

## CBS-62H Coffee Brewer

**Maritime Version  
Rated IP44**



*Driven To Pioneer Innovation™*

# Operating Procedures

## 1. Turn brewer on/off switch (E) to the on position

- The power switch will illuminate to indicate that the brewer has power and is operating.
- When the **ready light (F)** illuminates, the brewer is fully up to temperature. The amount of time required to gain full operating temperature will vary depending on the electrical configuration that was ordered, and the temperature of the incoming water.

## 2. Pre-heat the dispensers.

This step is very important to the overall success of the brewing operation. FETCO avoids the damaging affects of heat on fresh brewed coffee by using highly insulated dispensers. The dispenser must be pre-heated with hot water from the brewer. This preheating process ensures that the coffee in the first brew starts out hot. Significant heat loss will occur when brewing coffee into a cold dispenser. Preheating is not required for subsequent brews unless the dispenser remains empty for an extended period of time and has cooled down.

- Slide the empty brew basket(s) (D) into their rails and put the empty dispenser(s) in position under the basket for preheating. Select the half batch mode, (A) if you have this option.
- When the ready light illuminates, start a brew cycle by rotating the brew lever (B) to the brew position. This starts clean hot water flowing into the brew basket and then into the dispenser.
- Stop the cycle when each dispenser is approximately 1/2 full by moving the brew lever to the off position. This interrupts the brew cycle and resets the brewer .
- Let the dispensers stand 10-15 minutes, or until use, to allow the heat from the water to be absorbed by the dispensers.

## 3. Remove the brew baskets from the brewer when you are certain that the flow of hot water has stopped from the bottom of the basket.

- H model brewers will have a safety bar (C) in front of the brew basket to make removing the brew basket a 2-handed operation. This was done to help draw attention to the basket so the operator will notice any residual hot water or coffee.
- Place a paper filter in each basket to be used. Pour into the paper filter the appropriate amount of pre-measured, ground coffee. The amount of coffee used will depend on your personal tastes and the recommendation of your roaster.
- Slide the brew basket back into the rails on the brewer. Insure the latch is outside of the basket.

## 4. Carefully drain any coffee or preheating water from the dispensers through the faucets before starting a coffee brewing cycle.

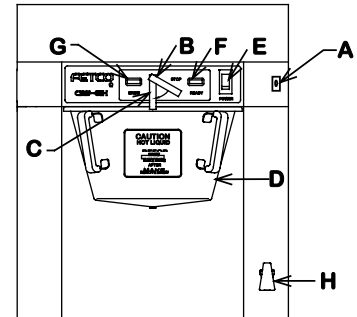
- Overflowing of the dispensers may result if the dispensers are not completely empty when the brew cycle begins. Verify by opening the faucet over an appropriate container or drain. The last several cups cannot be seen in the sight gauge tube.
- **CAUTION:** both the coffee or water may still be hot enough to cause burns, so be careful when draining the dispensers

## 5. Place the thermal dispenser(s) in position under the brew baskets.

- Ensure that the brew funnel is in place, the dispenser is empty, the faucet is closed, and the vent cap on the sight gauge is open.
- The twist lock cover is for transporting the dispenser only. It must be removed before placing the dispenser under the brew basket.

## 6. Start the brew cycle in the same manner used to start the water used to preheat the dispensers.

- It will not be necessary to interrupt the cycle while brewing coffee. The brewer will return to the stopped and ready status automatically.
- It is normal for the ready light to go out after the start of the brew cycle. On twin brewers, there is enough hot water in the brewer to support a second brew, even if the ready light is off. After brewing on both sides, you must wait for the ready light to come back on.
- The electrical configuration and the electrical power connected to the brewer will determine how long before the ready light comes back on for the next brew.



### Legend:

- A-Full/half batch switch
- B-Brew lever
- C-Safety bar
- D-Brew basket
- E-On/off switch
- F-Ready light
- G- Brew light
- H- Hot water faucet

## CAUTION

- Do not remove the brew basket immediately after the brew cycle has finished. Wait until dripping from the bottom of the brew basket has stopped. Carefully remove the brew basket while inspecting the inside of the basket for hot coffee that may have been trapped or has not finished draining.

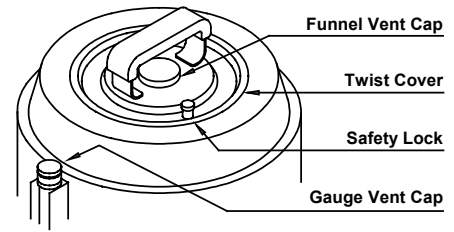
## TPD- 3.0 LUXUS Dispensers:

The LUXUS dispensers are super insulated. A full LUXUS will typically lose only 4 degrees per hour if the dispenser is preheated first with hot water.

Closing a LUXUS dispenser for transportation or storage must be done in the following steps to avoid spraying hot liquid from the top of the sight gauge. Failure to follow these steps in order can cause a hydraulic reaction.

By moving the funnel vent cap down on the larger surface area of the main body an upward movement amplified many times is created in the sight gauge. This forces the liquid out of the top of the sight gauge vent.

1. Install the twist lock cover, ensuring that the safety lock engages.
2. Close the sight gauge vent plug.
3. Close the twist lock cover funnel vent cap.
4. Open the LUXUS by reversing the above order.  
Open the funnel vent cap first, then the sight gauge vent cap.



Because the faucet body is metal, it will dissipate the beverage temperature over time. This temperature loss is more noticeable with hot beverages than cold. If a dispenser of hot coffee goes unused, the first ounce or two will be cool and should be discarded. Subsequent cups will be hot.

## Cleaning:

Use the same techniques and products as you would use to clean any coffee urn i.e.

- a) the sight gauge brush to scrub the gauge
- b) urn brush for inside the dispenser
- c) urn cleaner to clean the dispenser
- d) stainless steel polish for the outside
- e) hot water and towels for the faucet parts

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# Service

## Warranty

All FETCO brewers come with a limited warranty. All warranty service must be authorized by calling the FETCO Service Department at (800) 338-2699.

## Principles of Operation

### Fill System

The fill system consists of a liquid level control board, a water level probe at the top of the tank, a fill valve, and a fill tube. As the water rises and touches the probe, continuity is established between the probe tip and the tank body, and the fill valve closes.

When water is dispensed, the water level drops below the probe. After a 5 second delay, the fill valve opens until the water touches the probe again.

The 5 second delay, and the speed that water refills the tank during brewing, results in many short bursts of water. The sound made by these repetitive bursts will let you know the fill system is functioning normally.

The fill system is designed to protect the heaters during both the installation and a loss of the water supply. During initial installation, or whenever the power switch is turned on, voltage will not be supplied to the thermostat until the tank fills and water touches the water level probe.

During operation, when water is dispensed and the water level drops below the probe, a fill signal is sent to the fill valve. If the probe does not sense water after 40 seconds, the voltage to the thermostat and the heaters is removed.

Water enters the tank through the fill tube. A hole is drilled in the upper portion of the fill tube to prevent water from being siphoned from the tank. The fill tube extends to the bottom area of the tank. This introduces cold incoming water directly to the heaters and away from the dispense assembly.

The water tank can be drained through a valve located inside the lower compartment of the brewer.

### **Temperature System:**

The temperature system consists of an electronic thermostat, a temperature probe, and heating elements, and is enabled by the liquid level control board. (See the previous section - Fill Circuit.)

When the water level probe is in contact with water, power is delivered to the thermostat through the liquid level control board. If the temperature probe senses that the water is not hot enough, the thermostat energizes the heating elements through the solid state relay (SSR), the water is heated, and the ready light goes off.

Once the water temperature reaches the set point, the thermostat disengages power to the heaters and the ready light illuminates.

The thermostat is adjusted to 205° F  $\pm$  2° at the factory. (Slightly lower for high altitude installations.)

### **Timing System:**

The timing system consist of the timer and the dispense latch assembly.

When the brew handle is rotated from the stop to the brew position, it pushes the plunger in the latch coil and closes the micro switch, and the timer starts the timed cycle. It also starts the hot water flowing.

The timer energizes the dispense latch coil, which acts as a magnet, to hold the brew handle in the brew position. It also lights the brew light. The coil remains energized throughout the brew cycle timed sequence.

When the timer finishes its cycle, it removes voltage from the latch coil. The latch coil then releases the brew handle, a spring returns it to the stop position, and the flow of water stops. This return opens the micro switch, stopping voltage from going to the timer. The brew light and the timer are disabled, and wait for the brew handle to engage the next brew cycle.

### **Dispense System:**

The dispense system is completely mechanical. It is one of the areas that makes FETCO's brewer truly unique. (See the illustration in this section.)

When you rotate the brew lever down to brew, the end of the dispense tube is submerged in the hot water tank. It is held in the brew position by the magnetic action of the dispense latch coil.

The brew water travels down the dispense tube to the sprayhead assembly. The flow disc above the spray cutter controls the rate of flow over the coffee. The standard hole in the flow disc is .281". Other flow discs are available for special situations like high levels of by-pass.

The sprayhead can be assembled incorrectly during cleaning. Refer to the cleaning label on the brewer for proper assembly. The flow disc has the flange down, flat side up. The six-triangle spray cutter has the flange up. The eight-hole spray cutter used in place of the triangle cutter goes bumps down.

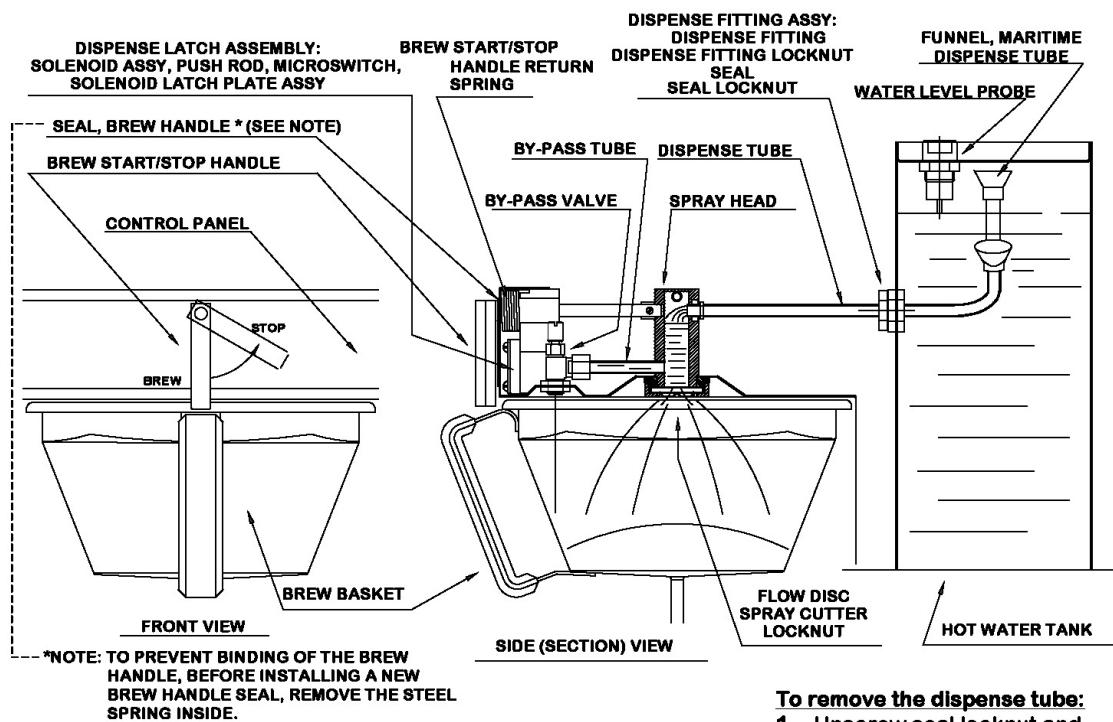
A bypass valve and tube are connected to the sprayhead. This valve directs brew water around the outside edge of the filter paper. The by-pass valve is shipped in the closed position from the factory. Each time the valve is adjusted, the brew volume is affected. Adjustment of the by-pass valve is for flavor only.

When the timer circuit releases the brew latch, the dispense tube pops back above the hot water level. The remaining brew water drains from the dispense system leaving it free of standing water. Steam escaping from the brew tank through this tube inhibits the formation of lime in the brew system.

The dispense system is clean & semi dry for all but the brief time required for the brew cycle. This eliminates any chance of lime build-up affecting the brew cycle.

It is very easy to dislodge the dispense tube seals while servicing the dispense system. If you see it leaking profusely, remove the nut and dispense tube. Reset the seal fully into the recess and carefully insert the dispense tube. Then secure the locknut before you back the tube into position. (See detailed instructions on page 10.)

## Mechanical Illustration - Dispense System

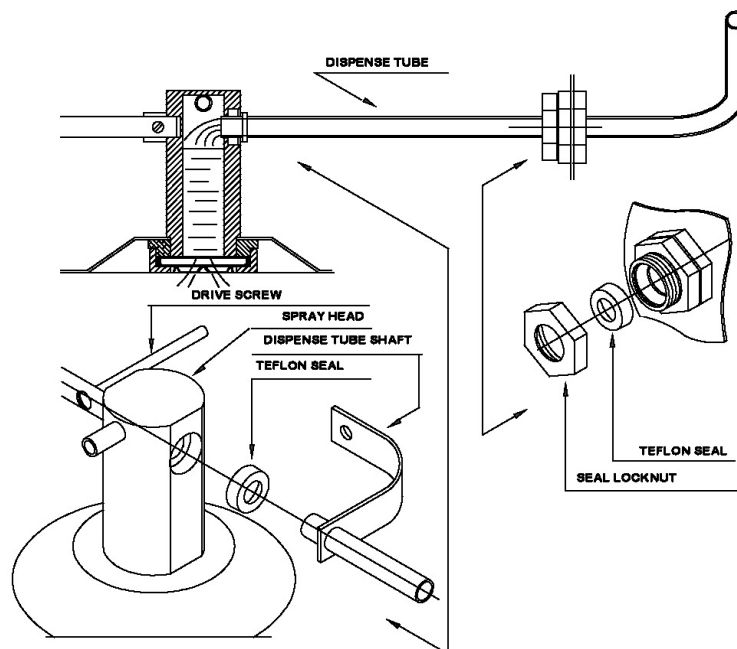


### **To remove the dispense tube:**

1. Unscrew seal locknut and release the drive screw from dispense tube shaft.
2. Turn the dispense tube slightly back and forth, while pushing the tube into the hot water tank until it is free from the sprayhead. Pull the dispense tube out of the tank. Remember the tube is bent inside the tank. The seal will come out with the tube.

### **To install the dispense tube:**

1. Clean any lime build up off the tube and then slide the seal off. Push the seal carefully into its chamber in the fitting. (spring towards the hot water tank.)
2. Place the seal locknut onto the tube and slide the tube into the seal. Tighten the seal locknut.
3. Work the tube back into the sprayhead seal.
4. Join the dispense tube shaft and the brew handle shaft with the drive screw.



## Adjustments

### Thermostat Adjustment:

During normal operation, the digital readout displays the last two digits of the actual water temperature. When the adjustment tool is turned, the readout begins flashing to indicate the set point, not the actual temperature. After the tool is released, the readout stops flashing and displays the actual temperature again.

A red LED lights when the power to the thermostat is on. A yellow LED lights when the thermostat is calling for heat.

To adjust, turn the adjustment tool. If no adjustment tool is present, a small flat-head screwdriver may be used. The display will flash, indicating that the display is showing the set point, not the actual temperature.

The default temperature scale is Fahrenheit. When set to Fahrenheit, the display shows only the last 2 digits of the temperature.

Examples:

**75** = 75°F

**87.** = 187°F

**03.** = 203°F

The dots below the numbers indicate the temp range.

0 dots – less than 100° F

1 dot – between 100° and 200° F

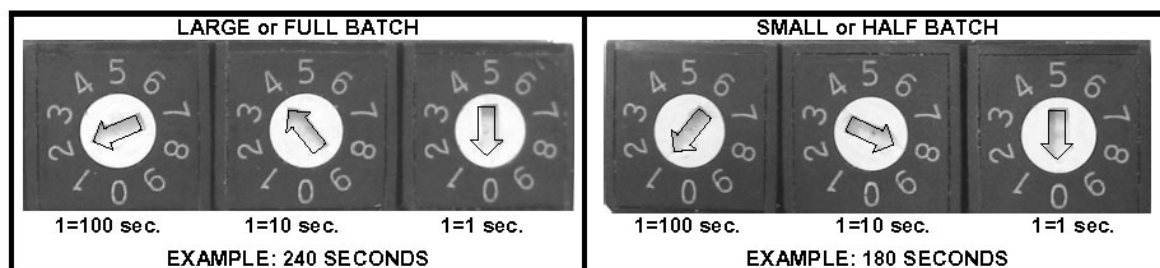
2 dots – over 200° F

### Timer Adjustment:

The timer has two independent settings, with three dials for each setting. The first dial in each group sets 100 second increments, the second dial sets 10 second increments, and the third dial sets 1 second increments.

A red LED lights when the power to the timer is on. A yellow LED lights when the timer is running.

A small flat head screwdriver is required to adjust the dials.



part # K034, digital timer, 100-120 VAC

part # K036, digital timer, 200-240 VAC (export versions only)

## Water Level Control Board

The board features a jumper to adjust its' sensitivity to reverse osmosis or other types of ultra-pure water.

The default jumper setting is LO for normal water. If the brewer tank overfills because of ultra-pure water, the jumper should be set to HI.

A red LED lights when the power to the board is on.

A green LED lights when the water level probe detects that the tank is full.

A yellow LED lights when the FILL circuit is energized.

A second yellow LED lights when the HEAT circuit is energized.

## Bypass Adjustment:

The purpose of the bypass valve is to allow a portion of the brewing water to flow between the brew basket and the wire insert, directly into the server, without coming in contact with the coffee grounds. The bypass can be adjusted from 0% to 33% of the total brewing water. Unless requested at the time of order, all brewers are shipped with the bypass valves closed (0%). Adjusting the bypass always changes the total brew volume, so the timer setting must always be checked and adjusted.

To adjust the bypass:

- Remove the brewer's upper cover.
- The bypass valve is located above the brew basket, to the right and to the front.
- Remove the brew basket.
- Place a container under the spray head and a separate container under the bypass hole.
- Turn the bypass valve clockwise to decrease, and counter-clockwise to increase the bypass amount. A good starting point would be one full turn for each 5% change.
- Brew a full cycle and measure the amount of water in both containers.
- The ratio of the bypass water to the total in both containers is the bypass percentage.  
Example:  $\frac{1}{2}$  gal. bypass + 2.5 gal. from spray head = 3 gal. total. Bypass = 16.66%.
- Several adjustments may be necessary until the desired results are achieved.