

Control Panel Functions . . .

Switches and lights used in normal operation of the Ultima 5555 distiller are located on the front panel of the unit. The lights indicate the status of operation as shown below in Figure 3.

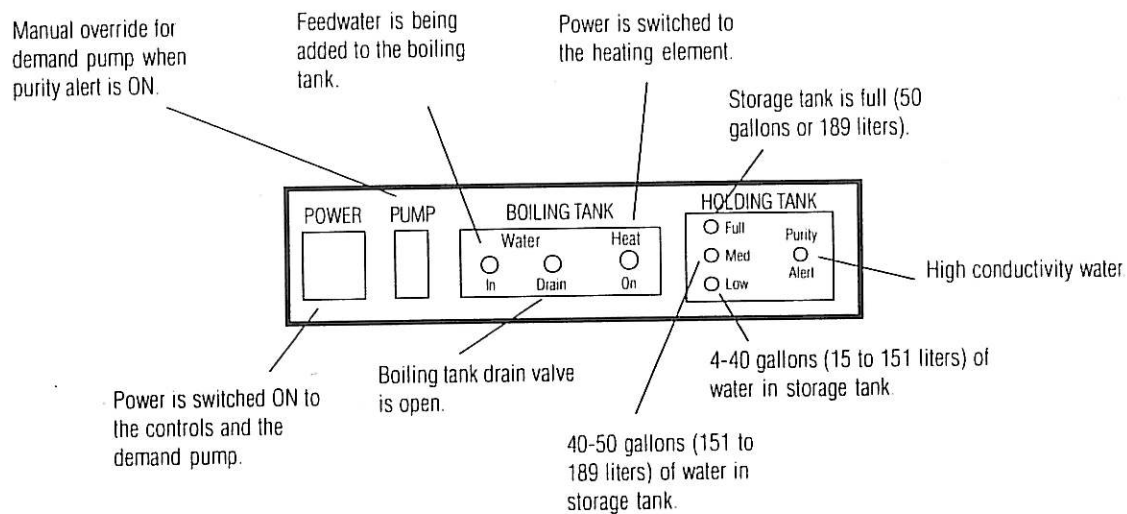


Figure 3

Boiling Tank Cleaning Switches . . .

Boiling tank cleaning switches are located on the side panel of the electrical box located inside the distiller. They are to be used in the cleaning operation of the boiling tank. Their functions are shown in Figure 4.

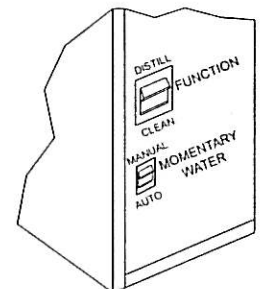


Figure 4

Optional Boiling Tank Pressure Gauge . . .

If your unit is operating in an environment where it is subject to extreme dirt and dust, you may wish to replace the boiling tank plug with a screw-in pressure gauge available from your Ultima Dealer. This gauge will allow you to monitor the pressure in the boiling tank.

The normal boiling tank operating pressure is 2-4 psi. If the operating pressure exceeds 4 psi, the condenser may not be operating as designed and the following items should be checked.

- 1) Is the blower operating at full speed continuously?
- 2) Is the blower clean?
- 3) Is the system blocked or restricted?

If any of these conditions are not met, the pressure in the boiling tank is likely to be higher than desired and should be corrected.

PERIODIC MAINTENANCE

Sterilizing the Storage Tank . . .

(occasionally)

Follow the instructions listed under the *Operation* section on page 8. Use a new activated charcoal filter cartridge after each sterilization.

Changing the Filter Cartridge . . .

(every three months)

An activated carbon filter is installed behind the front panel downstream of the demand pump. The activated carbon filter cartridge should be changed every 90 days.

1. Turn the Power Switch OFF and depress the Pressure Release Button on the filter housing to relieve pressure in the distilled water line. The distilled water line downstream from the filter housing may also need to be drained, or provide a container under the filter for water spillage.
2. Unscrew the housing from the cap, discard the used cartridge and insert a new cartridge. **IMPORTANT:** When opening the filter housing to install or change the cartridge, it is common for the o-ring seal to lift out of the groove and, at times, it may even stick to the cap.
3. **Note:** The o-ring fits into the groove in the sump (lower housing) to provide a water-tight seal between the cap and the sump when your filter is in operation. It is important that the o-ring be properly seated in the groove in the lower housing each time the unit is reassembled or a water leak could occur through the seal.

To easily reinstall the o-ring into the groove, simply wipe the o-ring clean with a clean cloth, then re-lubricate the o-ring with a very light coating of white petroleum jelly (Vaseline®, for example), place in the groove and with two fingers wipe the o-ring down into the groove. The o-ring is a full fit in the groove and care must be taken to ensure that it is properly seated.

Note: Do not wipe the o-ring clean of lubricant after it has been properly seated, because the lubricant prevents *crawling* of the o-ring during the tightening of the cap. An o-ring which is not properly lubricated could cause leakage.

4. Screw the housing onto the cap and hand tighten. Turn the Power Switch ON and depress the Pressure Release Button. When all air has escaped from the filter, open a faucet downstream to vent any air from the distilled water line. Fully rinse the loose carbon from the cartridge by running approximately two gallons (8 liters) through the distilled water line system with the cartridge installed. Check a sample of water to see that no carbon is being dispensed by the filter after rinsing.

WARNING: The filter must be protected against freezing. Failure to do so may result in cracking of the filter and water leakage.

Inspecting and Cleaning the Boiling Tank . . .

(monthly)

Using a flashlight, inspect the boiling tank monthly for any build-up of sediment. If there is any sediment on the heating elements, scaling on the side walls or bottom of the boiling tank, or collection of loose sediment, it is critical the tank be cleaned with Lumen™ cleaner to remove the build-up. See the instructions below.

Also inspect the boiling tank level probe for mineral build-up. The cleaning procedure below should be used to remove the mineral build-up.

Proper cleaning is important. Improper cleaning may shorten the life of the unit and particularly that of the heating elements. Proper cleaning can reduce the concentration of chemicals, pollutants and other materials from building up in the bottom of the boiling tank. The boiling tank in your unit is automatically drained after 3-1/2 hours of continuous operation or whenever the machine shuts down or is turned off at the power switch.

Your unit should be cleaned whenever there is a noticeable amount of mineral build-up around the outside of the heating elements. The frequency of cleaning will vary from one area of the country to another, depending upon the mineral content in the water and how much water has been distilled. Any loose material is best removed by a wet/dry vacuum cleaner.

For bound-on scale, we suggest that you use a solution of industrial grade cleaner called Lumen, which may be purchased through your Ultima Dealer.

Use the following procedures for chemically cleaning the boiling tank:

- 1) Turn the Power Switch OFF to drain the water currently in the boiling tank.
- 2) After the unit has cooled, remove the boiling tank lid. Turn the Function Switch to the CLEAN position.
- 3) Turn the Power Switch ON.
- 4) Add water to approximately 4" (10 cm) above the bottom of the boiling tank probe by holding the Momentary Water Switch in the MANUAL position.
- 5) Add Lumen following the directions on the package. (The amount of cleaner may need to be increased depending upon the severity of mineral deposits in your boiling tank.) At this point, there are approximately 4-1/2 gallons (17 liters) of water in the boiling tank.
- 6) Mix well.
- 7) Let the solution stand overnight or until the mineral content softens.

CAUTION: Under no circumstances should the cleaning solution be heated and run through a steam sterilization or distillation cycle. Make sure the Function Switch is in the CLEAN position.

- 8) The next morning, turn the Power Switch OFF to drain the boiling tank. After draining, turn the Power Switch back ON. If necessary, to rinse the residue from the tank, use the Momentary Water Switch to manually fill the boiling tank. Turn the Power Switch OFF and the tank will drain. Repeat these steps several times to thoroughly rinse out all residue.
- 9) Replace the boiling tank lid and turn the Power Switch ON. Turn the Function Switch to DISTILL. The Ultima 5555 distiller is back in operation.

Cleaning the Condenser/Squirrel Cage Blower . . .

(Yearly)

It is recommended that at least once a year the condenser be removed and cleaned. While the assembly is removed, the blower motor should be lubricated with 2 drops of light, all-purpose lubricating oil.

To remove the condenser/blower assembly:

- 1) Disconnect the 5555 from the electrical source.
- 2) Remove the top of the distiller by removing the sheet metal screws. Set the top of the distiller where it won't be damaged.
- 3) The door will need to be supported as the top hinge is on the top panel.
- 4) Remove the boiling tank condenser tubing from the condenser.
- 5) Remove the condenser storage tank tubing from the condenser.
- 6) Remove the four locknuts securing the condenser into the blower assembly and lift out the radiator/condenser. The assembly is now accessible for cleaning. Remove any build-up of dirt and lint from the blower impeller. This can be readily accessed from the top of the machine.

To clean the radiator, either vacuum the dirt from the surface or blow with compressed air.

To install the assembly, reverse the above steps.

Exterior Panels . . .

Clean the exterior steel panels with stainless steel polish available from your Ultima dealer. The use of solvents is not recommended as they are likely to remove lettering from decals.

TROUBLESHOOTING

This distiller has been thoroughly tested and operated successfully at the plant before being shipped. However, should any problems arise in the operation of your Ultima 5555 distiller, please contact your Dealer.

In the event that the distiller does not operate or is not operating properly as described in Figure 5, check the following according to the installation instructions.


- 1) Power Supply
- 2) Water Supply
- 3) Drain System
- 4) Ventilation

Note: A wiring diagram is shown on the inside door of the Ultima 5555 to assist in electrical troubleshooting.

Permissible Light Combinations . . .

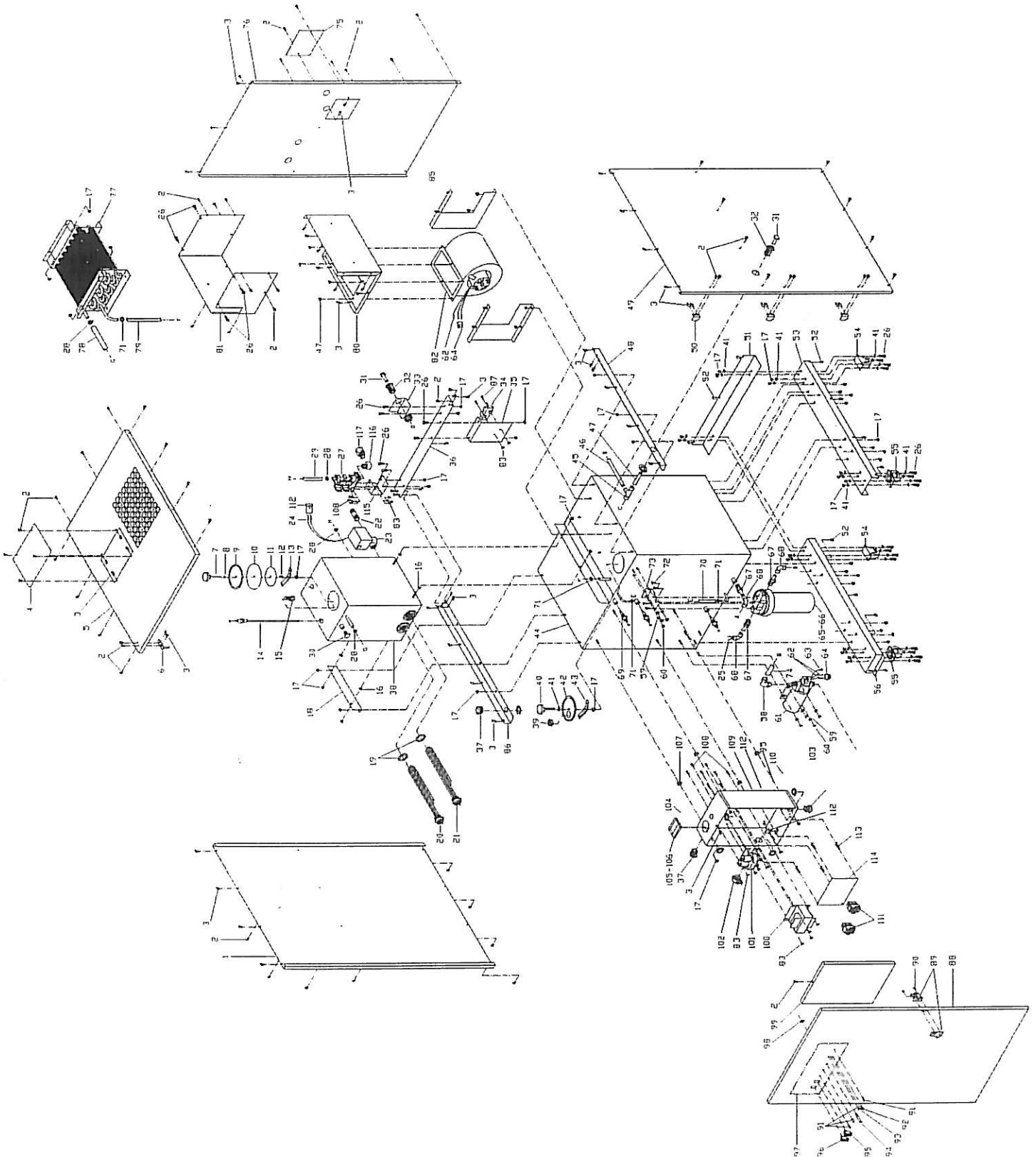
POWER	WATER IN	WATER DRAIN	HEAT	FULL	MED	LOW	PURITY ALERT	OPERATING STATUS
								Power to controls and demand pump is turned OFF
								Storage tank is full and the distiller is shut down.
								Shut down to drain boiling tank. Will restart within 6 minutes. Or has shut down with full tank. Will restart when level falls below medium.
								Shut down to drain boiling tank. Will restart within 6 minutes.
								Feedwater is being added to the boiling tank. Normally ON for 2 seconds and OFF for 2.5-3 minutes. After boiling tank has been drained, it will be ON for about 50 seconds.
								Distiller is operating. Distilled water may stop for 30 seconds after water fill cycle, and for 15 minutes after each drain cycle.
								MALFUNCTION Water in the storage tank has high conductivity. The demand pump will not operate. Shut down and check operation.
								Storage tank has less than 2 gallons left. Demand pump and purity light will not work.

Figure 5

 indicates light is ON

PARTS

Exploded View ...



Parts List . . .

KEY #	P/N	DESCRIPTION	KEY #	P/N	DESCRIPTION
1	31057	Right Panel	64	7134	3-Circuit Amp Plug, Nylon
2	9029	Screw, Sheet Metal	65	9589	Filter Cartridge
3	9047	Nut, J-Type Speed Clip	66	9578-1	Deluxe Filter Housing
4	31030	Top Access Cover	67	9629	Speedfit Stem Adaptor
5	31029	Top Panel	68	9631	Union Elbow, 1/2"
6	31517A-02	Door Hinge Studded	69	7234	Storage Tank Probe
7	8009	Lid Knob with Stud	70	9527	Tubing, Nygel
8	6022	O-Ring	71	9516	Hose Clamp
9	519	Lid Disc	72	9008	Screw, Sheet Metal
10	69	Lid Gasket	73	532	Deluxe Filter Mounting Bracket
11	535	Lid Gasket Retainer Plate	74	9563	Tubing, 1/2"OD
12	9085	Lid Spring	75	31031	Rear Access Cover
13	402B-01	Crossbar Welded	76	31056	Rear Panel
14	7235	Boiling Tank Probe	77	31569A-01	Condenser, Welded
15	9554	Vacuum Breaker Valve, 1/2"NPT	78	9541	Tubing, Silicone
16	9045	Nut, 1/4-20, Hex	79	324-0037	Tubing, Food Grade, Silicone
17	224-0003	Nut, 1/4-20, Nylon Lock	80	31022	Plenum Tray
18	31041	Boiling Tank Bracket	81	31021	Plenum
19	52605	O-Ring, Silicone	82	7048	Blower, 240V
20	9657	Heating Element, 3000W, 240V	83	9003	Nut, 8-32, Nylon Lock
21	9658	Heating Element, 3500W, 240V	84	31078	Trim
22	9539	Nipple, Brass	85	31085A-01	Blower Mounting Bracket, Welded
23	7247	Drain Valve, 120V	86	31015	Upper Right Panel Mounting Bracket
24	7032	Terminal Socket	87	9019	Screw, 8-32 x 5/8"
25	9563	Tubing, 1/2"OD	88	31046-01	Front Door Panel, Studded
26	223-0015	Screw, 1/4-20 x 3/4", Hex	89	9651	Locking Latch
27	7219	Water Inlet Solenoid	90	9034	Screw, 10-24 x 1/4"
28	95400	Hose Clamp	91	7080	Light, LED, Red
29	9541	Silicone Tubing	92	7082	Light, LED, Yellow
30	9521	Plug, 1/4"NPT, Hex Head	93	7081	Light, LED, Green
31	9630	Speedfit Plug, 1/2"STEM	94	7079	Light, Red Neon Indicator
32	9611	Bulkhead Union, 1/2"	95	7227	Switch, Momentary
33	31055A	Rear Water Outlet Bracket Offset	96	7228	Switch, ON/OFF
34	7218	Junction Block	97	6403A	Decal, Front Door
35	31012	Power Terminal Bracket	98	7035B	Speed Nut, Rectangular
36	31054	Upper Rear Panel Mounting Bracket	99	31061A	Circuit Box Lid
37	9822	Bushed Chase Nipple, 1/2"	100	9652	Transformer, 240V to 120V
38	31570A-02	Boiling Tank Studded	101	9661	Contact Relay, 2-Pole
39	411A	Vent Plug	102	9830	Romex Cable Connector, 3/4"
40	8009	Lid Knob with Stud	103	7252	Circuit Breaker, 3 Amp
41	9009	Washer, 1/4", Flat	104	229-0158	Cord Restraint Black
42	31511A-02	Storage Tank Lid Disc, Studded	105	9656	Panel Meter
43	402B-01	Crossbar, Welded	106	9656A	Resistor, Panel Meter
44	31582A-02	Storage Tank, Studded	107	8070	Nylon Spacer
45	9619	Union Tee, 1/2"	108	9095	Screw, 8-32 x 1/2"
46	9032	Washer, Lock, 1/4"	109	31516A-02	Circuit Box Studded
47	9045	Nut, 1/4-20, S.S.	110	7221	Switch, Function
48	31053	Upper Left Panel Mounting Bracket	111	7135	15-Circuit Amp Plug, Nylon
49	31045	Left Panel	112	7133	3-Circuit Amp Cap, Nylon
50	31007	Latch Angle Bracket	113	7241	Circuit Board Support
51	31052	Lower Rear Panel Mounting Bracket	114	9660	Circuit Board
52	9054	Nut, J-Type Speed Clip (Large)	115	31081	Solenoid Bracket
53	31051	Left Channel	116	221-0345	Elbow, Brass
54	9037	Castor, Rigid, 2"	117	221-0346	Adaptor, Brass
55	9036	Castor, Swivel, 2"	118	31085B-01	Blower Mounting Bracket, Welded
56	31578A-02	Right Channel Studded	119	7252	Circuit Breaker, 2 AMP
57	9563	Tubing, 1/2"OD	120	219-0051	Primary Fuse, 1.5 AMP
58	9583	Elbow, Nylon	121	219-0049	Primary Fuse Holder
59	9094	Washer, #10, Flat	122	219-0050	Secondary Fuse, 2 AMP
60	9070	Nut, 10-24, Nylon Lock	123	229-0076	Secondary Fuse Holder
61	95522	Pump, 120V, 3 gpm	124	7230	Wire Holder Clip
62	7033	Terminal Pin		31063 to 31067	Boiling Tank Insulation (not shown)
63	7110	Ring Terminal			

Accessories/Common Parts for the Ultima 5555 . . .

<u>Part Number</u>	<u>Description</u>
7079	Neon Indicator Light, Red
31950A	LED, Red
31951A	LED, Green
31952A	LED, Yellow
7227	Momentary Water Switch
7221	Function Switch
7228	Main Switch
7234	1-1/2" Probe—Storage Tank
7235	11-1/2" Probe—Boiling Tank
7219	Water Inlet Solenoid
9589	Activated Carbon Cartridge
9654B	Heating Element, 2500W
9657	Heating Element, 3000W*
9658	Heating Element, 3500W*
9654	Heating Element, 4000W
9654A	Heating Element, 4500W
9660	Pure Water C-50 Control Board, 120V
9661	Contact Relay
31519A	Demand Pump Assembly
31503A	Blower Assembly
31569A	Condensing Coil Assembly
31570A	Boiling Tank Assembly
31571A	Boiling Tank Drain Assembly
31590A	Dual Blower Conversion Kit
229-7035	Bladder Tank, 20 gallon (75 liters)
9653	Pressure Gauge
3987	Dump Tank, 4 gallon (15 liters)
6603	Lumen Cleaner, 2 lb. jar
6606	Stainless Steel Polish, 18 oz. can

*Standard heating elements when Ultima 5555s are shipped from Pure Water, Inc.