

Operation and Maintenance Manual for Coffee Freshness System (CFS) Model Number CF055

Document number 202-100-055 Rev C

Important Safety Notice:

*The Coffee Freshness System uses pressurized gas. For your safety, **NEVER** lift the lid latch of the coffee Airtight Canister when it is pressurized.*

Introduction:

The Coffee Freshness System preserves roasted coffee beans or grounds by storing them in an environment of pressurized CO₂ gas where most of the atmospheric oxygen and moisture has been removed. At the push of a button, the system runs an automated preservation procedure that pressurizes the Airtight Canister with CO₂ gas and removes air. This is referred to as preserve mode. The main components of the system are the Base assembly and the Airtight Canister. The Airtight Canister holds coffee beans or grounds and can be installed and removed from the Base assembly whether pressurized or not. This allows for use of multiple Airtight Canisters to preserve coffee, thus the user may preserve several pounds of coffee concurrently.

Section-1: System hardware

- 1.1 Base assembly, quantity 1ea. (Fig-1)
- 1.2 Airtight Canister, quantity 1ea. (Fig-1).
- 1.3 Power adapter, quantity 1ea. 100-120VAC 50/60Hz 0.6A to 12VDC 2A. (Fig-2)

(Fig-1) Base assembly and Airtight Canister



(Fig-2) Power adapter 120VAC to 12VDC.



Section-2: Gas supply

2.1 The Coffee Freshness System is designed to work with either an on-board 410 gram CO₂ Gas Tank (not included) or the user may provide their own larger external CO₂ gas tank. For the external gas tank, the gas supply pressure must be regulated to the Coffee Freshness System at 15 +/-1PSI_g. A Gas Regulator can be purchased ready to install from Coffee Freshness System or purchased separately.

2.1 The configuration will be specified at the time of order. Or, if a change to this configuration is desired at some point after receipt of the system, contact Coffee Freshness System Support for guidance by email at 'support@coffeefreshness.com' or phone at (408)-649-4124.

Section-3: System set-up

3.1 Install the 4 self adhesive rubber pads (supplied) on the bottom of the system as shown in (Fig-3a) then place system upright on a stable surface.

3.2 Ensure that the two switches on the front of the Base assembly are depressed to the left. These are the Main Power switch which is labeled 'I/O' and the function switch labeled as 'VENT / PRESERVE'.

3.3 Gas Supply set-up:

- a. For on-board 410 gram CO₂ Gas Tank Option, go to step 3.4.
- b. For External CO₂ Gas Tank Option, go to step 3.5.

3.4 Install the gas bottle [on-board 410 gram CO₂ Gas Tank Option]

- a. Remove the top cover of the Base assembly by first loosening the two thumb screws in the rear of the top cover (Fig-3b). Once loosened, push slightly back on the cover then lift upwards. This motion releases two alignment pegs on the inside of the cover from their holders.

- b. Thread the gas bottle into the gas regulator (Fig-4) by turning the bottle clockwise into the large threaded hole at the top of the gas regulator. Keep turning the gas bottle until you hear the gas valve engage. Tighten securely and ensure that there is no gas leaking out from the gas regulator.
 - c. Replace the top cover of the Base assembly by sliding the cover over the gas bottle then sliding the cover slightly forward to engage the two alignment pegs on the inside of the cover into their holders. Tighten the two thumb screws in the rear of the top cover until snug.
- 3.5 Set-up and connect external gas tank [External CO2 Gas Tank Option]
- a. For Regulator purchased from Coffee Freshness System, connect CGA320 fitting to Gas Tank and plug 1/8" plastic tube into the Push-to-Connect fitting at the rear panel of the Coffee Freshness System. (Figs 3b, 4) Turn on gas and set the regulator pressure to 15 +/-1psig.
 - b. For Regulator purchased separately - Recommended Materials
 1. UP100 CO2 Regulator with 1/4"MFL 0~2000psi 0~30psi CGA320
 2. Push-to-Connect Tube Fitting, Adapter, 1/8" Tube OD x 1/4" NPT Male [Provided]
 3. Teflon tape

Recommended Installation Procedure - for Regulator purchased separately

1. Remove 1/4 Barb fitting from Regulator gas outlet port.
2. Apply 3 turns of Teflon tape to the 1/4 NPT Male side of the Push-to-Connect Tube Fitting, Adaptor and install into the gas outlet port of the Regulator
3. Connect the other end of the 1/8" plastic tube into the Push-to-Connect fitting at the rear panel of the Coffee Freshness System. (Figs 3b, 4) Turn on gas and set the regulator pressure to 15 +/-1psig. [Note: Gas fill time should be 8 to 15 seconds, if not, you need to adjust the pressure as described in Step 5.2]

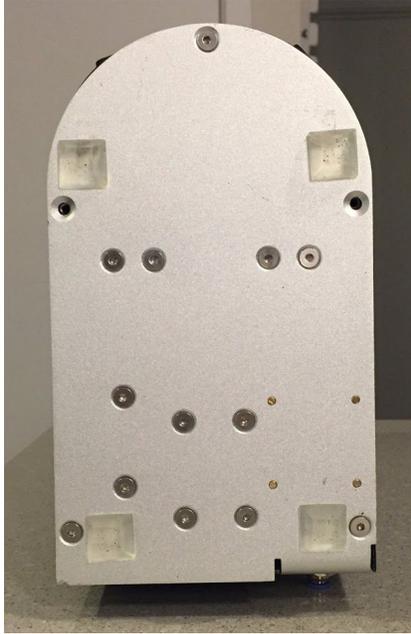
3.6 Plug the Power adapter into a 120VAC outlet and plug the 12VDC connector into the connection at the rear of the CFS Base assembly (as shown in Figs 3b and 4).

3.7 Prior to installing the Airtight Canister on the Base assembly, clean the Base assembly o-ring and Airtight Canister check valve sealing surface with a damp microfiber towel [Provided] as described in step 9.1.3.

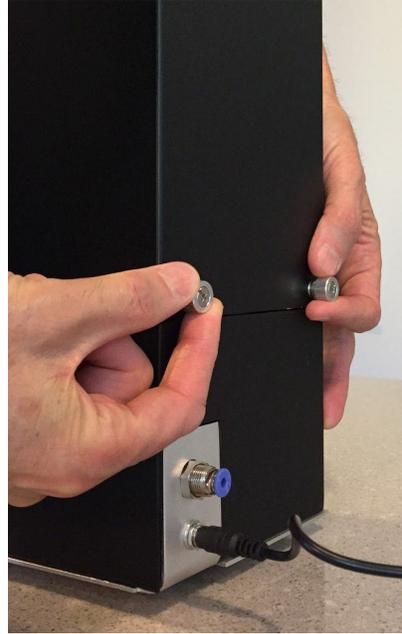
3.8 Install the Airtight Canister on Base assembly by sliding the two notches at the bottom edge of the Airtight Canister over the two posts on the Base assembly (Fig-5).

3.9 Secure the Airtight Canister into position by rotating the two levers which are attached to the posts upwards and positioning the ends of the levers over the lower edge of the Airtight Canister (Fig-6). Then rotate the levers downward to secure the Airtight Canister in place (Fig-7). (Note: The levers do NOT need to go all of the way down, just far enough to hold the Airtight Canister securely in place. This is accomplished with about 3 lbs of resistance on each of the levers.)

(Fig-3a) Install rubber pads.



(Fig-3b) Removing cover.



(Fig-4) Install gas bottle.



(Fig-5) Install Airtight Canister over posts. (Fig-6) Position levers over edge of Canister.



(Fig-7) Securing Airtight Canister by rotating the levers downward.



Section-4: Filling the Airtight Canister with coffee

SAFETY WARNING - BEFORE OPENING THE AIRTIGHT CANISTER, ALWAYS ENSURE THAT IT IS NOT PRESSURIZED.

(Note: The Airtight Canister can be filled with whole bean or ground coffee.)

4.1 Open the Airtight Canister top lid by first lifting the lower handle section of the lid latch (Fig-8) and secondly unhooking the upper attachment section of the latch from the lid (Fig-9).

4.2 Fill the Airtight Canister with coffee by pouring whole beans or grounds into the top opening. You can fill the Airtight Canister to within 1 inch of the top.

4.3 Ensure that the rubber seal in the lid (Fig-10) and the top edge of the Airtight Canister (Fig-11) are free of dust or debris, that could reduce the sealing ability, by cleaning as described in section 9.1.2 by wiping them with a damp microfiber towel [Provided]. Leave a portion of the towel dry or use a separate dry microfiber towel to dry these surfaces before closing the lid.

4.4 Re-connect the latch to the slot in the lid and close the latch by pushing down until the lower handle is in the vertical position.

(Fig-8) Open Airtight Canister by lifting handle. (Fig-9) Unhook latch from the lid.



(Fig-10) Cleaning Airtight Canister lid seal. (Fig-11) Cleaning Airtight Canister top edge.



Section-5: Run the preservation cycle

5.1 Turn the Main Power On by depressing the main power switch 'I / O' to the right. The Green LED on the main power switch will illuminate.

5.2 Start the preservation cycle by depressing the 'VENT / PRESERVE' switch to the right. The preservation cycle will run automatically and stop when complete. ***You will hear valves switching on and off and gas flowing when the preservation cycle is running; this is normal and takes about 2 minutes.*** The Green LED on the 'VENT / PRESERVE' switch will illuminate and the Green LED labeled 'PRESERVING' will flash while the preservation cycle is running, then will remain illuminated once the preservation cycle successfully completes. ***[Important: with the External CO2 Gas Tank Option, the time of each gas fill cycle (there are 7 cycles - which are defined as the time when gas starts to enter the container until the pressure switch triggers and gas / air mixture purges - you can hear gas / air coming out) needs to be in the range of 8 to 15 seconds. If the fill time is less than 8 seconds, the gas regulator pressure is too high (even if the dial says 15psig). If this situation occurs, the dilution of oxygen will NOT be sufficient to protect your coffee from oxidation. In this case, lower the gas pressure from your regulator slightly until the fill time is in the range of 8 to 15 seconds. Conversely, if the fill time is too long you will get a red alarm for not filling the airtight canister with gas. In this case slightly increase the pressure until the fill time is in the range of 8 to 15 seconds. The fill time is not to be confused with the gas purge cycles which are factory set at a constant 8 seconds. If the fill time cannot be properly set in the range of 8 to 15 seconds, contact Coffee Freshness System Support either by email at support@coffeefreshness.com or by phone at (408)-649-4124.]***

5.3 If the Red LED labeled 'PRESERVING' is flashing, the preservation cycle was not successful. Consult Section - 10 "Alarms".

5.4 Leave the system 'On' and in the preservation mode until you need to remove a dose of the coffee for brewing.

Section-6: Venting the Airtight Canister in order to open for removing a dose of coffee for brewing. ***Reminder - NEVER open the latch to the Airtight Canister lid when the Airtight Canister is pressurized.***

6.1 Depress the 'VENT / PRESERVE' switch to the left. The Green LED on the 'VENT / PRESERVE' switch will turn off and the vent cycle will run automatically, then will stop after 30 seconds and the Green LED labeled 'OK TO OPEN' will illuminate.

6.2 **[IMPORTANT FOR SAFETY]** Before opening the Airtight Canister, ensure that the Green LED labeled 'OK TO OPEN' is illuminated. This indicates that the Airtight Canister can be safely opened. If the Green LED labeled 'OK TO OPEN' does not illuminate 30 seconds after turning Off the function switch 'VENT / PRESERVE', contact

Coffee Freshness System Support either by email at 'support@coffeefreshness.com' or by phone at (408)-649-4124.

6.3 Open the Airtight Canister lid as described in step 4.1.

6.4 Remove your dose of coffee.

6.5 Clean, close and secure the lid as described in sections 4.3 and 4.4.

6.6 Repeat step 5.2, start the preservation cycle by depressing the 'VENT / PRESERVE' switch to the right.

6.7 Repeat steps 5.2 - 6.6 to perform the cycle of coffee preservation and dose removal for brewing as often as needed.

Section-7: Procedure for removing the Airtight Canister from Base assembly

7.1 This procedure can be performed in either the Preservation (Pressurized) or Vent (non-Pressurized) mode.

7.2 To remove the Airtight Canister while in the Preservation mode, turn the Main Power Off by depressing the Main Power switch 'I / O' to the left. The Green LED on the Main Power switch will turn off.

7.3 Release the Canister from the Base assembly by lifting the two securing levers upward at the same time (Fig-6), then rotating the levers outward by 90 degrees away from the lower edge of the Airtight Canister.

7.4 Lift the Airtight Canister upward such that the two notches at the bottom edge of the Airtight Canister slide up and over the two posts on the Base assembly (Fig-5).

7.5 To remove the Airtight Canister after it has been Vented, follow directions in steps 7.3 - 7.4.

Section-8: Utilizing multiple Airtight Canisters - removing and installing Airtight Canisters while in Preservation (Pressurized) mode

8.1 The Coffee Freshness System allows for Airtight Canister removal from the Base assembly and installation on the Base assembly while in the Preservation (Pressurized) mode. This allows the user to preserve multiple batches of coffee concurrently.

8.2 To remove an Airtight Canister from the Base assembly while in the Preservation (Pressurized) mode follow steps 7.2 - 7.4.

8.3 To install a Pressurized Airtight Canister on the Base assembly, follow steps 3.2, 3.7 - 3.9.

8.4 To continue in Preservation mode for the newly installed Pressurized Airtight Canister, turn on the Main Power by depressing the 'I/O' switch to the right followed by starting the preservation cycle by depressing the 'VENT / PRESERVE' switch to the right.

8.5 To vent the newly installed Airtight Canister in order to remove a dose of coffee, turn on the Main Power by depressing the 'I/O' switch to the right. Since the the 'VENT /

PRESERVE' switch should be off at this time, the vent cycle will run automatically, then will stop after 30 seconds and the Green LED labeled 'OK TO OPEN' will illuminate.

Section-9.1: General maintenance - preventing system leaks

9.1.1 The Coffee Freshness System operates above atmospheric pressure, therefore it is important to keep the system leak tight in order to prevent the preservation gas from leaking out of the Airtight Canister during Coffee preservation.

9.1.2 Cleaning the lid o-ring and top surface of the Airtight Canister.

- a. The lid of the Coffee Freshness System has a rubber o-ring that seals against the top surface of the Airtight Canister. It is important to keep this o-ring and the top surface of the Airtight Canister free of coffee particles or any other debris in order to prevent leaks.
- b. It is recommended to clean the lid o-ring and top surface of the Airtight Canister at each opening. At a minimum, these surfaces must be cleaned anytime coffee particles or debris are noticed on these surfaces by wiping them clean with a damp microfiber towel [Provided] (Figs-10, 11). Leave a portion of the towel dry or use a separate dry microfiber towel to dry these surfaces before closing the lid.

9.1.3 Cleaning the Base assembly o-ring and Airtight Canister check valve surface.

- c. The Base assembly of the Coffee Freshness System has a rubber o-ring located on the baseplate which interfaces with a sealing surface on the check valve that is installed in the bottom of the Airtight Canister. It is important to keep the o-ring and the check valve surface free of coffee particles and debris in order to prevent leaks.
- d. It is recommended to clean the o-ring on the baseplate and the Airtight Canister check valve sealing surface once weekly or as needed if you notice coffee particles or debris in these areas.
- e. To clean the o-ring on the baseplate and the Airtight Canister check valve sealing surface, remove the Airtight Canister from the Base assembly by following steps 7.2 - 7.4 for a pressurized Airtight Canister or step 7.5 for a vented Airtight Canister.
- f. Clean the o-ring on the baseplate (Fig-12) and the Airtight Canister check valve sealing surface (Fig-13) by wiping these surfaces clean with a damp microfiber towel [Provided]. Leave a portion of the towel dry or use a separate dry microfiber towel to dry these surfaces then reinstall the Airtight Canister on the Base assembly by following steps 3.2, 3.8 - 3.9.

(Fig-12) Cleaning the baseplate o-ring



(Fig-13) Cleaning check valve sealing surface



Section-9.2: General maintenance - Cleaning the Airtight Canister

9.2.1 It is recommended to clean the Airtight Canister before filling with a new batch of coffee in order to avoid build up of coffee oils within the Airtight Canister.

9.2.2 Vent and open the Airtight Canister by following steps 6.1 - 6.3.

9.2.3 Remove the Airtight Canister from the Base assembly by following steps 7.3 and 7.4.

9.2.4 Clean the internal surfaces of the Airtight Canister by wiping them clean with a damp microfiber towel [Provided] (Fig-14). Leave a portion of the towel dry or use a separate dry microfiber towel to dry these surfaces then air dry for 20 minutes before filling with a new batch of coffee beans or grounds.

9.2.5 In case of heavy build-up, the Airtight Canister plastic body can be washed in soapy water or the dishwasher. First, remove the check valve by removing the white plastic wing nut in the bottom of the Airtight Canister by hand. Next, remove the lid by removing the clip, rod and band. Wash the Airtight Canister in soapy water or the dishwasher. Ensure the Airtight Canister is completely dry, then reinstall the lid and check valve.

9.2.6 Reinstall the Airtight Canister on the Base assembly by following steps 3.2, 3.7 - 3.9.

(Fig-14) Cleaning the Airtight Canister.



Section-9.3: General maintenance - Replacing the gas bottle

9.3.1 The onboard 410 gram CO₂ gas bottle will typically need to be replaced on a monthly basis for daily coffee drinkers.

9.3.2 An empty gas bottle is indicated during a preservation cycle when the pressure is not sufficient to automatically complete the preservation cycle and the 'PRESERVING' Red LED shows and alarm state by flashing fast (every ½ second).

9.3.3 Remove the empty gas bottle and install a new gas bottle.

- a. Remove the top cover of the Base assembly as described in step 3.4 a.
- b. Remove the empty gas bottle by turning the bottle counter-clockwise until the bottle can be lifted out of the gas regulator. There should be little to no gas sound as the bottle is removed.
- c. Install a new gas bottle by following step 3.4 b.
- d. Re-install the top cover by following step 3.4 c.

Section-10: Alarms

10.1 An Alarm is indicated when the Red LED labeled 'PRESERVING' is flashing. There are two modes of flashing, fast (½ second) and slow (2 seconds).

10.2 Fast flashing indicates that the system is unable to reach the pressurized state. This can be caused by either a leak or an empty gas tank.

10.3 Slow flashing indicates that the system is unable to release pressure and reach the unpressurized state. This can be caused by a failure of the vent valve to open.

10.4 Troubleshooting fast flashing Red LED alarm, system unable to reach pressurized state.

- a. Possible cause-1: Leak in Airtight Canister lid seal.

Solution: Vent the Airtight Canister and open the Airtight Canister lid as described in steps 6.1 - 6.3, then clean the lid o-ring and top surface of the Airtight Canister as described in step 9.1.2.

- b. Possible cause-2: Leak in Airtight Canister base to check valve sealing surface.

Solution: Clean the Base assembly o-ring and Airtight Canister check valve sealing surface as described in step 9.1.3.

- c. Possible cause-3: Empty gas bottle

Solution: Replace the gas bottle as described in step 9.3.3.

- d. If the Alarm persists, contact Coffee Freshness System Support either by email at 'support@coffeefreshness.com' or by phone at (408)-649-4124.

10.5 Slow flashing Red LED alarm, system unable to reach the unpressurized state.

- a. Possible cause: Failure of the vent valve to open.

[WARNING: IMPORTANT FOR SAFETY - THE AIRTIGHT CANISTER IS STILL PRESSURIZED UNLESS THE "OK TO OPEN" GREEN LED IS ILLUMINATED. DO NOT OPEN THE AIRTIGHT CANISTER UNTIL THE "OK TO OPEN" GREEN LED IS ON.]

For this issue it is recommended to directly contact Coffee Freshness System Support either by email at 'support@coffeefreshness.com' or by phone at (408)-649-4124.