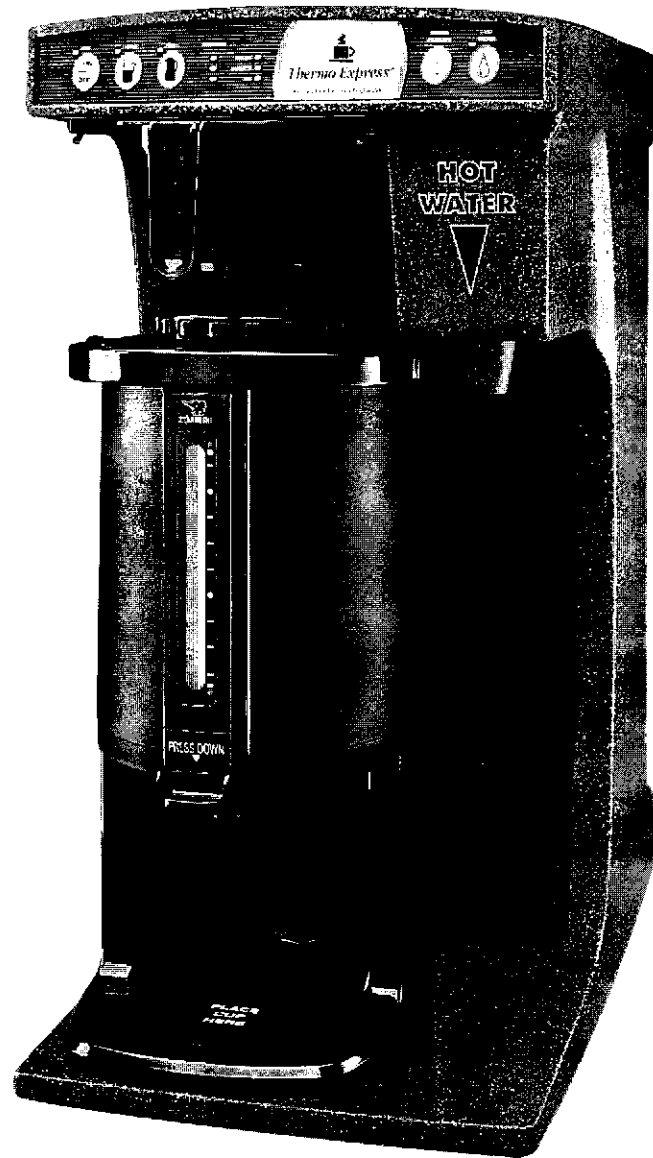


OPERATIONS & SERVICE MANUAL



TE-1200 SERIES

For Service Please Call, Fax, or Email:

**Tel: 800-888-BREW (2739)
714-432-8800**

24 Hour: 714-904-BREW (2739)

Fax: 714-432-8802

Email: service@aquabrew.com

Web: www.aquabrew.com

For Sales Please Call, Fax, or Email:

**Tel: 800-888-BREW (2739)
714-432-8800**

Fax: 714-432-8802

Email: sales@aquabrew.com

Contents

Operating Description	2
Installation Instructions	5
Plumber's Installation Instructions	6
Brew Volume Adjustments	7
Probe Functions	8
Service Tips	9
Cleaning Procedures	11
Wire Diagram	12
Illustrated Parts Breakdown	13
Parts List	14
Warranty	Back

Series TE-1200 Operating Description

Congratulation on purchasing AquaBrew's series TE-1200. This state-of-the-art thermal brewing system is designed for high volume commercial use.

The series TE-1200 is a solid-state electronic based coffee brewing system. The system utilizes the conductivity of water to connect a series of seven probes; to open and close the inlet water solenoid valves, to start or stop the boiler for brewing coffee, and to allow the preheaters to be energized to heat the water up in the brew and hot water spigot tank. There are two independent water tanks, each with it's own inlet solenoid valve and set of probes. Four of the probes are for the brew tank, and the other three probes are for the hot water spigot tank.

Before operating this system make sure that the brewer is installed properly (see installation instructions). The unit should always remain plugged into a 120 volt, 15-amp independent circuit.

BREW SYSTEM: There are four probes in the brew tank. The water in the brew tank conducts electricity between these probes, which causes the electronic control board to either fill the system with water (the "ON/OFF" light will flash when the brew tank is filling), allow the brew switches to activate, turn the boiler off when brewing is finished, allow the preheater to turn on, or light the safety brewing lights.

The **GREEN** wire probe is the "COMMON" probe, acting as a common connection to the red, yellow, and blue wire probes. The **BLUE** wire probe is the "FILL" probe. Water enters the brewer through the inlet solenoid valve until it touches the tip of blue wire probe. At this point, the blue and green wire probe have been connected by the water, so the control board will close the inlet solenoid valve and the system well then be primed and ready to brew. The brew tank preheater will be on preheating the brew tank. The system will take approximately 10 minutes to preheat the brew water. The brew water will preheat to 150 degrees F. However, the brewer can brew immediately at it's consistent 205 degree F brew temperature even when the brew tank is not preheated at all.

TO BREW: press either the "FULL" or "HALF" pot brew button. This will energize the boiler to boil out the water through the sprayhead, over the coffee grounds to brew the coffee. It will also begin flashing the bottom red safety brewing light. The boiler will continue to boil out the water, thus lowering the water level in the brew tank, until the water level drops

below the tip of the yellow wire probe. If you pressed the "FULL" pot brew button, the first red safety brewing light will stop flashing and stay lit and the second safety brewing light will start to flash; if you pressed the "HALF" pot brew button, when the water level drops below the tip of the yellow wire probe, the first and second safety brewing lights will stay lit and the third safety brewing light will continue to flash for an adjustable period of time (this adjustment is a dial located on the left side of the main control board). The control board will cut the power off to the boiler to stop the brewing. If the "FULL" pot button was pressed the boiler will stay energized to boil out the water until the water level drops below the red wire probe, then the control board will cut the power off going to the boiler to stop the brewing. The control board will then open the inlet solenoid valve to refill the brew tank with water (the "ON/OFF" light will indicate this by flashing). The preheater for the brew tank will also turn on to preheat the brew water back up to 150 degrees F. When the water level reaches the blue wire probe, the inlet solenoid valve will close and the "ON/OFF" light will stop flashing and remain lit. The brew tank has now premeasured the brew water by volume and is ready to brew the next cycle. As always, the brewer is ready to brew, with absolutely NO recovery time required.

HOT WATER SPIGOT: The hot water spigot tank is separate from the brew water tank. The electronic control will not allow power to go to the hot water preheater and inlet solenoid valve while the brew tank preheater or the boiler is energized, however, the dispense valve is always available.

There are three probes in the hot water spigot tank. The water in the hot water spigot tank conducts electricity between these probes, which causes the electronic control board to either fill the system with water or allow the preheater to turn on.

The GREEN wire probe is the "COMMON" probe, acting as the common connection to the violet and black wire probes. The VIOLET wire probe is the "FILL" probe. Water enters the brewer through the inlet solenoid valve until it touches the tip of the violet wire probe. At this point, the control board will close the inlet solenoid valve and the hot water spigot tank is now filled with water. The BLACK wire probe is a safety probe to sense if there is water in the tank to allow the hot water spigot tank preheater to be energized to heat the water up. The system will take approximately 10 minutes to preheat the hot water spigot water. The hot water spigot tank water will preheat to 180 to 200 degrees F.

The system will allow you to dispense hot water from the hot water spigot tank at anytime; however, it will only refill or energize the hot water spigot preheater when the brew tank preheater or the boiler is not energized. (Note: During initial set-up, the hot water spigot tank may not completely fill and will not heat up until the brew tank has preheated to 150 degree F and the brewer is not in a brew cycle.)

LDI FEATURE: The “LEAK DETECTION INDICATOR” is designed to greatly reduce or eliminate water damage, by sensing an accumulation of water inside the base of the brewer in case of an internal leak, to reduce the chance of severe water damage. There are two probes located on the subassembly extending down internally towards the base of the unit. These two probes do not touch the base of the unit, but are approximately 1 inch from the base of the unit. If water pools in the base of the unit to a point where the water connects the two LDI probes, the LDI light will flash and lock out the inlet solenoid valves to prevent additional water from continuing to enter the system.

SERVICE LIGHT FEATURE: The “SERVICE LIGHT” feature is designed to let you know if a high limit cut-off has tripped or if a heating element has failed. All three of the heating elements (the two preheaters and the boiler) and the three high limit cut-offs are all linked together by neutral. If that neutral circuit is broken the service light will turn on, telling you that a high limit cut-off has tripped open or a heating element has failed.

WATER QUALITY MONITOR: The “WATER QUALITY MONITOR” feature is designed to let you know when it is time to change out the water filter. The water quality monitor is based only on time. The system will light a green light for five months. After the fifth month, it will light the green and the yellow light for one more month. After six months, both the green and yellow lights will turn off and the red light will turn on and start to flash, indicating that the six month time frame has elapsed and the water filter needs replacement. The system has a 9-volt battery back up feature that is designed to continue tracking the time that has elapsed if the unit is unplugged or the power is interrupted or turned off at the outlet. The battery back up will not light the lights; it will only continue tracking the time. If the battery is not connected or lower than 1/3 of charge, you will not be able to reset the water quality monitor. In normal applications, when the brewer is plugged in, the system does not utilize the battery and the electronic control sends a positive trickle charge, to the battery, extending its shelf life. To reset the water quality monitor feature, remove the lid of the brewer and press the water quality reset button located near the 9-volt battery leads (red and black wires).

Installation Instructions

Warning: Please read and follow initial Operating instructions before plugging in the brewer to electrical circuit. Warranty will be void if the brewer is connected to any voltage other than specified on serial plate.

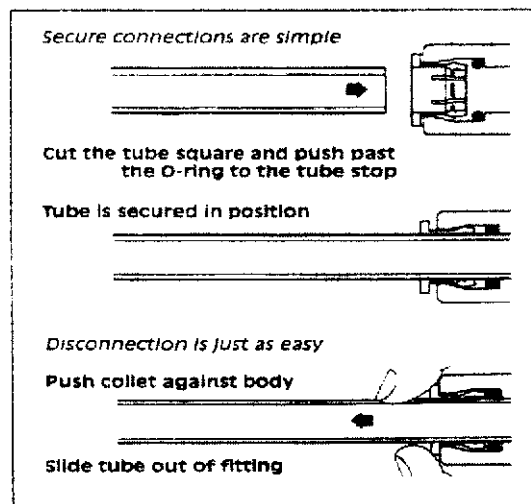
- 1. Remove top cover of brewer by removing one screw located towards the back of the top cover.**
- 2. Connect the 9-volt battery to the red and black wire battery leads. Place battery into battery well, which is molded into the brew tank.**
- 3. Press the "Water Quality Reset" button.**
- 4. Connect brewer to water source by referring to the plumber's installation instructions.**
- 5. Plug brewer's power cord into the proper voltage outlet and turn the "ON/OFF" switch ON. The green "ON/OFF" light will turn on and start to blink.**
- 6. The water will begin to flow into both the brew tank and the hot water spigot tank.**
- 7. When the "ON/OFF" light stops flashing and remains on, the system is now primed and ready to brew.**
- 8. The brewer will brew at the proper temperature without preheating the brew water; however for optimum performance, wait 20 minutes, with the brewer plugged in, turned on and not brewing, for both the brew tank to preheat and the hot water spigot tank to come up to temperature.**
- 9. To adjust brew volume, refer to Brew Volume Adjustment section (page 7).**

Plumber's Installation Instructions

CAUTION: Power to the brewer must be off before proceeding with installation.

1. Flush water lines before installing brewer. Brewer should be connected to **COLD WATER LINE** for best operation.
2. Install water shut-off valve in a convenient location on water line before installing water to brewer.
3. Install strainer or water filter to incoming water line.
4. Connect the incoming water line to the incoming main fitting on the back of the brewer.

John Guest® Super Speedfit®



Brew Volume Adjustments

The **RED** wire probe adjusts the “**FULL**” pot brew setting.

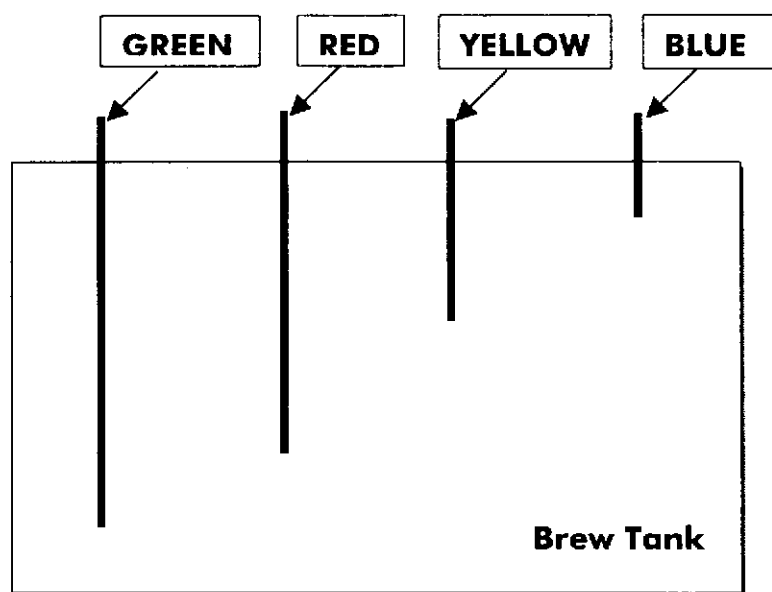
- For **MORE** volume push the **RED** wire probe down.
- For **LESS** volume lift the **RED** wire probe up.

(If you want to brew 50 ounces or less with the “**FULL**” pot brew button, switch the **RED** wire probe with the **Black** wire probe (located in the middle of the hot water spigot tank). **IMPORTANT:** do not switch the wires, just the probes. You will need to disconnect the wires from the probes, remove them from the tanks, switch the probes, put them back into the tanks and reconnect the wires making sure that the **RED** wire stays with the brew tank and the **BLACK** wire stays with the hot water spigot tank.)

The **YELLOW** wire probe adjusts the “**HALF**” pot brew setting.

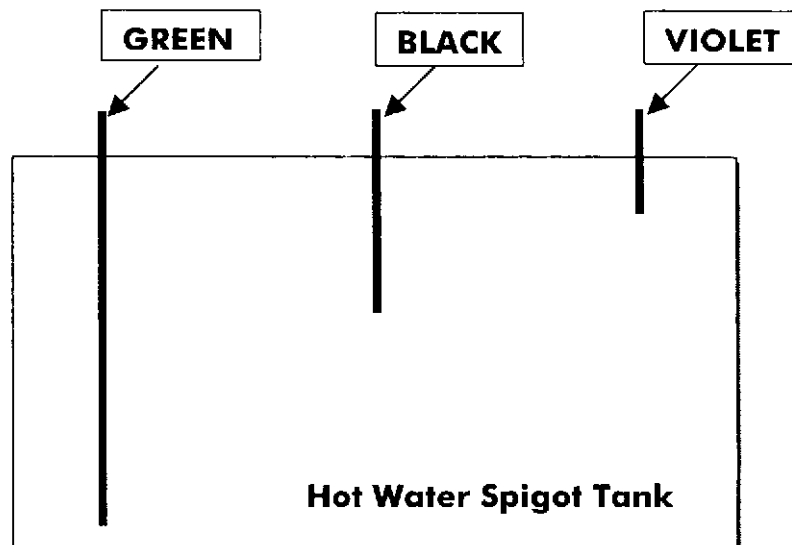
- For **MORE** volume push the **YELLOW** wire probe down.
- For **LESS** volume lift the **YELLOW** wire probe up.

DO NOT adjust the **BLUE** (Brew Fill), **Violet** (Spigot Fill), **DO NOT** adjust the **Black** (Spigot Safety) or **GREEN** (Common) Probes. (They should be approximately 1/8” up from the surface of the tanks).



Probe Functions

- RED wire probe:** Sets the "FULL" pot brew volume. It also acts as a water safety probe for the brew tank preheater. When it is in contact with water, it signals the control board that the preheat element is emersed in water and that it is safe to energize the preheat element.
- YELLOW wire probe:** Sets the "HALF" pot brew volume.
- BLUE wire probe:** Sets the fill level in the brew tank. (Inlet solenoid valve shut off level.)
- GREEN wire probes:** There are two green wire probes, one in the brew tank and one in the hot water spigot tank. These probes act as the common connection to the other probes in its respective tank.
- BLACK wire probe:** Is a water safety probe for the hot water spigot tank preheater, to allow the preheater to be energized. This probe can also be switched with the red wire probe to make the full pot brew volume less.
- VIOLET wire probe:** Sets the fill level in the hot water spigot tank. (Inlet solenoid valve shut off level.)



Service Tips

Problem

Fix

Cannot Turn Brewer On.

**Check for voltage at outlet.
Check connection of membrane switch
ribbon cable at main control.
Check connection of power cord to relay
board.**

**ON/OFF Light Will Not
Stop Flashing.**

**Check incoming water supply.
Check connection of yellow and white
wires to inlet solenoid valve and
relay board.
Use voltmeter to verify 120 volts across
the yellow and white wires at brew
tank inlet solenoid valve.**

Service Light is On

**Check all three high limit cut off reset
buttons located on the side of the
boiler and both preheaters.**

Brewer Will Not Brew

**Check connection at red and yellow
probes, both at the probes and at
the main control board.
Check connection of membrane switch
ribbon cable at main control.**

Brewer Leaking

**Check inlet solenoid water valves for
foreign material on valve seat.
Check connection at blue and violet
probes, both at the probes and at
the main control board.
Check all internal water connections.
Clean all probes in water tanks.**

Service Tips

Problem

Fix

**Excessive Steaming
While Brewing**

**Check boiler for mineral build-up.
Check Sprayhead for restriction.
Check tubing from boiler to sprayhead.
Check check valve.**

**Safety Brewing Light
Not blinking Long Enough**

**Adjust safety brewing light timer dial
(located on main control) clockwise.**

Hot Water Spigot Not Hot

**Wait 20 minutes with the brewer "ON"
and not brewing.
Check connection at black wire probe
and at the main control board.
Check thermistor wire and connection
at main control.**

Hot Water Spigot Dripping

**Check hot water spigot solenoid valve
for foreign material on valve seat.**

**Hot Water Spigot Water
Not Hot Enough**

**Adjust hot water temperature dial
(located on main control) clockwise.**

**Hot Water Spigot or Brew
Water Boiling**

**Re-set thermistor in back of tank.
Thermistor bead **MUST** make
contact with plastic wall of tank
(inside cone shaped orifice). Insert
bead until it touches the end of the
cone, approx. 2").**

Cleaning Procedures

For Brew Cone, Sprayhead and Thermal Server

1. At the end of every business day, empty the thermal server of any left over coffee.
2. Place the thermal server back in normal brewing position.
3. Empty the brew cone and insert the brew cone back into brewing position,(without a paper filter or coffee).
4. Press the "FULL" pot brew button – hot water will spray into the brew basket and will enter the thermal server.
5. Let the thermal server sit over night with the water in it.
6. In the morning empty the thermal server before making the first batch of coffee.
7. Wipe clean brew plate and sprayhead area.

The benefits of do the aforementioned cleaning procedures daily are:

- Keep the thermal server cleaner longer.
- Keep brew cone cleaner longer.
- Keep brew thru lid cleaner longer.
- This will preheat the thermal server prior to making the morning's first batch coffee, thus providing longer heat retention of the coffee.

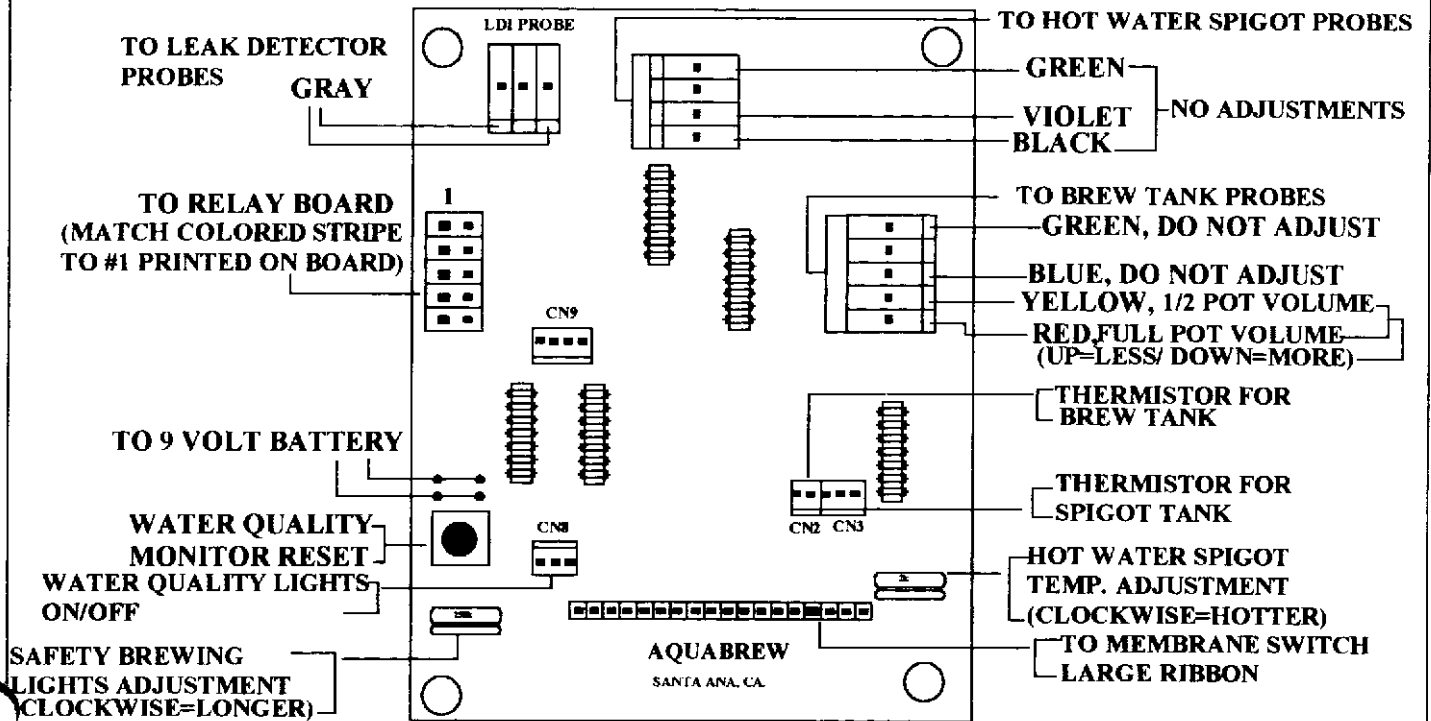
For Boiler and Preheaters

1. Remove brewer's subassembly by the following steps:
 - a. Remove top cover of brewer.
 - b. Disconnect sprayhead.
 - c. Disconnect ribbon cable from main control.
 - d. Disconnect two-pin ribbon cable from brown and gray wire.
 - e. Remove four screws that secure the upper back panel to main brewer housing.
 - f. Remove, by lifting, the entire subassembly up and back out of the main brewer housing.
2. Remove hose clamps that secure the boiler and preheaters to the brew and hot water spigot tanks (use a 5/16" nut driver).
3. Use citric acid or another food grade acid to remove any mineral deposits in the boiler and preheaters.
4. Flush boiler, preheaters, tubing, tanks and sprayheads clean with water.
5. Reassembly brewer.

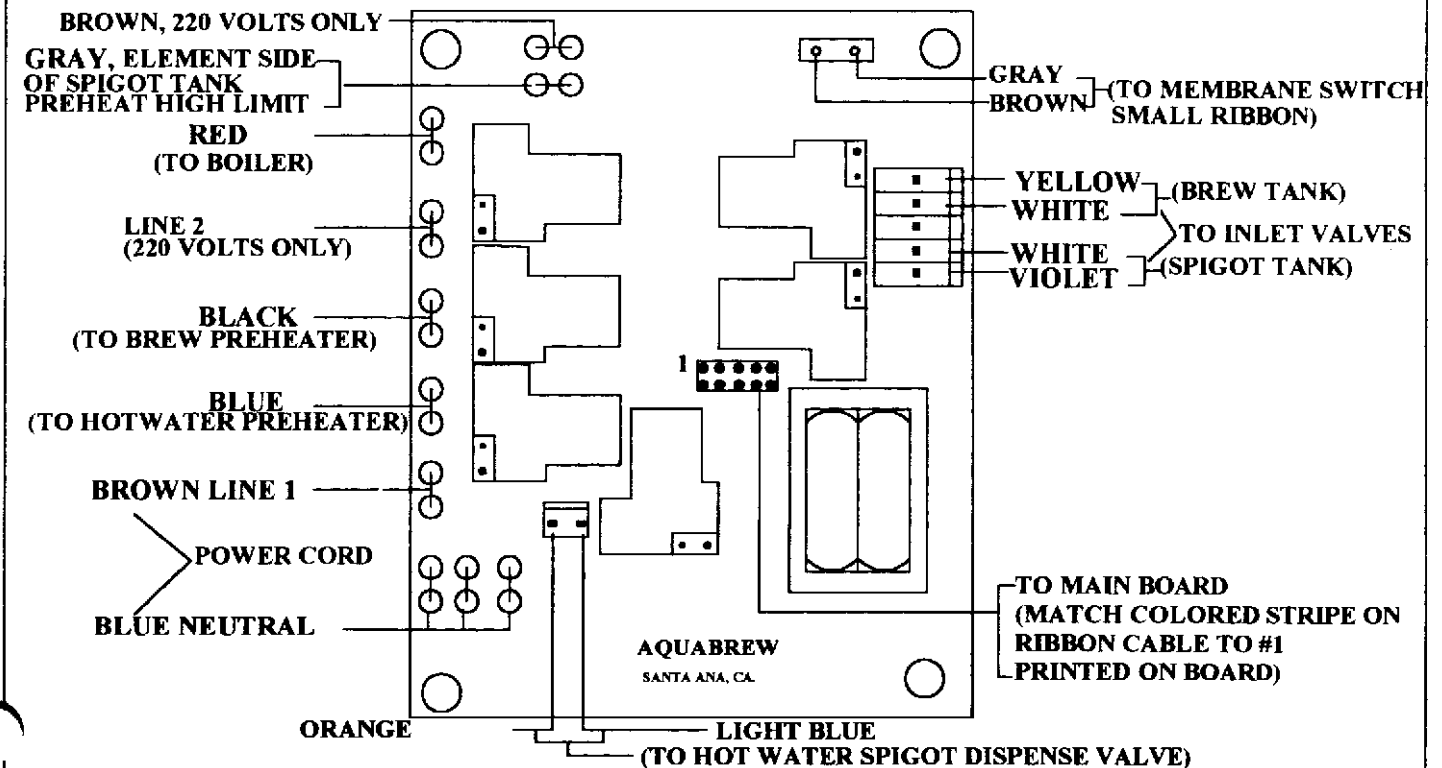
TE-1200 SERIES WIRE DIAGRAM



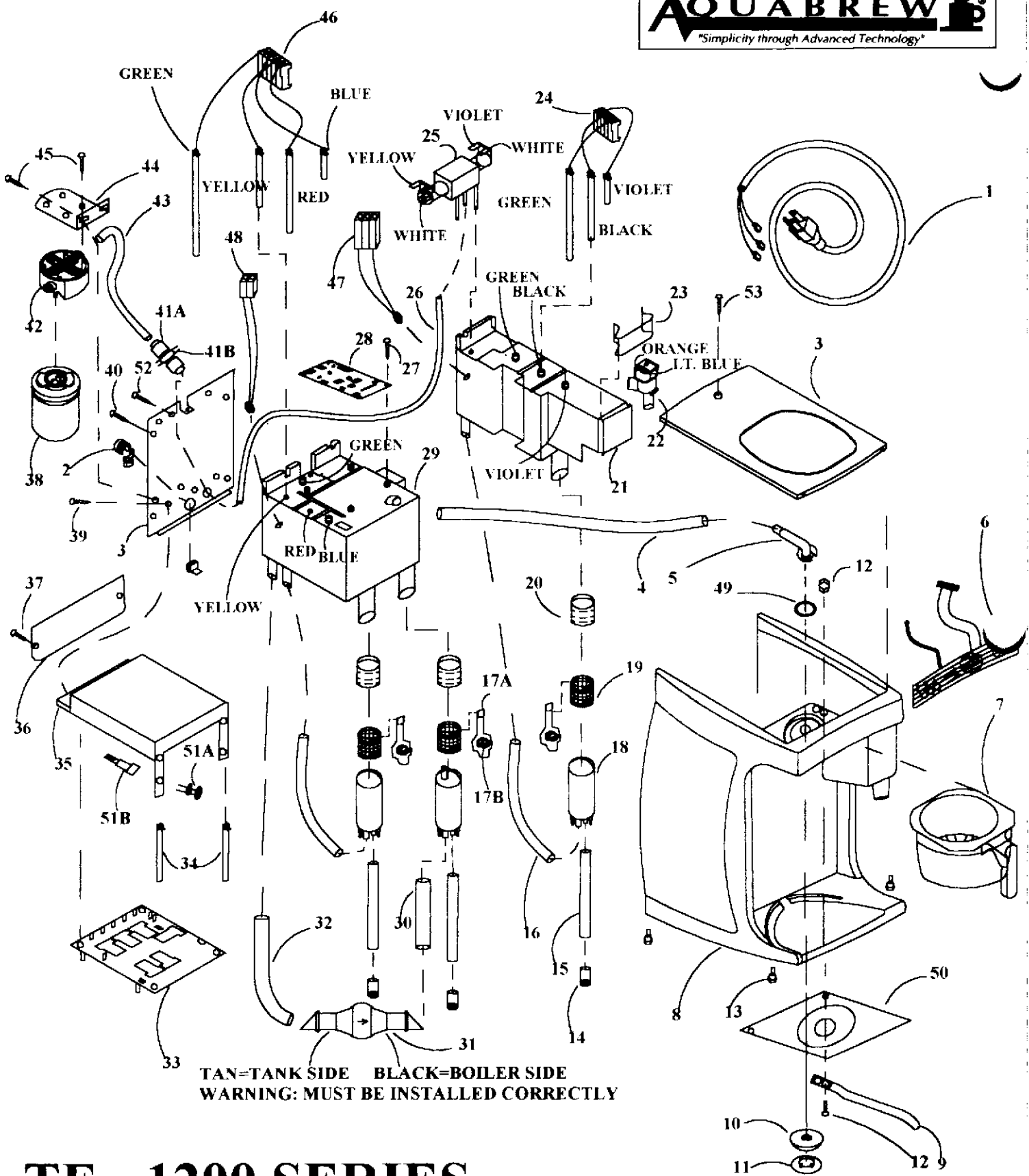
TOP



BOTTOM



NOT TO SCALE



TAN=TANK SIDE BLACK=BOILER SIDE
 WARNING: MUST BE INSTALLED CORRECTLY

TE - 1200 SERIES

ILLUSTRATED
 PARTS BREAK DOWN

NOT TO SCALE

Series TE-1200 Parts List

<u>Illustration #</u>	<u>Part #</u>	<u>Description</u>
1	Power Cord 120	Power Cord 120 Volts
2	Strain Relief	Strain Relief
3	TE1218/20/24UBC	Upper Back Panel
4	Tubing-Thk-Wall	Silicone Tube-Thick Wall
5	Sprayhead	(4) Piece Sprayhead Assbly.
6	Membrane TE-1200	Membrane Switch TE-1200
7	Brewcone12blk	12-Cup Black Brew Cone
8	Housing1224-G (or -M)	Housing TE1224 Granite
9	Brew Rail	Tension Mount Brew Rail
10	Sprayhead	(4) Piece Sprayhead Assbly.
11	Sprayhead	(4) Piece Sprayhead Assbly.
12	FSTNR6-32x5/8SS	(2)6-32 x 5/8 Phillips/PH SS
13	Foot 8-32Screw	(4) Foot 8-32 w/ Thread
14	Drain Plug	(3) Drain Plug
15	Tubing Drain	Silicone Drain Tube
16	Tubing Tnk 2 Htr	Silicone Tubing 3/8" x 1/2"
17A	Boiler-TE-120v	Boiler-TE-120 Volt
17B	HighLimitSpringClip	High Limit Spring Clip
18	Preheater-120v	(2) Preheater 120 Volt
19	Couplinghub	2 x 2 No Hub Coupling
20	Couplinginsert	Silicone Coupling Insert
21	Tank-TE1200S	Spigot Tank TE-1200
22	Valve-Dump120v	Spigot Dispense Valve 120v
23	ValveSpringClip	Valve Spring Clip
24	Probe1200S-SA	Hot Water Probe Assbly.
25	Valvedualkip	Dual Inlet Solenoid Valve
26	TubingP1/4inch	1/4" Plastic Tubing
27	FSTNR6-32x3/8>B	(4) Type B for Plastic Tank
28	TE1218CNTRLBDM	TE1200 Main Control Board
29	Tank-TE1200B	Brew tank TE-1200
30	Tubing-Thk-Wall	Silicone Tube-Thick Wall
31	Valve-Check	One Way Check Valve
32	Tubing-Thk-Wall	Silicone Tube-Thick Wall
33	TE1218RelayBDR	TE1200 Relay Board
34	LDI Probes	LDI Probes
35	RelayBoardMount	Relay Board Mount
36	TE1224LBC	TE1224 Lower Back Panel
37	FSTNR10x1/2PPAS	#10 x 1/2 Phil Pan Type A
38	Filter-TOSP	Filter Taste Odor S/P
39	FSNTNR6-32x1/2	6-32 x 1/2" Phil Pan SS
40	FSTNR10x1/2PPAS	#10 x 1/2 Phil Pan Type A
41A	PF1/4x1/4Striaight	1/4 x 1/4 Straight Fitting
41B	Grommet 760	Grommet 760
42	Filter-Head	Filter Head w/on/off Valve
43	TubingP1/4inch	1/4" Plastic Tubing
44	Filter-Bracket	Water Filter Bracket
45	FSTNR10x1/2PPAS	(4) #10 x 1/2 Phil Pan Type A
46	Probe1200B-SA	Brew Water Probe Assbly.
47	Therm3Assy	3 Pin Thermistor-SA
48	Therm2Assy	2 Pin Thermistor-SA
49	GasketSprayhd	Sprayhead Gasket
50	BrewPlateTE-1200	Brew Plate TE-1200
51A	LDIHolderMount	LDI Holder Mount
51B	LDIProbeholders	LDI Probe Holders

Limited Warranty

What is Covered

Three (3) years from date of purchase: All Parts

Conditions

This warranty covers original equipment at the time of purchase only. AquaBrew, Inc. assumes no responsibility for substitute replacement parts installed in any of AquaBrew's equipment that has not been purchased from AquaBrew.

Warranty is void under the following conditions:

1. Improper installation or operation of the equipment.
2. Abuse or neglect (for example, but not limited to, failure to periodically clean or remove lime accumulations).
3. AquaBrew, Inc. is not responsible for equipment operation due to excessive lime or local water conditions. All repairs and/or replacement are subject to the decision that the workmanship or parts were faulty and that the defects show up under normal use.
4. All claims under this warranty must be submitted to the factory and approved before return of the unit to the factory.
5. All equipment returned to AquaBrew must be repackaged properly in the original carton. No units will be accepted if they are damaged due to improper packaging.

No Units or Parts Will Be Accepted Without Prior Authorization.

Units must be shipped freight prepaid and will be returned freight collect. RGA (Return Goods Authorization) number must be marked on the carton or shipping label.

Warning

The warranty for this appliance is automatically void if this appliance is altered, modified or combined with any other machine or device without the consent of AquaBrew. Alterations or modifications of this machine may cause serious flooding and/or hazardous electrical shock or fire.

IN NO EVENT, SHALL THE MANUFACTURER BE LIABLE FOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES TO ANY PERSON, WHETHER OR NOT OCCASIONED BY NEGLIGENCE OF THE MANUFACTURE, INCLUDING, WITHOUT LIMITATION, DAMAGES FOR LOSS OF USE, COST OF SUBSTITUTION, PROPERTY DAMAGE, OR OTHER MONETARY LOSS.

Terms of Sale

Approval: All orders are subject to approval at the home office in Santa Ana, California, at prices, terms and specification prevailing at the time of shipment.

Damage: If merchandise is lost or damaged in transit, purchaser must make a claim direct with the carrier. Concealed damage or shortages: Merchandise must be unpacked and inspected within ten (10) days of receipt. Any shortage or damage should be reported to the transportation company.

Returns: Any merchandise returned for credit or exchange must have a RGA# (Return Goods Authorization Number) from factory. All returns must be freight prepaid. Merchandise is subject to handling charge. Equipment damage in transit will not be accepted.

Ordering: Please specify model number, voltage and wattage. Please specify accessories required.

Terms: Credit Card, C.O.D., or Net 30 days (on approved credit). Past due accounts are subject to a late charge of 2% per month.

Freight: Prices are F.O.B. Santa Ana, CA

All Specifications and prices subject to change without notice.



AQUABREW 
"Simplicity through Advanced Technology"