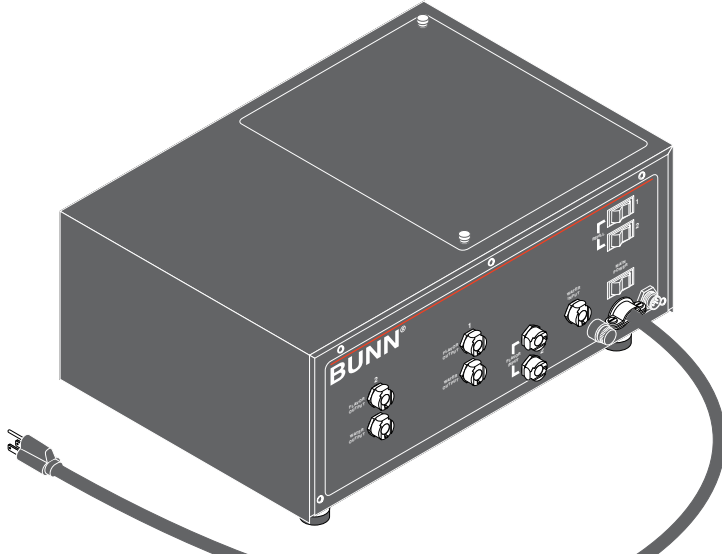
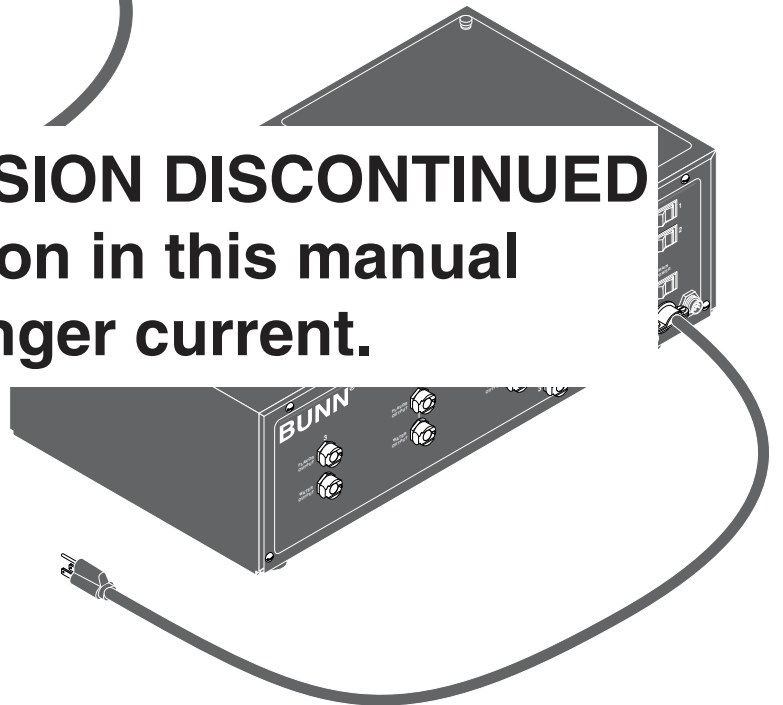


# BUNN®

***AFPO-2***  
***AFPO-2 SL***  
***AFPO-3***  
***AFPO-3 SL***



**AFPO-3 SL VERSION DISCONTINUED**  
**The information in this manual**  
**is no longer current.**



## **INSTALLATION & OPERATING GUIDE**

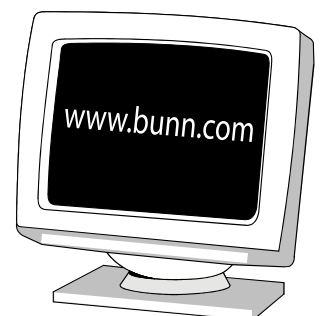
### **BUNN-O-MATIC CORPORATION**

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 Operating Manual, or to view the Illustrated Parts Catalog, Programming Manual, or Service Manual, please visit the Bunn-O-Matic website, at [www.bunn.com](http://www.bunn.com). This is absolutely FREE, and the quickest way to obtain the latest catalog and manual updates. For Technical Service, contact Bunn-O-Matic Corporation at 1-800-286-6070.



## **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-O-Matic, 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

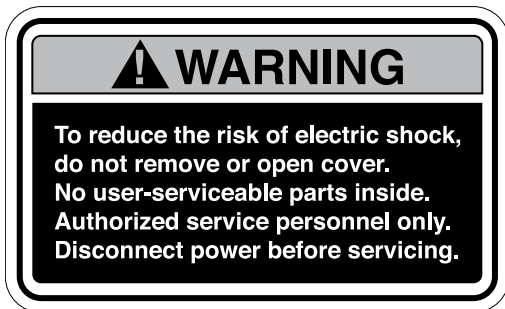
This equipment supplies a liquid concentrate mixed with water at various ratios to the hoppers on the dispensers. It is for indoor use only on a sturdy counter or shelf.

## USER NOTICES

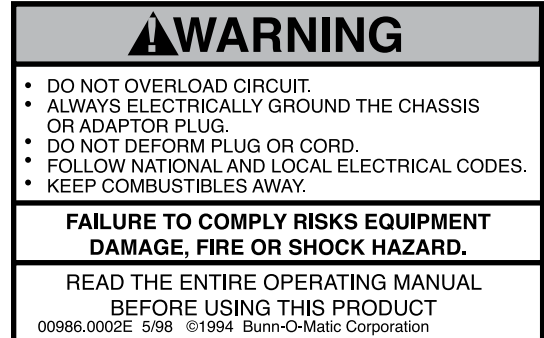
Carefully read and follow all notices on the equipment and in this manual. They were written for your protection. All notices are to be kept in good condition. Replace any unreadable or damaged labels.

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.

00656.0001



37881.0000



00986.0002



00824.0002

## ELECTRICAL REQUIREMENTS

**CAUTION** - The dispenser must be disconnected from the power source until specified in *Initial Set-Up*. The 120 volt version of this dispenser has an attached cordset and requires 2-wire, grounded service rated 120 volts ac, 15 amp, single phase, 60 Hz. The mating connector must be a NEMA 5-15R.

The 230 volt CE version requires 2 wire, grounded service rated 230V ac, single phase, 50 Hz.

The 200 volt or 240 volt versions require 2 wire, grounded service rated 200 volts ac or 240 volts ac, single phase, 50 Hz.

(Refer to the dispenser's data plate for exact voltage requirement.)

## 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.
- Machine must not be immersed for cleaning.

## Electrical Hook-Up

**CAUTION** – Improper electrical installation will damage electronic components.

1. An electrician must provide electrical service as specified.
2. Using a voltmeter, check the voltage and color coding of each conductor at the electrical source.
3. Connect the dispenser to the power source.

## PLUMBING REQUIREMENTS

This dispenser must be connected to a **cold water** system with operating pressure between 20 and 90 (138 and 620 kPa) psi from a  $\frac{1}{2}$ " or larger supply line. A shut-off valve should be installed in the line before the dispenser. 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  $\frac{1}{4}$ " flare.

**NOTE** - Bunn-O-Matic recommends  $\frac{1}{4}$ " copper tubing for installations of less than 25 feet and  $\frac{3}{8}$ " for more than 25 feet from the  $\frac{1}{2}$ " water supply line. At least 18 inches of an FDA approved flexible beverage tubing, such as reinforced braided polyethylene or silicone, before the brewer will facilitate movement to clean the countertop. Tubing is supplied by Bunn-O-Matic (part number 00326-0000). 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.**

**NOTE** - Water pipe connections and fixtures directly connected to a potable water supply shall be sized, installed and maintained in accordance with federal, state and local codes.

## INITIAL SET-UP

**NOTE:** This refill unit should not be used to initially fill the hopper. Running the motor for extended periods will trip the thermal switch. The thermal switch will reset, but requires up to 30 minutes of cooling time.

**NOTE:** Hoses and product container connectors are not supplied. Fitting, clamps and labels are supplied. Make hose assemblies as required. Refer to *PIPING DIAGRAM* on page 23.

1. Assemble hoppers with probe housing assemblies to dispenser or modify existing hoppers using template provided.
2. Make sure probe housing assembly is pushed down into slots on back of hoppers.
3. Install cable assembly to the lower right front of the auto refill box and the probe housing assemblies on the hoppers. The connectors on the cable pushes in and cap rotates 1/4 turn to lock into position.
4. Run output tubes from auto refill box to the quick disconnects in the hoppers.

**NOTE:** Make sure numbers on the labels match up. Cable#1 with Hose#1, Cable#2 with Hose#2,....etc.

## INITIAL SET-UP (cont.)

5. Connect one end of input hoses to the auto refill box and the other end to the product container. Product container connectors (BIB) are not supplied. Install your own interface.
6. Connect water line to auto refill box. A minimum of 20 psi (138 kPa) is required.  
**NOTE:** Make sure all connections are made before connecting the auto refill box to the power source.
7. Each product container has an ON/OFF refill switch located on the front of the auto refill box. A second switch for each hopper is at the probe housing assembly. These are 3 position switches, high level, low level and a center "OFF" position.
8. Place the main ON/OFF switch and ON/OFF refill switches in the "OFF" position.
9. Make sure all hoses are connected. Place the main ON/OFF switch in the "ON" position.
10. Place one of the ON/OFF refill switches in the "ON" position, after a four second delay product will begin to flow through the hoses into the hopper. Be sure the switch selected is filling the correct hopper, if not, check the labels. See **NOTE** in step #4.
11. To test refill circuit short out probes on one of the hoppers with a screwdriver, so that hopper should shut off. Remove the screwdriver and the hopper will start to fill again after a four second delay. If hopper does not start to fill, check labels, refer to **NOTE** in step #4.
12. To change mix ratio refer to *MIX RATIO ADJUSTMENTS*.

## CLEANING

### RECOMMENDED WEEKLY CLEANING:

This should be done in conjunction with the recommended weekly cleaning of your machine. The Hoppers must be empty before starting.

1. Prepare a 1 gallon cleaning solution consisting of 1 gallon of hot water and a sanitizing cleaner which contains 3-5% chlorine based sanitizer. Mix per manufacturers instructions
2. Remove connectors from each concentrate container and place them directly into the cleaning solution.
3. Energize each refill station and allow the cleaning solution to pump through the system into the hoppers. The cleaning procedure should remove the color stains from the tubing. If not, prepare another gallon of cleaning solution and repeat.
4. After the cleaning solution has been pumped into the hoppers, rinse the cleaning solution container with hot water.
5. Fill the cleaning solution container with hot water. Energize each refill station and rinse thoroughly. The amount of clean hot rinse water should equal the amount of cleaning solution pumped through the system.
6. Empty the hoppers of your machine and follow the recommended cleaning instructions.  
**NOTE:** The hoses should be checked monthly for deterioration, cracks and possible discoloration from some concentrates. Replace the tubing when necessary.

## MIX RATIO ADJUSTMENTS

1. Remove the top access panel.
2. Connect the test hose to the "WATER OUTPUT" to be adjusted.
3. Connect the provided hose (or other suitable water hose) to the "WATER INPUT".
4. Ensure water regulator is set at 20 psi(137.9 kPa). Press the "TEST OUTPUT" switch and while water is flowing from the test hose, check that the gauge reads 20.
5. Place a one-cup container under the test hose. Press the "TEST OUTPUT" switch, and carefully measure and note the elapsed time from when water first flows from the test hose to when one cup of water has been dispensed. Hoses and tubing should be primed and free of substantial air spaces and/or bubbles prior to calibration.
6. Compare results with chart or formula below.

## MIX RATIO ADJUSTMENTS(cont.)

7. If the time observed is too short or long, turn the needle valve clockwise or counterclockwise, respectively, a little at a time. Repeat from the preceding step until correct.

Mix ratio (water/flavor)	Time for FLAVOR OUTPUT (1/2 cup)	Time for WATER OUTPUT (1 cup)
1+1	assume 20 sec. or obtain time per note below	40 sec. or 2 times flavor output time
2+1	assume 20 sec. or obtain time per note below	20 sec. or equal to flavor output time
3+1	assume 20 sec. or obtain time per note below	13.3 sec. or 0.67 times flavor output time
4+1 (see below)	assume 20 sec. or obtain time per note below	10 sec. or 0.5 times flavor output time
5+1	assume 20 sec. or obtain time per note below	8 sec. or 0.4 times flavor output time
6+1	assume 20 sec. or obtain time per note below	6.7 sec. or 0.33 times flavor output time

**NOTE:** For a typical adjustment, the time for flavor output in the center column above is assumed to be 20 seconds. A more specific flavor pump output time may be obtained prior to adjustment of the needle valve. To do so, connect the flavor to be tested to the “FLAVOR INPUT”, and the test hose to the corresponding “FLAVOR OUTPUT” (make no connection to the “WATER INPUT”). With a one-cup container under the test hose press the corresponding “TEST OUTPUT” switch, and carefully measure and note the elapsed time from when the product first flows from the test hose to when one-half cup of the product has been dispensed. This value may then be used in the formula below. Following flavor pump output measurement, disconnect the flavor line from the “FLAVOR INPUT” and purge remaining product from the line.

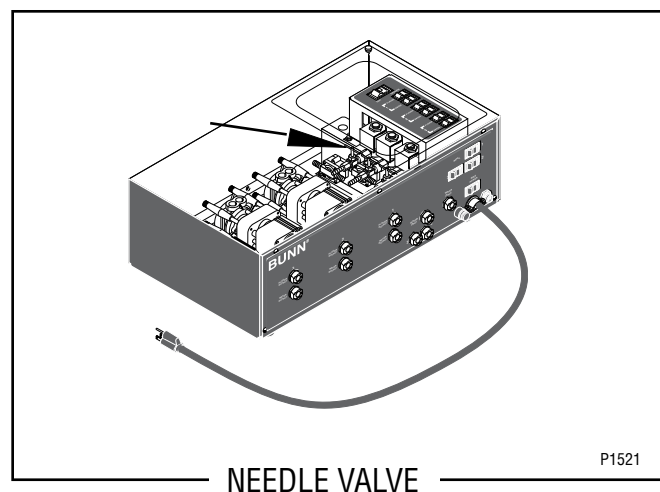
**Formula for setting mix ratio:** To obtain the time for dispensing 1 cup of water, divide the time it takes to dispense one-half cup of product by the first number in the mix ratio and then multiply the result by two.

**Example:**  $W=2(F/X)$  Where W is the time it should take to dispense one cup of water, it took F seconds (20 here) to dispense 1/2 cup of flavor concentrate, we desire a mix ratio X of 4+1 (X will be the first number in the mix ratio, 4).

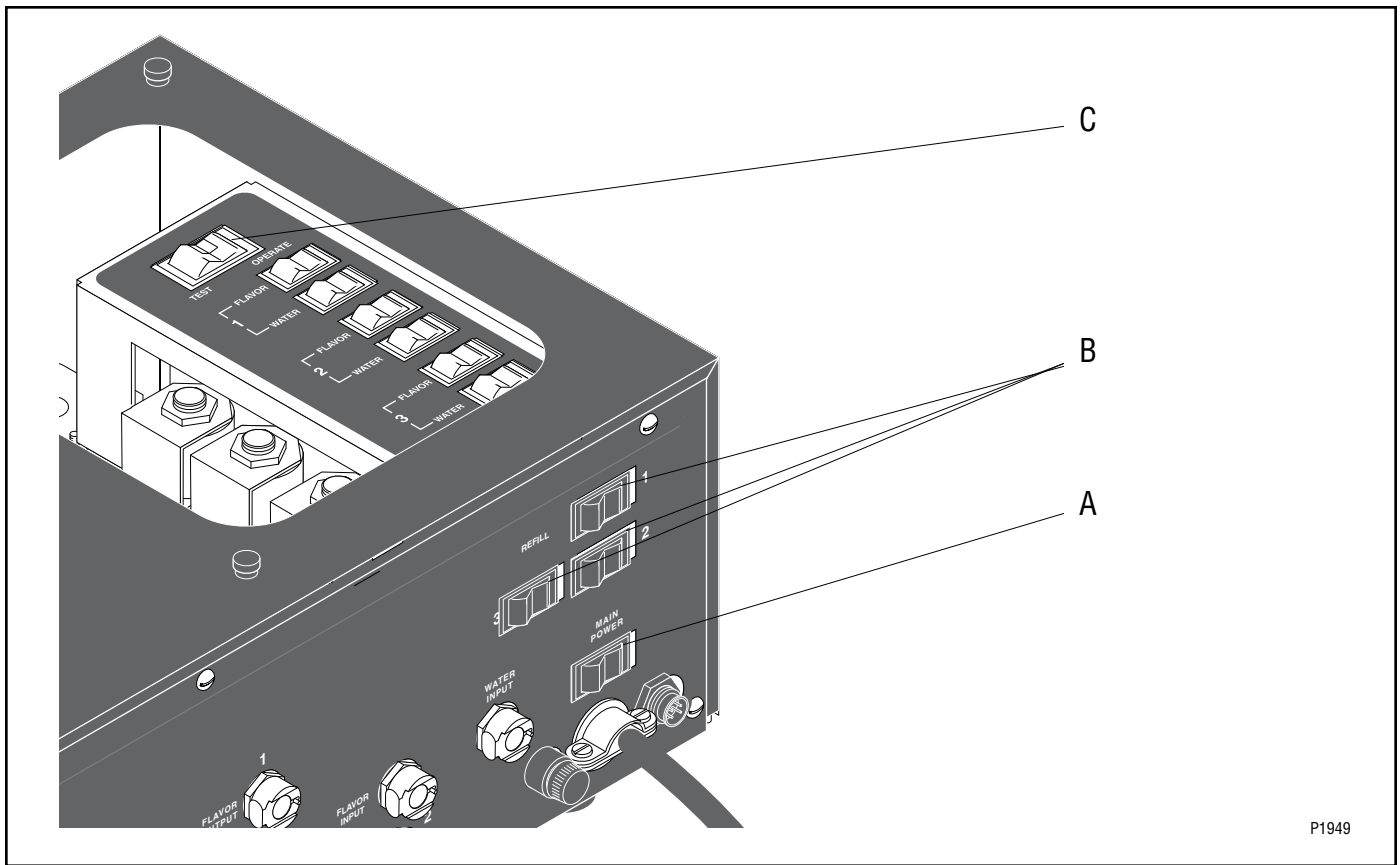
Therefore:  $W = 2/(20/4)$   
 $W = 2/5$   
 $W = 10$  seconds

So if it took 20 seconds to dispense one-half cup of flavor concentrate, and a mix ratio of 4 to 1 is required, the needle valve should be adjusted to dispense 1 cup of water in 10 seconds.

**NOTE:** Hoses and tubing should be primed and free of substantial air spaces and/or bubbles prior to calibration.



# OPERATING CONTROLS



## A. MAIN POWER ON/OFF

The main power ON/OFF switch is located on the right of the front panel just above the power cord.

## B. REFILL CIRCUIT ON/OFF

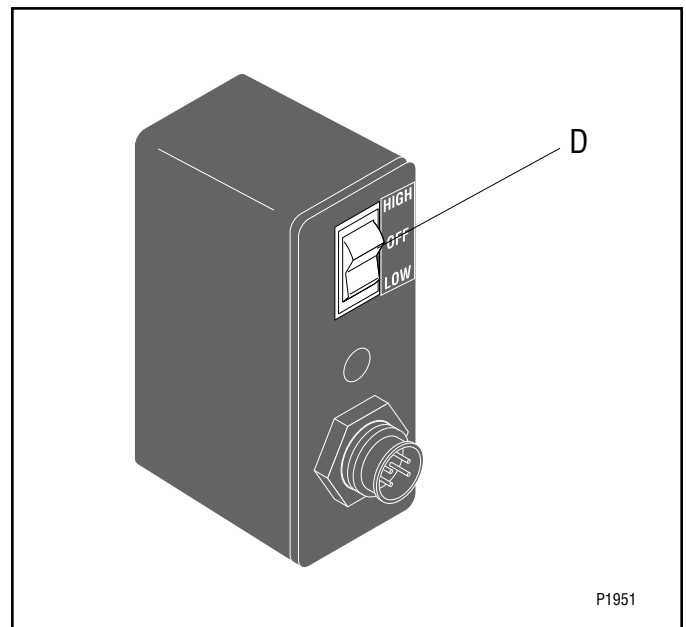
The refill circuit ON/OFF switches are located on the right of the front panel just above the main power switch. These allow each circuit to operate independently.

## C. TEST/OPERATE

The TEST/OPERATE switch is located inside the auto-fill box just below the top access cover. For setting flow rates and mix ratios for flavors, place the TEST/OPERATE switch in the "TEST" position. This allows the operator to run the water and flavor lines for each circuit depending on the requirements for the flavor recipe.

## D. PROBE CONTROL BOX LOW/OFF/HIGH

On models equipped with a dual level probe, there is a LOW/OFF/HIGH switch located at the probe control box on the hopper. The "OFF" position allows the operator to disable the probe for that hopper only. THE "LOW" and "HIGH" positions allow the operator to select the level of product desired for that hopper.



## PIPING DIAGRAM (AFPO-2)

The only difference between the AFPO-2/3 and AFPO-2/3 SL is the SL models have a water output line and a flavor output line for each product. This allows the water and flavor to be mixed in the hoppers. Refer to the illustration below when connecting the lines.

