not at all.</b>	(CONTINUED) Machine is plugged in and turned ON.	Defective pump override switch.	Replace switch.
		Not enough water in storage tank.	Allow machine to distill more water.
		Defective pump.	Have service technician replace or repair pump.
		Loose or damaged wires.	Replace or repair damaged wires.
	Pumps runs but does not pump any water.	Air leak in pump.	Tighten screws on pump head and fittings on pump.
		Pump valves fouled with foreign materials, i.e. Teflon tape, charcoal, etc.	Have service technician replace or repair pump head.
		Leak before faucet (on discharge side of pump).	Replace or repair fittings.
	Pump will not shut off after you shut faucet.	Air leak in discharge line.	Tighten all fittings (w/ Teflon tape if possible).
		Defective pressure switch.	Replace or adjust pressure switch.
		Pump internals worn and not able to reach shut-off pressure.	Have service technician replace or repair pump.
		Foreign materials clogged in pump.	Have service technician replace or repair pump.
	Pump cycles ON/OFF even when not in use.	Small leak on discharge side.	Tighten all fittings (w/ Teflon tape if possible).
		Defective pressure switch.  <i>Note:</i> If refrigerator/ icemaker is connected to the purified water system, this could cause the pump to cycle.	Replace or adjust pressure switch.
	Pump does not pump the water at steady pressure. (Very low outlet pressure, barely trickles.)	Worn out internal parts.	Have service technician replace or repair pump.
		Defective pump.	Have service technician replace or repair pump.
	Only pumps water when pump override switch is depressed.	Not enough water in storage tank.	Allow machine to distill more water.

