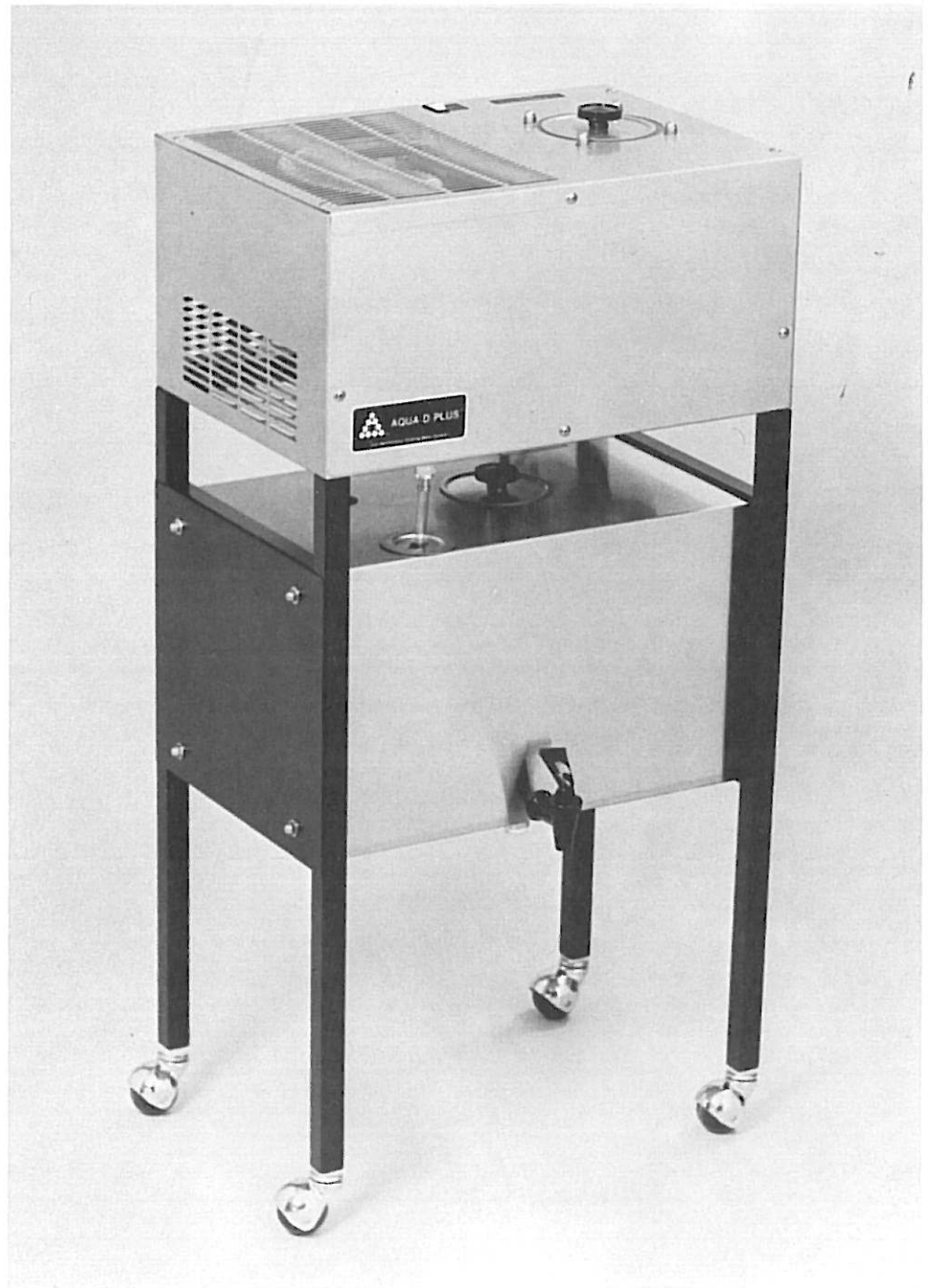


Aqua D Plus™

INSTRUCTIONS FOR ASSEMBLY AND OPERATION



3725 TOUZALIN / BOX 83226 / LINCOLN, NEBRASKA 68501

DISTILLATION

Contaminated water in the boiling tank is turned into steam by the energy from the electrical heating element.

Contaminants remain in the tank while pure water vapor (steam) is driven off and condensed back into water by the condensing coils.

The contaminants become concentrated in the boiling tank and must be frequently dumped to drain. Your Aqua D Plus™ drains the residual from the tank each time it shuts down. This ensures maximum purity of the distilled water and reduces the need to chemically clean the boiling tank.

Traces of some chemicals with structures similar to water can pass over with steam. The two small holes in the condensing coil help remove this type of 'volatile'. The remainder are trapped in the activated carbon filter installed between the coil and the tank. Alternatively, a pre-filter can be employed to remove such compounds before the distiller.

No single system is capable of removing all the contaminants that can occur in tap water. DISTILLATION, because it successfully removes the widest spectrum of potential contaminants, offers you and your family the best possible protection of any single system available.

Model and Serial Number may be
found on the back panel.

You should record both model and
Serial Number below
for future reference.

Model _____

Serial Number _____

PLEASE READ ALL INSTRUCTIONS THOROUGHLY BEFORE OPERATING YOUR NEW UNIT.

- 1) It is important to fill out and return the Warranty Card. This information is helpful to us should you ever need parts or repairs for your unit.
- 2) Your distiller has been checked at the factory for leaks, proper working procedure, etc. It may therefore have traces of a water ring around the boiling tank.
- 3) The tank has been Heliarc welded, and as you distill water the mineral contaminants may be precipitated preferentially on the weld and have the appearance of rust. The tank is fabricated from 304 stainless steel and the appearance of the seams should not be a matter for concern.
- 4) DO NOT subject your unit to misuse or abuse. Cleaning of the boiling tank is very important (see Section: CLEANING INSTRUCTIONS).
- 5) Because distilled water has had chemical contaminants removed it will taste 'different' to the tap water to which your taste buds have become accustomed. After a short time they will accept this new taste as normal.

ELECTRICAL-GENERAL

This appliance uses electricity to heat the water in the boiling tank and to drive the cooling fan which makes steam condense in the finned condensing coils.

Sensible precautions should be observed:

- a) NEVER immerse the unit in water or any other liquid.
- b) NEVER operate the appliance with a damaged cord. Do not let the cord be exposed to hot surfaces.
- c) DO NOT use an extension cord.
- d) The unit is designed to be operated indoors.
- e) The unit should be unplugged from the wall outlet before either the front or back panels are removed.

ELECTRICAL-INSTALLATION

The distiller comes wired with a three-prong plug that incorporates a ground wire for operator protection.

THIS PLUG MUST BE PLUGGED DIRECTLY INTO A COMPATIBLE 3-PIN WALL OUTLET SUPPLYING 120 VOLTS AC.

The circuit should be protected by a 20-amp fuse, or a 20-amp circuit breaker.

IF YOU ARE NOT SURE THAT YOUR OUTLET IS PROPERLY GROUNDED OR THAT THE CIRCUIT PROTECTION IS CORRECT, HAVE IT CHECKED BY A QUALIFIED ELECTRICIAN.

THE INSTRUCTIONS WHICH ARE GIVEN BELOW AND ON THE FOLLOWING PAGES SHOULD BE FOLLOWED CLOSELY IN ASSEMBLING AND PREPARING THE UNIT FOR OPERATION.

ASSEMBLY

The Aqua D Plus™ will be shipped in two (2) separate boxes. One box contains the top "Distiller Portion" of the unit. The other box contains the "Storage Tank and Stand". When unpacking the boxes, save everything until the unit is in operation. NOTE: Save the boxes in the unlikely event your distiller should require returning for repair.

ASSEMBLING THE UNIT

- 1) Start with the box containing the Storage Tank and Stand. This box contains:
 - One storage tank (5 or 10 gallon)
 - Two leg assemblies
 - A parts kit comprising:
 - 1 Storage Tank Drain Faucet
 - 2 Screws
 - 1 Nut
 - 1 Gasket
 - 8 Washer Base Closed End Cap Screws
 - 1 Filter Cup Assembly/1 Activated Carbon Filter Bag or Cartridge
 - 4 Castors
- 2) Place one end assembly on the end of the tank and secure using four of the washer base closed end cap nuts. Repeat with the other leg assembly.
- 3) Install the storage tank drain faucet (Fig. 1). Turn the unit back to an upright position. Install the drain faucet using the following procedure:
 - a. Place the gasket on the threaded section of the faucet.
 - b. Insert the threaded section through the hole in the bottom front of the tank.
 - c. Reaching through the access hole, while holding the faucet in position with your other hand, install the nut.
 - d. To tighten the nut, offset the faucet a few degrees counterclockwise; finger tighten the nut on the inside of the tank; then while holding the nut, turn the faucet clockwise.

NOTE: WASH THE STORAGE TANK WITH A CLOTH, USING HOT, SOAPY WATER AND RINSE THOROUGHLY BEFORE USING.

- 4) It is a requirement of safety codes that when two assemblies are electrically interconnected, they must be mechanically joined to prevent them from accidentally separating. In the parts bag you will find two self-tapping screws. These are to be screwed into the small holes in the legs of the stand. The holes are located 7/16 inch from the top of the leg, on the inside corners of two diagonally opposite legs. It is recommended that the screws be started before placing the distiller on the stand to avoid having to work in cramped quarters.

NOTE: DO NOT OMIT THESE SCREWS OR THE MACHINE WILL NOT BE IN COMPLIANCE WITH SAFETY CODES.

- 5) Unpack the top portion of the Aqua-D Plus™. You will find the following parts in the parts bag:
 - 1 Inlet Gasket/1 Stainless Steel Washer
 - 3 1/4" Plastic Nuts
 - 1 Strainer
 - 1 Water Line kit containing 1/4" OD tubing and 1 saddle tapping valve
 - 1 Condensing Coil Extension Tubing
 - 1 1/2" NMPT x 1/2" Compression Fitting
 - 10 Ft. 1/2" Plastic Tubing

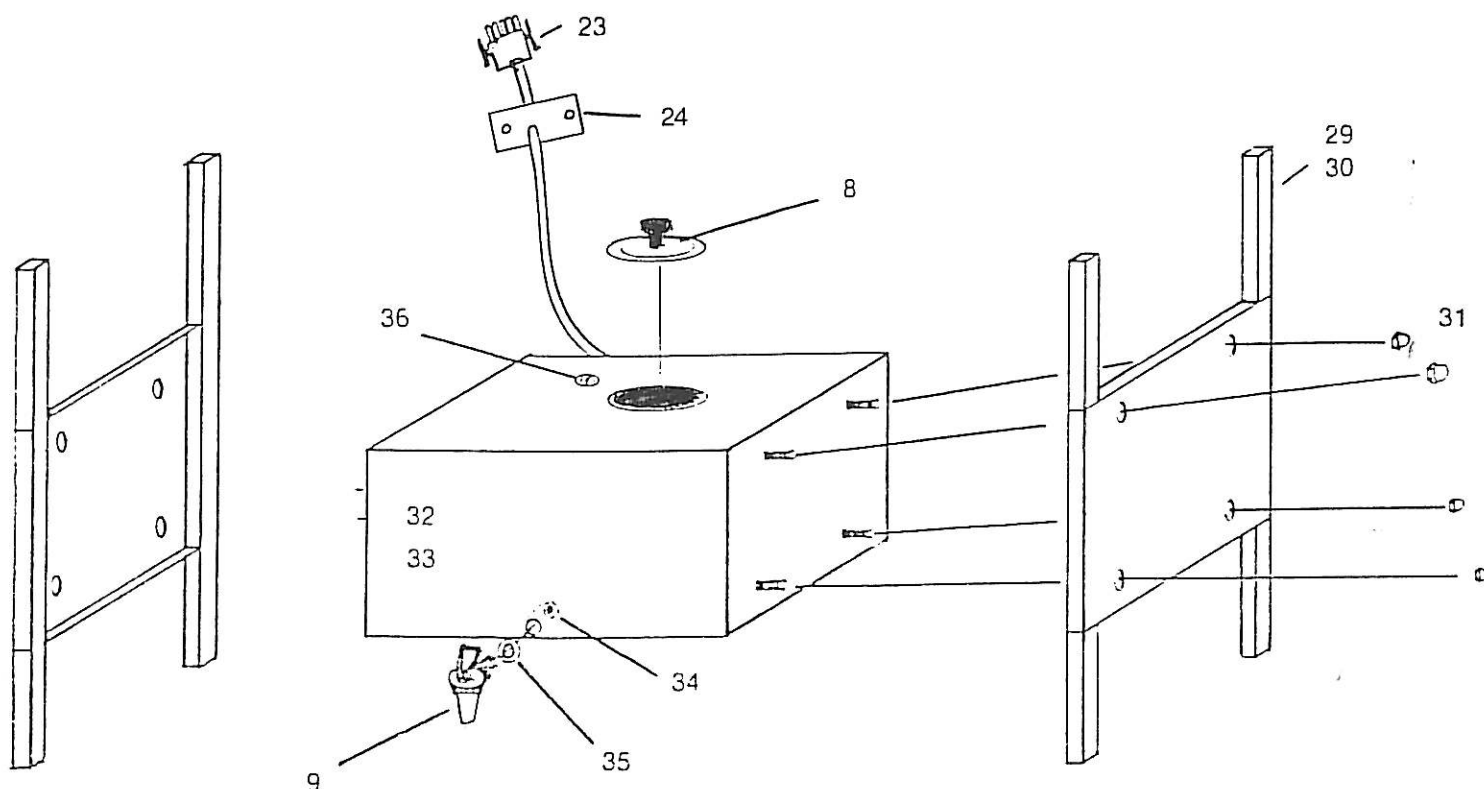


Figure 1

No.	Part No.	Description	No.	Part No.	Description
1	409	Boiling Tank Lid Assembly	21	7039	Reset
2	7228	Heater Switch	22	7070	Heating Element
3	7227	Momentary Water Switch	23	7129	5-Pin Connector
4	7228	Fan Switch	24		Strain Relief
5	7248	Drain Valve	25	4584	Power Cord
6	4591	Condensing Coil Extension Tubing	26	7201	Holding Tank Micro Switches
7	7011	Drain Valve Receptacle	27	7011	Demand Pump Receptacle
8	408	Holding Tank Lid Assembly	28		Junction Box
9	9555	Faucet Storage Tank	29	4508-P	5-Gallon Side Panel
10	4583	Demand Pump (Optional Accessory)	30	4546-P	10-Gallon Side Panel
11	7228	Function Switch	31	9079	Cap Nuts (washer based)
12	7212	Neutral Terminal Connector w/7213-3	32	4507	5-Gallon Holding Tank
13	7206	Heater Relay	33	4545	10-Gallon Holding Tank
14	7203	Level Control Relay	34	145	Nut
15	9513	Condensing Coil	35	144	Gasket
16	7010	Fan Blade	36	411	Vent Plug
17	4566	Fan Motor	37	9550	1/4" Plastic Compression Nut
18	9082	Actuator Block	38	9526	Water Line Tubing 1/4" OD
19	7202	Micro Switches	39	9550	Compression Sleeve
20	7222	Water Solenoid	40	9550	Gripper

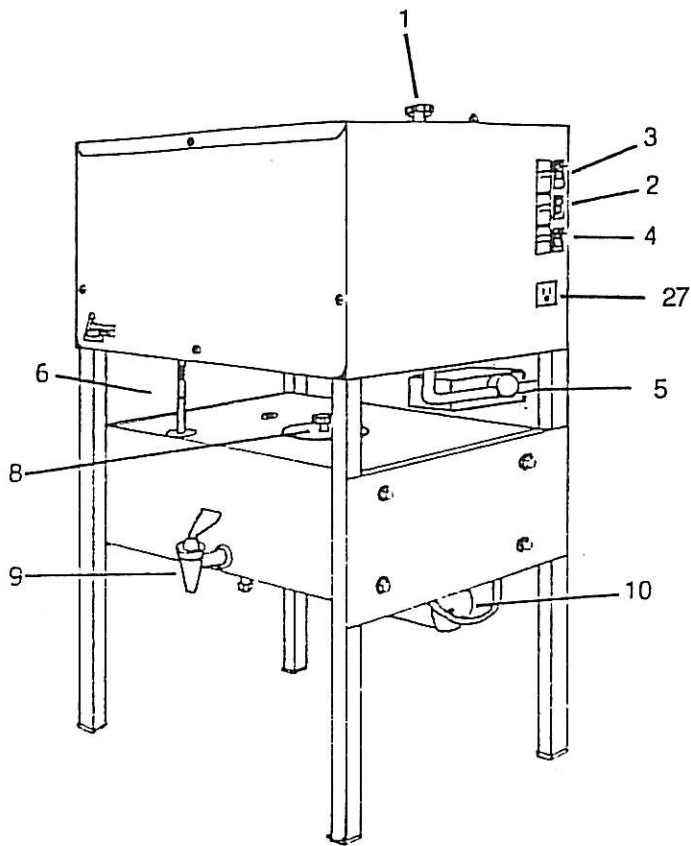


Figure 3

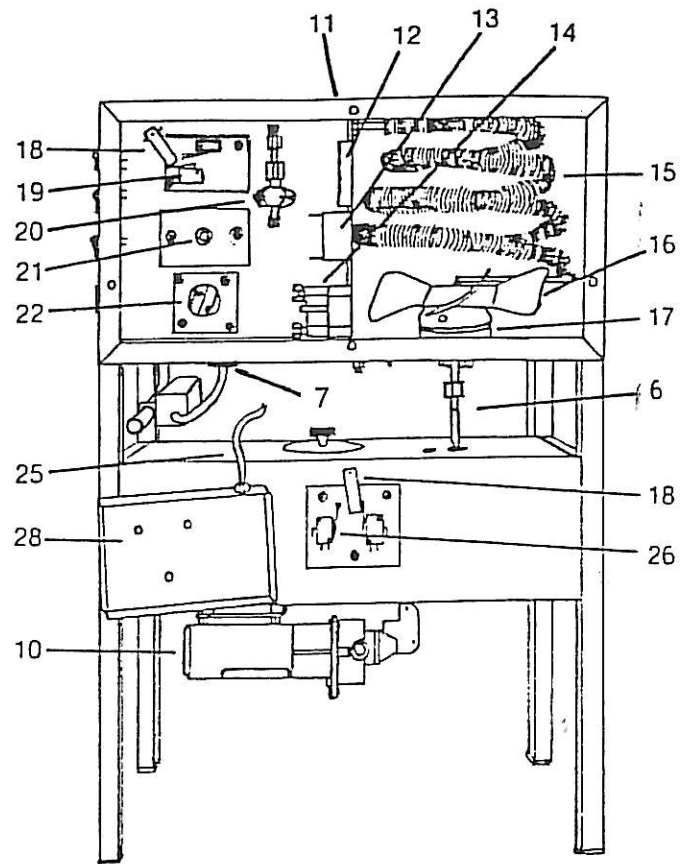


Figure 4

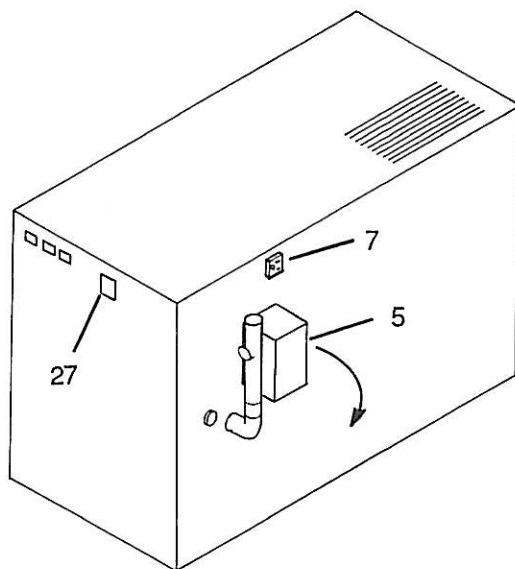


Figure 2

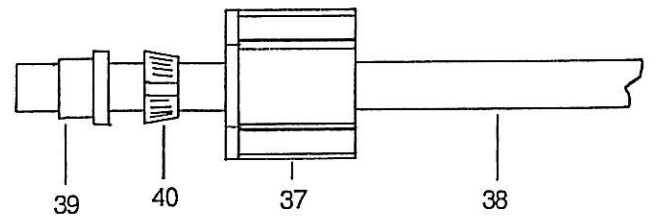


Figure 5

6) INSTALLATION OF THE TOP PORTION OF THE DISTILLER TO THE STORAGE TANK.

- a) The base of the distiller has one short round leg at each corner. These round legs are to be inserted into the square tube legs at each corner of the stand. Put back legs in first. If necessary, push on the distiller unit to set the legs of the top unit into the stand legs and tighten the two screws into the grooves of the legs of the top unit.
- b) Connect the electrical lead from the tank float control into the socket on the back of the distiller. The plug is designed to fit only one way and it should be pushed in firmly until it is retained by the plastic clips. Fix the cover plate in position with the screws provided.
- c) Using 1/2" plastic tubing, connect the drain outlet to a sewer drain. The drain must be below the distiller top to ensure the tank will drain under gravity. The tubing should be fixed so that it cannot pull out of the drain and cause flooding. Preferably it should be held so it discharges approximately 1 1/2 inches above the drain entry.

- 7) The boiling tank lid will not be used until instructed to do so later in these instructions. You may note that by loosening the black knob on top and then tipping the lid, the bar at the bottom slips under the opening in the top unit. Center the lid over the opening and tighten the black knob. This lid will need to be removed each time the unit is cleaned.

8) INSTALLATION OF FILTER CUP See insert "Installation of Post Filter".

9) INSTALLATION OF WATERLINE TO UNIT FOR DIRECT WATERLINE HOOKUP.

- a) To connect the 1/4" water line to the water solenoid, remove the plastic nut from the solenoid and insert the tubing through the small end of the plastic nut. Let it protrude about 1/4".

NOTE: The compression nut comes in 3 parts; the nut, compression sleeve and gripper. If the compression sleeve or gripper comes out while installing the water line, insert them back into the nut or on to the tubing. The gripper has a split in it so it will compress onto the tubing when you tighten the nut. See Fig.5.

- b) Install the plastic nut on the fitting about 1/4 turn, push the water line as far as it will go and then tighten the nut.
- c) Install the strainer by cutting the water line approximately 6" from the solenoid and use the procedure in a).
- d) Connect the saddle tapping valve to the home cold water supply. **DO NOT USE THE HOT WATER LINE.** See instructions on saddle tapping valve kit for saddle tapping valve assembly.

NOTE: If you have a soft water unit in your home, you can use the cold water line from the water softener unit.

- e) Turn the existing water supply on and open the saddle tapping valve completely.

NOTE: Should any leaks occur in step e), tighten all connections. Some areas where leaks may occur are: where the saddle tapping valve attaches to the existing water line; where the tubing attaches to the strainer and/or where the tubing attaches to the saddle tapping valve.

10) OPERATION:

When a demand pump has been fitted, do not plug its electrical cord into the power outlet until the distiller has run for several hours and the holding tank contains 3-4 inches of water.

- a) With the boiling tank lid removed, place the FUNCTION switch in the DISTILL position. Plug the unit into the wall outlet. Place the FAN switch in the DISTILL position.
- b) The boiling tank will stop filling when the water level is approximately 1 1/2" above the heating element.
- c) To check operation of the automatic filling system turn the FUNCTION switch to CLEAN, and when the water level lowers to approximately 1" below the heating element, turn back to DISTILL. The unit should again allow water to enter the boiling tank until the operating level (see b) is reached.

11) STEAM STERILIZATION

The unit has been run at the factory to ensure it operates correctly. We encourage the owner to run the unit through a steam sterilization cycle, prior to distilling water for consumption, to ensure complete cleanliness and sterility of the stainless steel components that will be in contact with the distilled water. The holding tank must be completely empty prior to starting a steam sterilization cycle. The demand pump power cord will need to have been removed from the outlet to stop the demand pump trying to start.

- a) Remove the filter cup and bag.
- b) With the FUNCTION switch in the DISTILL position and the boiling tank lid secure turn the fan switch to STERILIZE. In this position the fan will not operate so allowing steam to pass through the coils without condensing. Reconnect the unit to the wall outlet.
- c) Open the storage tank drain faucet and place a container under the opening. Although mostly steam is produced, some condensation will occur. THE SURFACES OF THE HOLDING TANK WILL BECOME VERY HOT DURING STERILIZATION.
- d) Allow the machine to run for approximately 20 minutes after steam is observed coming from the faucet. Unplug the unit from the wall outlet, return the fan switch to DISTILL and close the storage tank drain faucet.
- e) Replace the filter cup and filter bag.

12) DISTILLATION

Check that the FUNCTION switch is in the DISTILL position and the fan switch on DISTILL. Plug the unit into the wall outlet.

CLEANING INSTRUCTIONS

The Aqua D Plus™ has been designed to require little maintenance. With softened feedwater or feedwater pretreatment, the need to clean the boiling tank is dramatically reduced. We do however recommend the boiling tank be visibly inspected for build up once every six months. Powder like material can be washed out using the manual water switch. When a noticeable amount of build up is detected around the heating element and edge of the tank, a chemical clean is recommended.

For cleaning we suggest that you use a solution of our industrial grade cleaner called Lumen No. 2 which may be purchased through your Distributor. DO NOT USE AN ABRASIVE CLEANER OR STEEL WOOL CLEANING PADS.

USE THE FOLLOWING PROCEDURE FOR CLEANING:

- a) Put the FUNCTION switch to CLEAN and remove the boiling tank lid.
- b) The boiling tank will automatically drain. Turn the drain valve switch OFF.
- c) Use a wet-dry vac to remove loose scale particles.
- d) Fill the boiling tank half full using the manual water switch.
- e) Add Lumen No. 2 following the directions on the package. (The amount of cleaner may need to be increased depending upon the type of mineral deposits in your boiling tank.)
- f) Mix well.
- g) Add additional water by holding the momentary water switch depressed. When the level reaches a pre-set level near the top, water flow will automatically stop.

- h) Let the solution stand overnight or until the mineral content softens. UNDER NO CIRCUMSTANCES SHOULD THE CLEANING SOLUTION BE HEATED AND RUN THROUGH A STEAM STERILIZATION OR DISTILLATION CYCLE.
- i) Next morning drain the boiling tank by turning the drain valve switch to AUTO. Rinse the boiling tank thoroughly by switching the drain valve to OFF and depressing the manual water switch until full. Then place the drain valve switch at AUTO and allow to drain completely.
- j) Turn the FUNCTION switch to DISTILL and make sure the drain valve switch is on AUTO.
- k) Replace the lid.

NOTE: IN THE EVENT THE DRAIN VALVE BECOMES BLOCKED, CLEAR IT BY BACK-FLUSHING WITH THE DRAIN SWITCH IN THE "CLEAN" POSITION AND THE DRAIN VALVE ON "AUTO".

TROUBLESHOOTING

The Aqua D Plus™ is a fully automatic distiller that with occasional cleaning should give years of trouble free performance. The boiling tank and heating element will become the target for scale formation. This can virtually be eliminated by using softened water or a pretreatment cartridge.

Any machine fault will be detected when the holding tank runs out of water.

The machine is wired so that the heating element is turned OFF whenever the boiling tank needs make-up water. Hence if a problem develops in the feedwater supply the machine will stop producing water. In all other respects it will appear to be operating with the fan running.

In this situation, check the availability of water by removing the boiling tank lid and manually adding water using the WATER switch. When depressed a "click" should be heard and water will start entering the boiling tank. If there is a click but no water, check the feedwater line to make sure it has not been kinked.

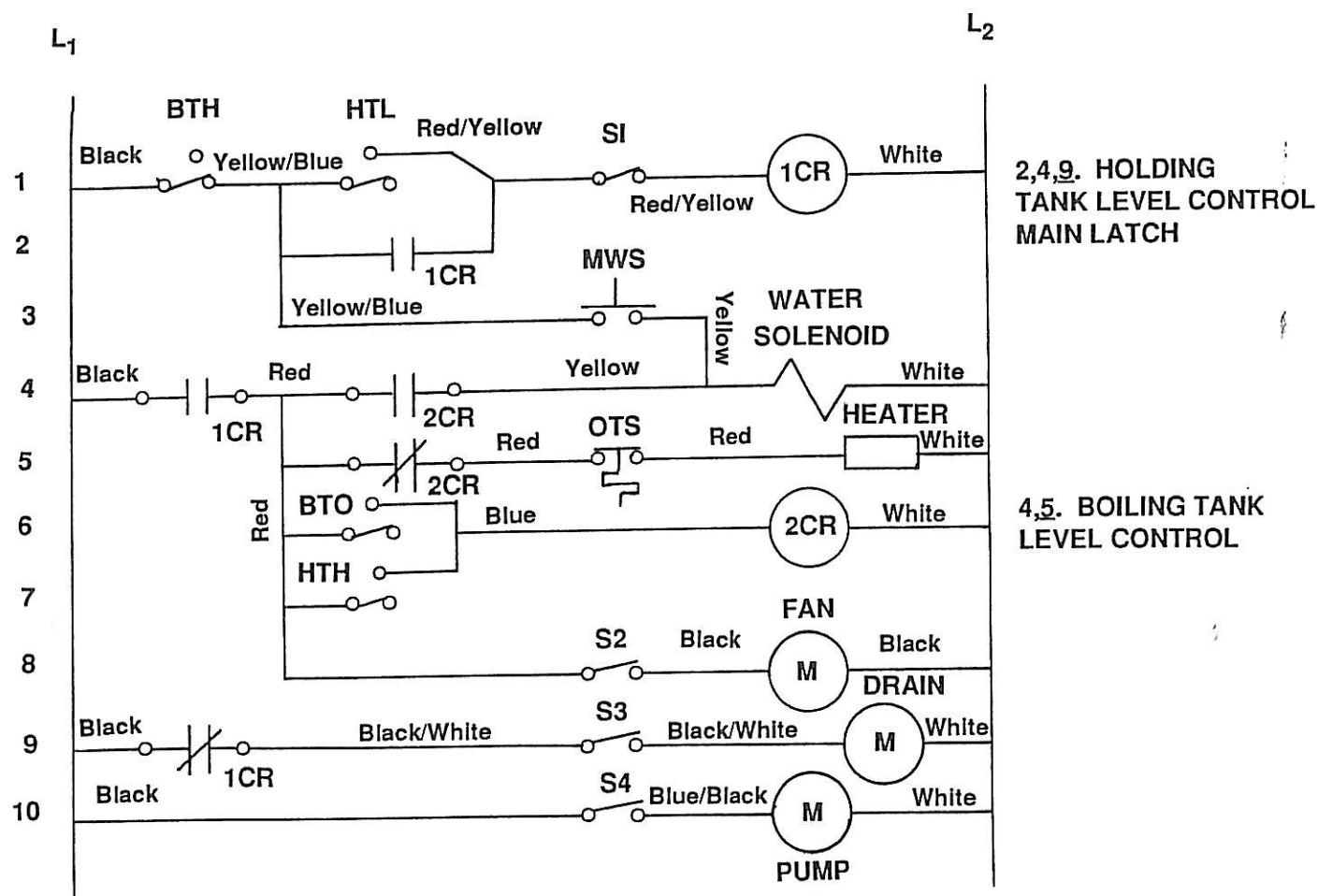
If water is available but the heating element does not start to operate, it is likely that the heating element has failed. Often this can be verified by simply looking at the element, but sometimes the element will fail without any visual signs.

OVERTEMPERATURE PROTECTION

The distiller is wired with a device to protect it in the unlikely event the heating element stays on when the water level falls low in the boiling tank. This can only occur if the float somehow holds up. Should the "reset" pop, you would expect to find the fan operating but the water level in the boiling tank below the heating element. Instructions for resetting the overtemperature protection are located on the rear panel of the distiller.

NOTE - SHOULD THE DISTILLER STOP PRODUCING, IT IS LIKELY WATER WILL BE DRAWN FROM THE TANK BY THE DEMAND PUMP UNTIL IT IS VIRTUALLY EMPTY. UNDER SUCH CONDITIONS THE DEMAND PUMP WILL RUN CONTINUOUSLY. SHOULD THIS OCCUR, ALWAYS UNPLUG THE DEMAND PUMP TO PREVENT DAMAGE FROM OVERHEATING.

For further assistance, contact your Distributor or Pure Water Inc. Customer Service Department.



BTH - BOILING TANK HIGH LEVEL
 HTL - HOLDING TANK LOW LEVEL
 MWS - MANUAL WATER SWITCH
 OTS - OVER TEMPERATURE
 BTO - BOILING TANK OPERATING LEVEL
 HTH - HOLDING TANK HIGH LEVEL

S1 - DISTILL/CLEAN SWITCH
 S2 - FAN SWITCH
 S3 - DRAIN SWITCH
 S4 - PUMP SWITCH (OR RECEPTACLE)

AQUA D PLUS LADDER DIAGRAM

D.J.S. 2 JUNE
 PURE WATER, INC.



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