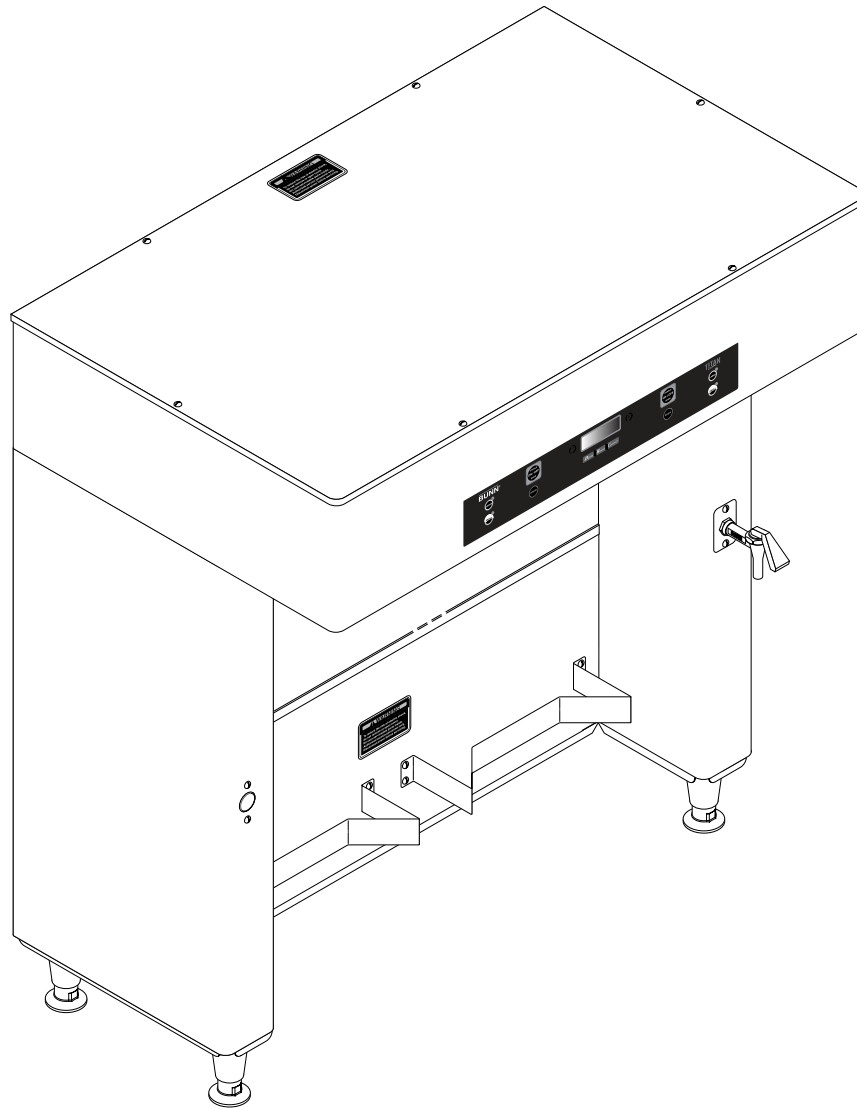


BUNN®

TITAN DUAL™



INSTALLATION & OPERATING GUIDE

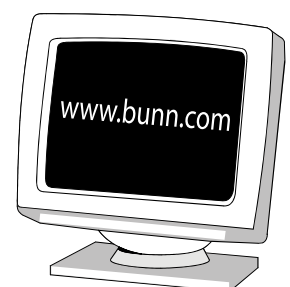
BUNN-O-MATIC CORPORATION

POST OFFICE BOX 3227

SPRINGFIELD, ILLINOIS 62708-3227

PHONE: (217) 529-6601 FAX: (217) 529-6644

To ensure you have the latest revision of the manual or to obtain the illustrated parts catalog, please visit the Bunn-O-Matic website, at www.bunn.com. This is absolutely FREE, and the quickest way to obtain the latest catalog and manual updates. Contact Bunn-O-Matic Corporation at 1-800-286-6070 to obtain a paper copy of the required Illustrated Parts Catalog mailed via U.S. Postal Service.



BUNN-O-MATIC COMMERCIAL PRODUCT WARRANTY

Bunn-O-Matic Corp. ("BUNN") warrants equipment manufactured by it as follows:

- 1) Airpots, thermal carafes, decanters, GPR servers, iced tea/coffee dispensers, MCP/MCA pod brewers thermal servers and Thermofresh servers (mechanical and digital)- 1 year parts and 1 year labor.
- 2) All other equipment - 2 years parts and 1 year labor plus added warranties as specified below:
 - a) Electronic circuit and/or control boards - parts and labor for 3 years.
 - b) Compressors on refrigeration equipment - 5 years parts and 1 year labor.
 - c) Grinding burrs on coffee grinding equipment to grind coffee to meet original factory screen sieve analysis - parts and labor for 4 years or 40,000 pounds of coffee, whichever comes first.

These warranty periods run from the date of installation BUNN warrants that the equipment manufactured by it will be commercially free of defects in material and workmanship existing at the time of manufacture and appearing within the applicable warranty period. This warranty does not apply to any equipment, component or part that was not manufactured by BUNN or that, in BUNN's judgment, has been affected by misuse, neglect, alteration, improper installation or operation, improper maintenance or repair, non periodic cleaning and descaling, equipment failures related to poor water quality, damage or casualty. In addition, the warranty does not apply to replacement of items subject to normal use including but not limited to user replaceable parts such as seals and gaskets. This warranty is conditioned on the Buyer 1) giving BUNN prompt notice of any claim to be made under this warranty by telephone at (217) 529-6601 or by writing to Post Office Box 3227, Springfield, Illinois 62708-3227; 2) if requested by BUNN, shipping the defective equipment prepaid to an authorized BUNN service location; and 3) receiving prior authorization from BUNN that the defective equipment is under warranty.

THE FOREGOING WARRANTY IS EXCLUSIVE AND IS IN LIEU OF ANY OTHER WARRANTY, WRITTEN OR ORAL, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF EITHER MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. The agents, dealers or employees of BUNN are not authorized to make modifications to this warranty or to make additional warranties that are binding on BUNN. Accordingly, statements by such individuals, whether oral or written, do not constitute warranties and should not be relied upon.

If BUNN determines in its sole discretion that the equipment does not conform to the warranty, BUNN, at its exclusive option while the equipment is under warranty, shall either 1) provide at no charge replacement parts and/or labor (during the applicable parts and labor warranty periods specified above) to repair the defective components, provided that this repair is done by a BUNN Authorized Service Representative; or 2) shall replace the equipment or refund the purchase price for the equipment.

THE BUYER'S REMEDY AGAINST BUNN FOR THE BREACH OF ANY OBLIGATION ARISING OUT OF THE SALE OF THIS EQUIPMENT, WHETHER DERIVED FROM WARRANTY OR OTHERWISE, SHALL BE LIMITED, AT BUNN'S SOLE OPTION AS SPECIFIED HEREIN, TO REPAIR, REPLACEMENT OR REFUND.

In no event shall BUNN be liable for any other damage or loss, including, but not limited to, lost profits, lost sales, loss of use of equipment, claims of Buyer's customers, cost of capital, cost of down time, cost of substitute equipment, facilities or services, or any other special, incidental or consequential damages.

392, AutoPOD, AXIOM, BrewLOGIC, BrewMETER, Brew Better Not Bitter, BrewWISE, BrewWIZARD, BUNN Espresso, BUNN Family Gourmet, BUNN Gourmet, BUNN Pour-O-Matic, BUNN, BUNN with the stylized red line, BUNNlink, Bunn-OMatic, Bunn-O-Matic, BUNNserve, BUNNSERVE with the stylized wrench design, Cool Froth, DBC, Dr. Brew stylized Dr. design, Dual, Easy Pour, EasyClear, EasyGard, FlavorGard, Gourmet Ice, Gourmet Juice, High Intensity, iMIX, Infusion Series, Intellisteam, My Café, Phase Brew, PowerLogic, Quality Beverage Equipment Worldwide, Respect Earth, Respect Earth with the stylized leaf and coffee cherry design, Safety-Fresh, savemycoffee.com, Scale-Pro, Silver Series, Single, Smart Funnel, Smart Hopper, SmartWAVE, Soft Heat, SplashGard, The Mark of Quality in Beverage Equipment Worldwide, ThermoFresh, Titan, trifacta, Velocity Brew, A Partner You Can Count On, Air Brew, Air Infusion, Beverage Bar Creator, Beverage Profit Calculator, Brew better, not bitter., BUNNSource, Coffee At Its Best, Cyclonic Heating System, Daypart, Digital Brewer Control, Nothing Brews Like a BUNN, Pouring Profits, Signature Series, Tea At Its Best, The Horizontal Red Line, Ultra are either trademarks or registered trademarks of Bunn-O-Matic Corporation.

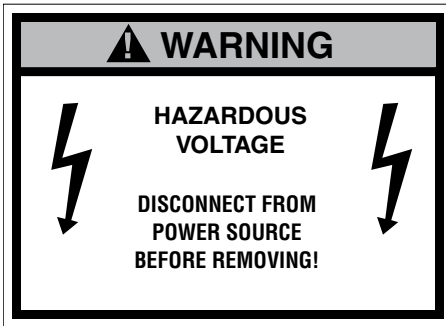
INTRODUCTION

This equipment will brew coffee into an awaiting server or airpot. The brewer may have an auxiliary hot water faucet. It is only for indoor use on a sturdy and level counter or shelf. Please install in an area where there are no water jet devices.

This brewer can be programmed to adjust different functions of the brewing process, such as brew temperature, brew volumes, bypass percentages, pulse brew, etc. Other features are Energy Savings mode, Freshness Timer and Clean Alert.

USER NOTICES

Carefully read and follow all notices in this manual and on the equipment. All labels on the equipment should be kept in good condition. Replace any unreadable or damaged labels.



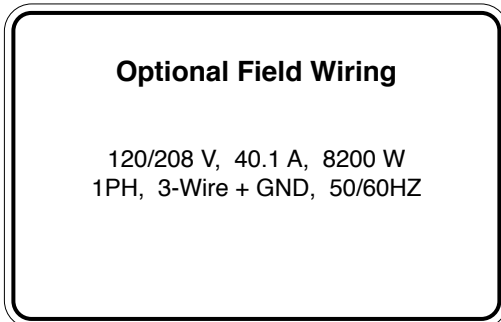
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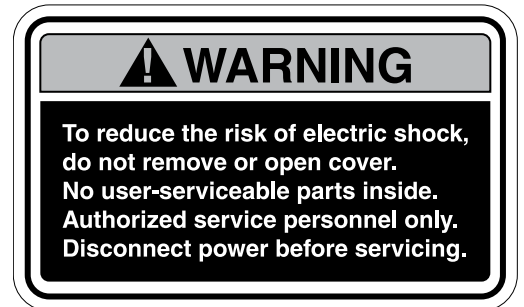
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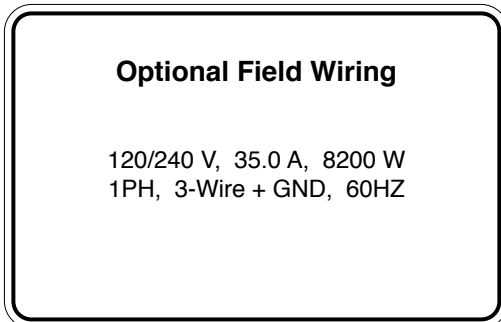
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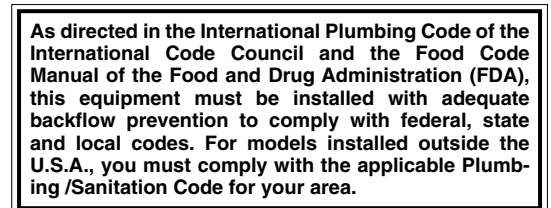
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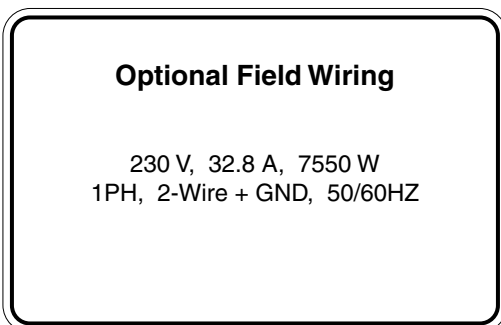
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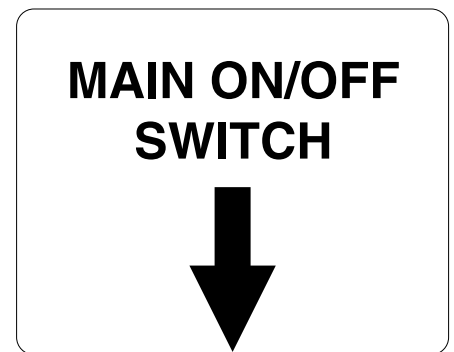
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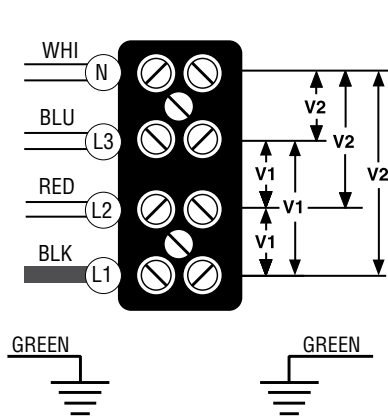


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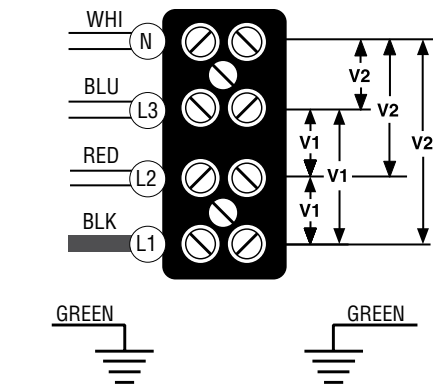
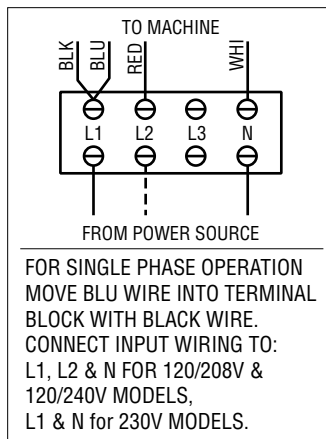
ELECTRICAL REQUIREMENTS

WARNING - If the power cord is ever damaged, it must be replaced by the manufacturer or its service agent with a special cord available from the manufacturer or its service agent in order to avoid a hazard.

Refer to Data Plate on the Brewer, and local/national electrical codes to determine circuit requirements.



120/208 and 120/240 volt ac three phase, 50/60 Hz models



400/230V volt ac three phase, 50/60 Hz models

Note: This electrical service consists of 4 current carrying conductors (Neutral, L1, L2 and L3) and a separate conductor for earth ground.

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SYSTEM VOLTAGE	V1	V2
208	208	120
240	240	120

SYSTEM VOLTAGE	V1	V2
400	400	230
230		230

L1, L2, L3, are the 3 phases
 V1 = Phase to phase voltage, between any 2 phases.
 V2 = Phase to neutral voltage, L1 to neutral must be 120V.

L1, L2, L3, are the 3 phases
 V1 = Phase to phase voltage, between any 2 phases.
 V2 = Phase to neutral voltage, L1 to neutral must be 230V.

ELECTRICAL HOOK-UP

CAUTION – Improper electrical installation will damage electronic components. **Damage caused by incorrect electrical connections is not covered by warranty.**

1. An electrician must provide electrical service as specified in conformance with all local, state and federal electrical codes.
2. Using a voltmeter, check the voltage and color coding of each conductor at the electrical source.
NOTE - The brewer is shipped without a plug on the power cord. Qualified service personnel must select and install the proper UL listed grounding type attachment plug specified on the rear of the brewer.
3. Install the specified plug on the attached power cord.
4. Remove the front access panel to gain access to the terminal block.
5. Connect the brewer to the power source and verify the voltage at the terminal block before proceeding.
6. If plumbing is to be hooked up later be sure the brewer is disconnected from the power source. If plumbing has been hooked up, the brewer is ready for *Initial Set-Up*.

CE REQUIREMENTS

- This appliance must be installed in locations where it can be overseen by trained personnel.
- For proper operation, this appliance must be installed where the temperature is between 5°C to 35°C.
- Appliance shall not be tilted more than 10° for safe operation.
- An electrician must provide electrical service as specified in conformance with all local and national codes.
- This appliance must not be cleaned by water jet.
- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given instructions concerning use of this appliance by a person responsible for its safety.
- Children should be supervised to ensure they do not play with the appliance.
- If the power cord is ever damaged, it must be replaced by the manufacturer or authorized service personnel with a special cord available from the manufacturer or its authorized service personnel in order to avoid a hazard.

PLUMBING REQUIREMENTS

This brewer must be connected to a cold water system with operating pressure between 20 and 90 psi (138 and 620 kPa) with a minimum of 4.0 gpm from a 1/2" or larger supply line. A shut-off valve should be installed in the line before the brewer. Install a regulator in the line when pressure is greater than 90 psi (620 kPa) to reduce it to 50 psi (345 kPa). The water inlet fitting is 3/8" flare.

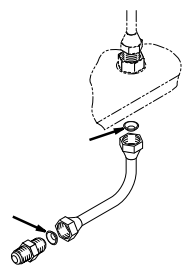
NOTE - Bunn-O-Matic recommends 3/8" copper tubing for all installations from the 1/2" water supply line. A tight coil of copper tubing in the water line will facilitate moving the brewer to clean the counter top. Bunn-O-Matic does not recommend the use of a saddle valve to install the brewer. The size and shape of the hole made in the supply line by this type of device may restrict water flow.

As directed in the International Plumbing Code of the International Code Council and the Food Code Manual of the Food and Drug Administration (FDA), this equipment must be installed with adequate backflow prevention to comply with federal, state and local codes. For models installed outside the U.S.A., you must comply with the applicable Plumbing /Sanitation Code for your area.

PLUMBING HOOK UP

NOTE - If a backflow preventer is required by code, a shock arrestor should be installed between backflow preventer and dispenser. Installing the shock arrestor as close to dispenser as possible will provide best results.

1. Remove the shipping cap from the fitting on the bottom of the brewer.
2. Attach the flare tube assembly (supplied separately with the brewer) to the fitting using the copper flare gaskets on each end as shown in illustration.
3. Flush the water line and securely attach it to the flare elbow fitting.
4. Turn on the water supply.

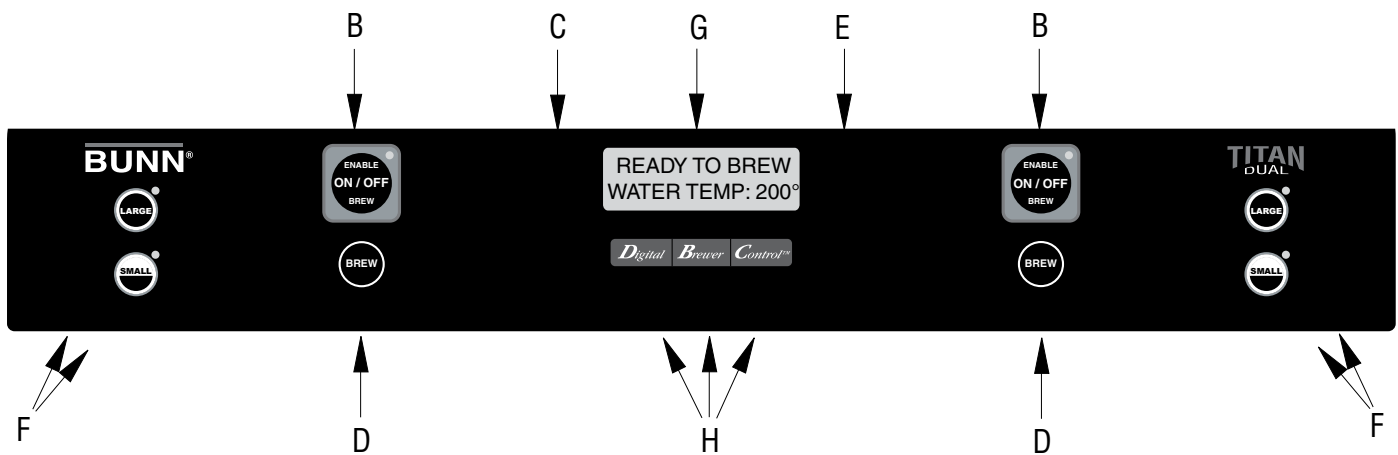


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TANK DRAIN

1. Remove screws that secure the front access panel. Remove the panel.
2. Unfasten the hose clamp at the end of the drain hose. Remove the plug.
3. Place the end of the drain hose in a drain or a container that has a minimum capacity of 16.0 gallons (60.5 liters).
4. Release the white clamp to drain water from the tank.
5. When tank is empty, close the white clamp, replace the plug, and tighten the clamp at the end of the drain hose.
6. Replace the front panel and tighten screws.

OPERATING CONTROLS

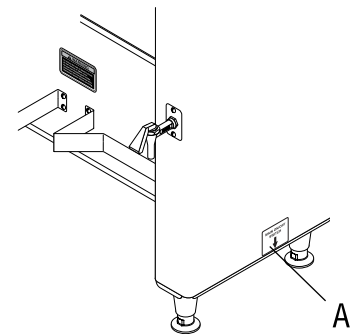


A. MAIN ON/OFF SWITCH

This switch, located under the brewer in front of the right rear leg, turns power on and off to all components in the brewer.

B. ON/OFF SWITCH (ENABLE BREW)

Pressing the "ON/OFF" switch will alternately turn the selected brewing side on and off. Pressing this switch during the brew cycle will interrupt the brew cycle, stopping the flow of water. Pressing this switch during programming of the brewer will exit the setup and return to the main screen.



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C. PROGRAMMING (left)

This hidden switch can be used to scroll backwards through the function list while in programming mode.

D. BREW

When the ON/OFF switch is ON and the main screen is visible, momentarily pressing and releasing this button will begin a brew cycle on the selected side.

E. PROGRAMMING (right)

Pressing and holding this switch allows entry into the programming menus. Pressing and releasing the switch steps through each function screen while in the programming mode.

F. BATCH SELECTOR SWITCHES

Pressing the switch corresponding to the Half or Full batch selects the amount of product to be brewed on the selected side. Pressing a different switch after a brew cycle has been initiated does not change the brew batch in progress. Light indicates the selected batch to brew. Also used in programming to adjust settings on both batch sizes.

G. FUNCTION SCREEN

This is the display which shows the various functions of the brewer and allows the programming to be accomplished.

H. FUNCTION SCREEN SWITCHES

These are hidden switches which are used to program the brewer when in the programming mode.

INITIAL SET-UP

CAUTION – The brewer must be disconnected from the power source throughout the initial setup, except when specified in the instructions.

1. Insert an empty funnel into the funnel rails of one of the brew stations.
2. Place an empty server under the funnel.
3. Connect the brewer to the power source. Make sure the corresponding ON/OFF switch is ON (LED will be lit).
4. Water will flow into the tank and stop when the tank is filled to its capacity. Display will show **PLEASE WAIT...TANK FILLING** until tank is filled with water.
5. Wait approximately twenty-five minutes for the water in the tank to heat to the proper temperature. Display will show **READY TO BREW...WATER TEMP: 205°** when tank is at operating temperature. Some water may drip from the funnels during this time; this is due to expansion and should not occur thereafter.

NOTE: Brew water temperature is factory set at 205° F (96.1° C). Refer to *TEMPERATURE SELECTION* below should the water temperature need to be increased or decreased. When brew water temperature is changed, ready temperature will need to be increased or decreased also.

6. Place a small vessel beneath the faucet and open the faucet handle. Release it when you hear the tank refilling.
7. Water volumes and flow settings have been preset at the factory. Refer to adjustments for the Set Brew Volumes or Calibrate Flow section of the Programming Manual on the Bunn-O-Matic website, at www.bunn.com should the volume need to be increased or decreased.
8. The brewer is now ready for use in accordance with the instructions for Coffee Brewing.

Brew water temperature is factory set at 205° F (96.1° C) Areas of high altitude will require lowering this temperature to prevent boiling. This chart should be used as a guide when readjusting the brew water temperature.

Altitude (Feet)	Boiling point of water		Recommended water temperature	
	° F	° C	° F	° C
-1000	213.8	101.0	200	93.3
-500	212.9	100.5	200	93.3
0	212.0	100.0	200	93.3
500	211.1	99.5	200	93.3
1000	210.2	99.0	200	93.3
1500	209.3	98.5	200	93.3
2000	208.4	98.0	200	93.3
2500	207.4	97.4	200	93.3
3000	206.5	96.9	199	92.8
3500	205.6	96.4	198	92.2
4000	204.7	95.9	197	91.7
4500	203.8	95.4	196	91.1
5000	202.9	94.9	195	90.6
5500	201.9	94.4	195	90.6
6000	201.0	93.9	194	90.0
6500	200.1	93.4	193	89.4
7000	199.2	92.9	192	88.9
7500	198.3	92.4	191	88.3
8000	197.4	91.9	190	87.8
8500	196.5	91.4	189	87.2
9000	195.5	90.8	188	86.7
9500	194.6	90.3	187	86.1
10000	193.7	89.8	186	85.6

TEMPERATURE SELECTION

SET TEMP - Range: 185° F (85° C) to 205° F (96° C)

This function allows the operator to set the brew water temperature in the tank. It also sets the hot water faucet dispense temperature.

SET TEMP: XXX°
(-) DONE (+)



Procedure for setting the Set Temp:

1. Press and hold the right hidden switch until the display reads **SET LANGUAGE**. Press and release the right hidden switch until the display reads **SET TEMP: XXX°**.
2. Using (-) and (+), adjust the brew and faucet temperature.
3. When finished, press **DONE** to save the new setting and to advance to the next function screen, **READY TEMP: XXX°**. Press and release the ON/OFF switch (either on DUAL brewers) to exit programming and return to the **MAIN SCREEN**.

TEMPERATURE SELECTION (cont.)

READY TEMP - Range: 2° to 20° F (2° to 10° C)

This function allows the operator to set the minimum temperature allowable to start a brew cycle. The range can be from 2° to 20° F within the set temperature. The water must be at the **READY** temperature or higher for the display to indicate **READY TO BREW**. If brew lockout is enabled, the brewing process will not start below this **READY** temperature.

READY TEMP: XXX°
(-) DONE (+)

Digital Brewer Control™

Procedure to set ready temperature:

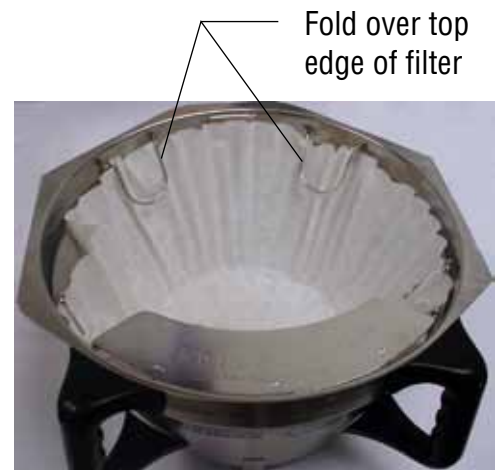
1. Press and hold the right hidden switch until display reads **SET LANGUAGE**. Press and release the right hidden switch until display reads **READY TEMP: XXX°**.
2. Using **(-)** and **(+)**, adjust the ready temperature.
3. When finished, press **DONE** to save the new setting and to advance to the next function screen, **BREW SETTINGS ?**. Press and release the ON/OFF switch (either on DUAL brewers) to exit programming and return to the **MAIN SCREEN**.

COFFEE BREWING

1. Begin each brew cycle with a clean empty brew funnel.
2. Insert a BUNN filter into the funnel.

NOTE: The funnels are equipped with 4 wire loops that can be folded over top edge of filter if desired, to prevent filter from folding in during the brew cycle.

3. Pour the fresh coffee into the filter and level the bed of grounds by gently shaking.
4. Slide the funnel into the funnel rails of the selected side until it stops.
5. Place an empty server under the funnel.
6. The ON/OFF (Enable Brew) switch for the selected side must be ON. Select the desired batch size.
7. Momentarily press and release the BREW button. There may be certain situations in which the brew cycle will not begin when BREW is pressed:
 - a. **SWITCH NOT ON** - ON/OFF must be ON.
 - b. **BREW TEMPERATURE TOO LOW** - wait until heated or cancel **BREW LOCKOUT** option.
 - c. **CHECK FUNNEL** - remove funnel, empty previously brewed grounds and replace with fresh.
 - d. **DISABLED** - select different brew button or batch size.
8. If none of the above messages are displayed, the display will read **NOW BREWING** and show the time remaining in the brew cycle.
9. Following the brew will be a countdown of drip time **DRIPPING** which shows the time remaining until the coffee no longer drips from the funnel tip.
10. Carefully remove the brew funnel and discard the grounds and filter only after visible dripping stops.



CLEANING

1. The use of a damp cloth rinsed in any mild, nonabrasive, liquid detergent is recommended for cleaning all surfaces on Bunn-O-Matic equipment. Do **NOT** clean this equipment with a water jet device.
2. Check and clean each sprayhead. The sprayhead holes must always remain open.

NOTE: Any buildup on the sprayhead may restrict water flow, and impact your coffee brewing. For consistently great coffee, clean sprayheads weekly. Upon visual inspection it may appear that light passes through all holes in the sprayhead plate, but a thin film of residue can pass light and still impede water flow.

3. Remove sprayhead from brewer. Disassemble by removing the seal.
4. Use the pointed end of sprayhead cleaning tool to remove any mineral deposits from the sprayhead holes.
5. Insert the long end of sprayhead cleaning tool into the sprayhead fitting, and rotate several times to remove any mineral deposits from the fitting.
6. Insert the short end of sprayhead cleaning tool into the bypass fittings, and rotate several times to remove any mineral deposits from the fitting.
7. Reassemble sprayhead and reattach. Sprayhead only needs to be hand tightened.

Refer to Programming Manual on the Bunn-O-Matic website, at www.bunn.com for calibration routine to verify sprayhead flow rate matches programmed flow rate. Brewer may need to be re-calibrated due to lime build up. If brewer is cleaned and build up removed, brewer must be re-calibrated to achieve desired volumes.

VIEWING ASSET & SERIAL NUMBER

1. To view the asset number of the machine, press and hold the left hidden switch until the display reads: **ANXXXXXX...ASSET NUMBER**. Release the left hidden switch.
2. After a 5 second delay, the display will read: **DTTNXXXXXX**. This is the serial number of the machine.