1 - Fill-Boss® Overview

*Fill-Boss®* is an automated counter-pressure bottle and growler filler that makes bottling non-carbonated and carbonated beverages very easy. Counter pressure filling of bottles minimizes foaming during bottling, allowing beverages to be carbonated before bottling. This eliminates the yucky dead yeast sediment that collects at the bottom of the bottle from carbonating in the bottle with sugar or DME. Beverages can be consumed immediately after bottling as well.

**Warning:** it is the responsibility of the customer to assure that the pressure used when filling with the *Fill-Boss®* is within the capacity of the vessel/bottle being filled. For example, never use more than 15psi when filling glass growlers. Please consult the manufacture of your beverage vessel/bottle for maximum recommended pressures before attempting to fill with the *Fill-Boss®*.

The *Fill-Boss®* works by compressing the contents of the bottle to the same pressure as the beverage is inside the keg. The fill process is as follows:

1. User installs a bottle (Bottles should be chilled as much as possible to minimize foaming during filling).
2. User presses the button.
3. *Fill-Boss®* opens a CO2 valve and purges the bottle of air and replaces it with CO2 via the tube that extends to the bottom of the bottle. CO2 is heavier than air so a short shot of CO2 will force air out of the bottle leaving the bottom of the bottle filled with CO2.
4. *Fill-Boss®* then pressurizes the bottle to the same pressure as the keg.
5. The beverage valve is then opened but the beverage will not flow as the pressure in both the keg and bottle are the same.
6. *Fill-Boss®* then momentarily opens the bleed valve, which slowly allows the CO2 gas in the bottle to escape. As gas escapes, the beverage is allowed to flow into the bottle.
7. *Fill-Boss®* is equipped with an innovative level sensor. When the beverage reaches this sensor, the flow of the beverage is automatically stopped.
8. User removes the bottle.

The *Fill-Boss®* is capable of filling many types of bottles and containers including beer bottles (12 oz and 22 oz bombers, wine bottles, growlers, pop top bottles, etc. It handles bottles from 8 to 14 inches tall and up to 5 inches in diameter. The standard unit is equipped with a custom food grade silicone rubber conical fill head seal to provide a leak-proof seal to the bottle. If the standard fill head seal does not mach your bottle type, you can simply purchase a standard drilled stopper to match your container. The fill head is designed to accept any standard stopper.

Brew-Boss offers an optional inline filter kit for the beverage line of the *Fill-Boss®*. If you are filling homebrewed, nano, or craft beer or other beverages with yeast sediment, fruit sediment, or other trub potentially in your filling vessel, we highly recommend using a filter like we supply. The valves on the filler have small orifices that can be easily plugged by sediments.
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Cleaning the filler immediately after a fill session is the most important thing we can stress. Most issues we’ve been contacted about relate to the user not properly cleaning the Fill-Boss® immediately after a fill session. Leaving sticky beverages sit inside the machine for extended periods of time can cause the valves to stick shut or flow to be reduced. Very hot tap water is all that is needed for an effective cleaning. Use the clean function as described in this manual after every fill session.

### 2 - Fill-Boss® Operational Modes

The Fill-Boss® has four FILL MODES. Manual, Automatic, Timed, and Automatic with Timed Override, as well as two FILL TYPES, Bottle Mode and Synek bag Mode.

The fill mode and fill type are enunciated when the Fill-Boss® is powered up by a series of beeps, similar to Morse code.

The first series of beeps is either 1 or two short beeps indicating the FILL TYPE. 1 Short beep (Default) indicates that the filler is in Bottle Mode. Two short beeps indicates that the filler is in Synek Bag fill mode. See www.synek.com for details on that system. Please note a special Synek adapter is required for filling Synek bags.

After the short beep(s) sequence, you will hear 1 to 3 long beeps as follows:

- **The Manual Fill Mode** (1 long beep) requires you to manually stop filling for every bottle. Simply start filling by pressing the button on the Fill-Boss®. When the bottle is filled to the desired level, simply press the button again and filling will stop. Note that in this mode, the filler will fill forever until the button is pressed.

- **The Automatic Fill Mode** (2 long beeps) uses an innovative liquid sensor that senses the flow of liquid inside a tube to determine when the bottle/container is full. As the bottle fills to the top, small bleed/purge holes in the fill head allow a small amount of the beverage to escape the bottle. This small amount of beverage is sensed by the filler and the filler then stops automatically, leaving the perfect head space. Note that not all beverages may work with the automatic liquid sensor. In the event the automatic mode does not prove reliable for your beverage, use the timed or manual modes described below. During this mode, pressing the button during filling will stop filling immediately.

- **The Timed Fill Mode** (3 long beeps) fills based on time. The fill time is based on the time you specify when filling the first bottle. This fill time is remembered until the Fill-Boss® is powered down and reset. To use this mode, Install a bottle and then unplug the Fill-Boss® and plug it back in to reset it. Make certain that three long start-up beeps are heard indicating the Fill-Boss® is in Timed Mode. Press the button to start filling. During filling, the LED will alternate between Green and Red and beep regularly indicating that the filler is timing the fill. When the bottle fills to the desired level, simply press the button again. The time will be stored from the time the fill was started until the time it was stopped and subsequent fills will fill for the exact same amount of time. Fills should be fairly consistent using this mode provided the pressure in the system stays the same throughout the bottling session.
The Automatic with Timed Override Fill Mode fills bottles using the innovative liquid sensor that senses the flow of liquid inside a tube to determine when the bottle/container is full. For some beverages though, this sensor cannot repeatably sense the difference between the foam and the actual liquid. This mode is provided to use a timed override should the sensor fail to sense the beverage when the bottle is full. Use this mode if you have erratic sensing of the beverage you are dispensing or use the Timed mode described above.

The DEFAULTS are “Bottle” FILL TYPE and “Automatic” FILL MODE, indicated by 1 short beep followed by 2 long beeps when the Fill-Boss® is powered up.

After the FILL TYPE and FILL MODE beeps, the Fill-Boss® will Beep the number of times corresponding to the THRESHOLD MULTIPLIER value that is currently set.

The final beeps reflect the state of the FILL TUBE PURGE toggle. 1 Beep indicates that the Fill-Boss® will not purge the fill tube and 2 beeps indicates that FILL TUBE PURGE is enabled. The default is for the fill tube to not be purged after the fill is completed.
The purge/overflow tube is on the back of the filler.
Fill-Boss® Gas and Fluid Components

CO2 (Gas) Connector
Beverage Connector
Keg Not Included
1/4” NPT for Regulator
4 - Fill-Boss® Setup

Fill-Boss® is very simple to set up. The unit is supplied with the proper components that allow it to be connected to a Cornelius ball-lock type keg and a regulator you supply.

Find a location where you can mount the Fill-Boss® device that will allow access to the back of the unit as well as the front. There should also be 120 Volt AC power available within a few feet of the unit.

Bolt or screw the Fill-Boss® device to a work surface. Four 1/4” diameter mounting holes at the base of the unit are provided for this purpose. Do not consider using the Fill-Boss® without securely mounting it. It is designed to be used bolted down, not free standing. Severe bodily injury could result from using the filler free-standing.

Next, connect power the Fill-Boss® by plugging the DC plug into the power supply port on the upper left of the Fill-Boss® as shown in the picture. Plug the DC power adapter supplied (12VDC 2 AMP) into 120 volt supply. At this point, the LED indicator should turn Green, indicating the Fill-Boss® is powered up and ready.

Next, connect the CO2 input tube to your CO2 regulator. A 1/4” diameter quick connect is provided as this is the most common port size on beverage regulators. If yours is a different size, you can procure your own quick connect adapter to fit your regulator.

This manual is written assuming you will be using the ball lock connectors on a Cornelius style keg. If you are connected to a brite tank or Sanke style keg, adjust the instructions below based on your attachment style. The white ball lock connector is for the “CO2 In” port on a Cornelius keg and the Black is for the “Beverage Out” port. Locate a Cornelius keg so that the hoses coming from the Fill-Boss® reach the keg and regulator easily.

If you are not using Cornelius style kegs, obtain appropriate adapters to adapt the gas and beverage lines to your setup before continuing.

Lastly, place a small glass or plastic cup beneath the purge overflow line at the back of the Fill-Boss® unit. We have found a standard 64 oz growler works great as well for an overflow container. This will catch any foam or liquid overflow and is also required during the cleaning cycle. Never operate the Fill-Boss® without a collection cup under the overflow tube.

Fill-Tube tubing is provided that allow you to cut lengths for various size containers/bottles that you will be filling. These fill tubes allow the beverage to fill from the bottom up in the container, minimizing foaming.

The tubes simply press fit into the hole on the bottom of the fill head (see picture). Cut the tube off at a 45 degree angle at the bottom of the fill tube so that the tube just touches the bottom of the bottle/container being filled. Retain the various lengths you cut as well as any left over for future use.
Adjust the support platform on the **Fill-Boss®** to fit your bottle or container. To accomplish this, lower the platform using the adjustment knob on top of the unit to give clearance for the bottle. Next, insert the end of the fill tube into the bottle or container as shown and slide the bottle along the fill tube until it meets the silicone conical stopper on the fill head. Center the bottom of the bottle on the support puck and tighten the top adjustment knob until the spring is compressed as much as possible that still allows you to remove the bottle by pressing down on the knob.
The Fill-Boss® is designed to use the spring to counter the pressure in the bottle. For this reason, the spring is fairly strong. Do not try and push down on the adjustment knob, as it can take a considerable amount of force to do so. Instead, grab the filler by the top/back edge as shown and simply press down on the adjustment knob with the heal of your hand. This makes it much easier to install and release bottles.

5 - Fill-Boss® Testing

It is best to test your Fill-Boss® with water first to make certain everything is operational before filling actual beverages. Add a few gallons of water to your keg and connect the white and black ball lock connectors to the keg to the In and Out ports respectively. Again, the white ball lock is for the CO2 in and the Black is for the beverage out.

Next, pressurize the system. To do this, turn the pressure adjustment valve or knob on your regulator all the way counterclockwise to “zero” pressure. Open the valve on your CO2 tank. The pressure on the output gauge of your regulator should indicate “0”.

Turn the pressure adjustment knob on the regulator slowly clockwise until the pressure gauge reads about 15 psi (this is the optimum fill pressure but you can play with it to optimize for your beverage). **Never exceed 15 psi for glass growlers!**

Listen for any leaks in the CO2 lines to the keg and Fill-Boss® filler. You should hear CO2 filling the keg, but should not hear any leaking from the quick connects on the CO2 lines. Fix any leaks before
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proceeding.

Make certain that the Green LED is “ON” steady (not flashing).

Press the push-button to start filling. You should hear gas escape from the purge valve for about 2 seconds, then hear the bottle being pressurized. The LED will turn Orange during this phase. If you have any gas leaks around the mouth of the bottle by the bottle seal, make certain the bottle is centered and you have the spring tension set properly. You may need to tighten (clockwise) the adjustment knob to increase the pressure on the bottle. The proper compression of the bottle is the minimum required to be leak free.

After the orange LED goes out, the filling begins as the liquid flow valve opens. During this time, the LED will flash Green. If you want to stop/interrupt filling, simply press the button again.

You should see water flowing into the bottle at this point and hear the purge/bleed valve cycling at regular intervals. This is the valve opening momentarily to let pressure out of the bottle which then allows more liquid in to replace it.

When the water reaches the sensor, the flow of liquid will be stopped, the beeper will beep, and the LED will return to Green, indicating that the bottle is full.

Press down on the adjustment knob at the top of the Fill-Boss® to remove the compression on the bottle and remove the bottle by rotating the bottle out from the bottom of the bottle and slide the fill tube out of the bottle.

If all worked well, you are ready to go!

6 - Fill-Boss® Operation and Functions

There are many functions included in the firmware of the Fill-Boss® unit, accessible via the push-button and indicated by the bi-color LED indicator.

Before a fill session, it is advisable to sanitize the Fill-Boss®. The best method to sanitize the Fill-Boss® is to add about ¼ gallon of brewery sanitizer (Star San or equiv.) to an empty keg and install the keg to the Fill-Boss®. Fill 2-3 bottles to properly sanitize the tubing and valves. Make certain to wash your hands in sanitizer as well. We recommend a spray bottle with sanitizer be kept near the filler during operation in the event you touch the fill tube, stopper, etc.

After sanitation, connect the beverage keg. We now need to prime the system to validate beverage flow as well as flush the remaining sanitizer out of the filler. Hold a collection cup so that it will catch liquid from the fill tube. Press the button to start filling. You will hear gas (CO2) coming from the fill tube for several seconds followed by liquid flowing from it. Once you get actual beverage flowing into the collection cup, press the button again to stop the filler. Discard the beverage in the collection cup as it...
is contaminated with sanitizer.

**Fill Bottle**

Operation of the Fill-Boss® is exactly as explained above in Fill-Boss® Testing, just use your favorite beverage instead of water! Bottles should be sanitized and also be chilled as much as possible to minimize foaming during filling. Warm bottles will work the beverage, causing CO2 to be released from the beverage inside the bottle. Pressing the button while the LED is green starts the fill bottle function. Fill speed is controlled as described below in Function 1.

**Function 1: Adjust Fill Speed**

The speed of filling a bottle is based on the rate that gas pressure is released from the bottle. Releasing gas from the bottle allows the beverage being bottled to enter the bottle. The Fill-Boss® regulates the speed of gas exiting the bottle by pulsing the purge/bleed valve. The more often the bleed valve is pulsed the more gas that is allowed to escape the bottle and the faster the beverage will flow. The Fill-Boss® has 6 different fill speeds and is shipped set to speed 3.

To change the speed of filling (even during a fill), press and hold the push-button. The LED will turn off. Continue holding the button until you see a quick green single flash and hear a single beep, and then immediately release the button. The Fill-Boss® will beep the total number of times corresponding to the fill speed selected and will increment the speed by 1 each time this function is initiated. One beep is the slowest and 5 beeps is the fastest. A special Zero (0) speed is reached when the controller starts over after 5. This special 0 speed is indicated by a long beep rather than a series of short beeps. This 0 speed is actually the fastest speed as the bleed valve is not pulsed, instead is held open for maximum speed. Use this speed if you have a non-carbonated or low foam beverage you are filling. Always fill at the fastest speed you can that minimizes foaming appropriately to get the proper fill without excessive loss of foam/beverage.

**Function 2: Clean Function**

After your filling session is completed (or before filling to sanitize), it is important to clean the Fill-Boss®. A special clean function is provided that makes this step very easy.

1. Clean your keg or use a spare empty one. Add about 1/4 gallon very hot tap water.
2. Connect the keg to the Fill-Boss®.
3. Use a spare bottle and fill it three times with the filler, emptying the bottle each time and re-using it.
4. Re-install the empty bottle.
5. Empty the catch cup and place it under the purge /bleed overflow line at the back of the Fill-Boss® unit. A 16 ounce stadium cup works perfect as a catch cup.
6. Start the “Clean Function”. To do this, press and hold the push-button. The LED will turn off. Continue holding the button until you see two quick green flashes and hear two beeps, then immediately release the button. This initiates the clean function which will fill the bottle again and then force hot water through the purge/bleed lines and into the catch cup. The LED will alternately flash Red and Green to indicate Clean function is active.
7. When cleaning is complete, the LED should turn Green, the beeper will sound 5 quick beeps,
and the bottle should be full.
8. Remove the bottle and empty it.
9. Restart the Clean Function until the keg is empty. Make certain to empty the catch cup as needed.

**Function 3: Toggle Beeper Function**
The Fill-Boss® is shipped with the beeper enabled. If you don't want the beeper to sound after a fill or during special functions, toggle it on or off using this function.

Press and hold the push-button. The LED will turn off. Continue holding the button until you see three quick green flashes of the LED and hear three beeps and then immediately release the button. This will toggle the beeper from on to off if it was on and off to on if it was set to off. The Fill-Boss® will beep shortly when it is powered up. If you hear no beep on power-up, the beep is toggled to “OFF”.

**Function 4: Reset to Defaults Function**
The Fill-Boss® is shipped per-calibrated, but it is possible that calibration or settings get lost or reset. This function resets the calibration value to the default value used when shipped.

Press and hold the push-button. The LED will turn off. Continue holding the button until you see four quick green flashes of the LED and hear four beeps and then immediately release the button. This will toggle the beeper from on to off if it was on and off to on if it was set to off. The Fill-Boss® will beep shortly when it is powered up. If you hear no beep on power-up, the beep is toggled to “OFF”.

**Function 5: Toggle Fill Type (Bottle/Synek Bag)**
The Fill-Boss® is shipped by default to fill bottles and growlers, but it can also be used to fill the new Synek system bags with the Synek fill adapter kit sold by Brew-Boss. Use this function to toggle between bottle and Synek mode.

Press and hold the push-button. The LED will turn off. Continue holding the button until you see five quick green flashes of the LED and hear five beeps and then immediately release the button. This will toggle the fill mode from bottle mode to Synek mode if it was in bottle mode and from Synek mode to bottle mode if it was in Synek mode. You will hear 1 beep after this function to indicate it is in Bottle/Growler mode and two beeps if it is in Synek Mode. On power-up, the Fill-Boss® will beep one time if it is in Bottle/Growler mode and it will beep 2 times if in Synek mode.

**Function 6: Set Fill Mode**
The Fill-Boss® is shipped by default to fill in Automatic Fill Mode. If you would like to used Timed or manual Fill Modes, use this function to change that mode.

To change the Fill Mode (only when not filling), press and hold the push-button. The LED will turn off. Continue holding the button until you see six quick green flashes of the LED and hear six beeps and then immediately release the button. The Fill-Boss® will beep the total number of times corresponding to the fill mode selected and will increment the fill mode by 1 each time this function is initiated. One beep indicates Manual Fill Mode, two beeps indicates Automatic Fill Mode (default),
three beeps indicates Timed Fill Mode, and four beeps indicate automatic fill mode with timed override. After setting the Fill Mode, it is a good idea to unplug the Fill-Boss® and plug it back in to restart the filler and validate setting by the start up beeps.

**Function 6: Set Threshold Multiplier**
This is an advanced function. The Threshold Multiplier is an internal setting that the auto fill sensor uses to determine when the bottle is filled (sees beverage in the discharge tube). The Fill-Boss® is shipped by default with an optimized Threshold Multiplier. If your filler is sensing your beverage too soon, you may need to increase this multiplier. The Threshold Multiplier values range from 1 to 5, with a default value of 2.

To change the Threshold Multiplier (only when not filling), press and hold the push-button. The LED will turn off. Continue holding the button until you see seven quick green flashes of the LED and hear seven beeps and then immediately release the button. The Fill-Boss® will beep the total number of times corresponding to the Threshold Multiplier selected and will increment the Threshold Multiplier by 1 each time this function is initiated.

**Function 8: Toggle Fill Tube Purge at End of Fill**
This is an advanced function. The Fill-Boss® by default will not purge any remaining beverage in the fill tube (the tube that extends to the bottom of the bottle) after a fill is complete. This function when enabled will allow a short blast of gas to be expelled into the bottle to clear the fill tube so that there is no beverage left in the tube. This function was designed to prevent the beverage from dripping out of the fill tube after the bottle is removed and also created extra pressure in the bottle to assure a cap on foam environment.

To change the FILL TUBE PURGE value (only when not filling), press and hold the push-button. The LED will turn off. Continue holding the button until you see eight quick green flashes of the LED and hear eight beeps and then immediately release the button. The Fill-Boss® will toggle the value of the FILL TUBE PURGE and beep 1 time if FILL TUBE PURGE is disabled (default) or 2 times if FILL TUBE PURGE is enabled.

*Note, for all functions above, if the beeper is toggled off, you will not hear the beeps when activating the functions above and will have to rely on the flashing LED indicator.*

If you have issues, please use Function 4 to reset the unit to defaults and cycle the power on the unit before contacting support.

**NOTE:**
Most issues have been the result of users inadvertently changing the operation modes. As the special functions are activated by holding the button down, try to avoid holding the button down unless you are specifically trying to change the operation of the filler. To start and stop filling, as SHORT press of the button is all that is needed. Holding it too long can inadvertently change operation of the filler.
64oz Growler  
12oz Beer Bottle  
64oz HydroFlask (requires replacement stopper)
16oz Flip Top Bottle

22oz Bomber Bottle