



Baselining a Cornelius Viper Barrel

****Field Technicians and store personnel should follow all proper cleaning procedures provided by their management and should follow any applicable Cornelius cleaning and sanitizing procedures, found in the operator's manual, when starting up and commissioning a unit.****

The following procedure will be used to “baseline” a barrel or a Viper unit on arrival of a service call. This will ensure that you have everything set up properly and can accurately troubleshoot moving forward.

- 1) **Turn Barrel OFF / DEFROST** - Place the barrel you would like baseline through two defrost cycles. *If product is liquid, move to step 2.
 - a. Highlight the barrel you are working on and select OFF
 - b. Select DEFROST; the manual defrost cycle takes 4 minutes. After the first defrost cycle finishes, press DEFROST one more time to ensure the product is in a liquid state.
- 2) **Purge the product from the barrel** – When you activate PURGE, it activates the motor and Co2 solenoid. The barrel will not fill during the PURGE process.
 - a. Enter the menu, enter the MAINT option, enter the BARREL MAINTENANCE, highlight the barrel you would like to purge and select PURGE. Once the product is purged, turn purge option off. (you won't be able to remove all of the product, the product that is below the dispense point of the valve you will have to remove manually by removing the faceplate)
 - i. If MAINT is not available, hold the far left and far right button for 5-7 seconds to bypass security setting.
 - b. Select STOP to stop the purge process. Once you stop the purge process, actuate the dispense valve to remove product and pressure in the barrel.
- 3) **Remove the splash panel** - located below the dispense nozzles.
- 4) **Checking the Brix** - you will need a Refractometer
 - a. Make sure you calibrate your refractometer before each unit to ensure it is zeroed out. Run it under cold plain water and it should read 0. Adjust as needed.
 - b. Enter the MENU, enter the MAINT option and enter BRIX SETUP
 - c. Turn the 3-way valve for that barrel to BRIX position and direct the sample tube to an empty clean cup or bucket
 - d. Highlight the barrel you are working on and select BRIX. Once you press BRIX, it will dispense product out of the sample tube for 3-4 seconds (it stops dispensing on its own)
 - e. Discard three samples and collect a fourth to take a reading. A standard brix setting is 13 +/- 1 but may change based on the syrup manufacturer. Cornelius targets 13.5-14.



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- 5) **Adjusting and setting the brix** – You will need a Refractometer.
 - a. If you need to make adjustments to your brix you will adjust your syrup flow control; CW to increase your flow and CCW to decrease your flow.
 - b. Discard 3 samples after each adjustment to let the adjustment take effect. Check your reading on the fourth sample looking for 13.5 - 14.0.
 - c. Once the proper brix is achieved, flush the sample tube with water by manually activating the water solenoid. You can activate the water valve using your finger or by inserting a flat head pocket screwdriver into the slot in front of the flow control at a 45° angle and push the screwdriver down towards the ground. This will lift up on the solenoid plunger and allow the water to flow. We flush the sample tube with water to ensure the brixed product does not turn into candy over time and it does not attract any unwanted pests.
- 6) **Filling the barrel** – only fill one barrel at a time
 - a. Enter the MENU, select MAINT, select BARREL MAINTENANCE, highlight the barrel you are working on, select FILL. Let the barrel fill, as it stops filling, relieve the pressure slowly using the relief valve on the faceplate. Release the relief valve as it starts to fill and continue until the barrel is filled to a ½" below the top of the barrel. Once complete, press STOP.
- 7) **Calibrate the motor** – only on fresh fill
 - a. Enter the menu, select MAINT, select MOTOR SETUP, highlight the barrel you are working on and select CAL. Let the barrel calibrate itself, this process will take 5 minutes
- 8) **Check and verify settings** – Viscosity, Syrup type, Defrost lockouts, Date and Time, etc.
- 9) **Placing barrel into freeze mode.**
 - a. Highlight the barrel you are working on and select FREEZE.
 - i. Viscosity readout on the display should be between 17-22 on initial startup and slowly increase and the product freezes.
 - b. Make sure the product is of good quality once the freeze cycle is completed.

Settings are as follow...

Co2 – 2 secondary regulators; one feeding the Viper unit at 75Psi and one to the FCB BIB pumps set at 75Psi

Secondary Co2 Regulators (behind splash panel) – 36-38psi to achieve 100% overrun

Water – 50-60Psi

Viscosity – default of 4

Motor – Type 1 (60 Hz) Type 2 (50Hz)

Brix – 13.5 – 14.0

Exp Tank Reg (side of unit) – 30Psi

