



CORNELIUS INC ■ One Cornelius Place ■ Anoka, MN 55303-6234

Telephone (800) 238-3600

Facsimile (800) 535-4231

INSTALLATION INSTRUCTIONS

VALVE RETROFIT, TO UF-1 FROM SF-1

1. Shut-off syrup and water supply to unit.
2. Release pressure in lines by activating valves and lifting relief valve of carbonator.
3. Dismount present valves.
4. Remove present valve mounting block from the front panel by removing 4 screws on each block (**save screws for reuse**).
5. Make sure valve hook-up wires have at least 6 inches extending from front panel. If not, you must use Harness Extension Wire and install per instructions (Harness Extension Wire, P/N 318994000 can be ordered if needed).
6. **Install new O-Rings** P/N 4073 (**provided**) on each coil outlet fitting. Lubricate these new O-Rings (use Dow 111 or equivalent silicone lubricant). **Do not use Vaseline or Petroleum Jelly.**
7. To remove cover from valve: Lift the front cover upward 1/2 inch and pull forward. Slide rear cover forward 1/2 inch and lift off.
8. To remove the UF-1 mounting blocks: **Push UF-1 release tab** on bottom left side of the block to the left and **push down on top plate of mounting block**. Pull valve from mounting block with a rocking motion (friction of the O-Rings is working against you).
9. Install UF-1 Valve Blocks on front panel using same 4 screws removed in step 4 (use caution not to strip threads in front panel). Route harness through block without pinching wires.
10. Make sure each mounting block is in the shut-off position (Shuttle down all the way).
11. To install valves on blocks: align fittings on the front of the mounting block with the corresponding ports on the back of the valve body and push straight on (O-Rings should be lubricated).
12. With valve pushed onto the mounting block, push up on bottom plate of the mounting block until it clicks/locks into place. **Make sure it clicks.**
13. Connect harness plugs to valve plugs. **Make sure plug is retained in the clip provided.**
14. After all valves are installed and **latched securely to mounting blocks**, turn on the water supply.
15. Adjust the Water Flow Rate at this time to approximately:

For High Flow Valves:	1.25 oz/sec for 1½ oz total flow
	2.5 oz/sec for 3 oz total flow
For Ultra Flow Valves:	2.5 oz/sec for 3 oz total flow
	3.75 oz/sec for 4½ oz total flow
16. After water flow rate is roughly adjusted, turn on syrup supply and adjust the syrup to water ratio using a refractometer (Ratio cup for diet syrups).
17. For diet syrups, Brixing Tube (standardized SF-1/UF-1) will install on bottom of the inner nozzle. **Do not remove any nozzle diffuse parts to use Brixing Tube.**

NOTE: Due to the pressure drop of the unit the valves are being installed on, you may not be able to get 4½ oz/sec flow using Orange or other viscous syrup. Bag-In-Box syrup pumps may not be able to deliver .75 oz per second with viscous syrup. If so, adjust water flow down slightly until proper brix is reached.

18. After proper ratios are set, check **drink temperature, and carbonation.**
19. *UF-1 Operator's Manual* (P/N # 315222-002) is available upon request by calling Customer Service Department at 800-238-3600.
20. Install cover: Make sure the harness plugs are in the clip and not interfering with the rear cover. Install the rear cover straight down into valve and slide back 1/2 inch into place. Front cover should be installed by pushing onto rear cover about 1/2 inch up and slid down into place. When properly installed, both covers should be locked into place.
21. If your unit is equipped with Portion Control or Optifill™ you may now follow the programming instructions provided with those units.
22. If your unit is being retrofit from lever to portion control, follow operator instructions to remove the valve lever from the valve; slide the portion control drawer into place under the solenoid and attach wiring to solenoid and dispenser.
23. If you are retrofitting a standard lever or portion control UF-1 to become an Optifill™, follow operator instructions. The Optifill™ requires a valve with a conductive contact in the valve base (under the nozzle) in addition to a special lever and module itself. Optifill™ will not operate properly without all the correct parts.

The following instructions apply only to the OptiFill™ Valve P/N 2306, 2311 or 2315:

1. **Check for proper tilted drip tray installation.** A number of retrofit kits are available for many dispensers. Make sure the kit supplied fits the dispenser and provides proper cup support. Check for proper valve mounting height with the **tilted drip tray** installed. Average distance for nozzle to the tilted drip tray is 9.75 inches. **The minimum distance from nozzle to the tilted drip tray must be greater than 7.5 inches** or the nozzle may interfere with the use of large cups.
2. The OptiFill™ control makes a low voltage electrical connection to the dispensing beverage, therefore, it is important to **be sure the dispensing chassis is Earth-Grounded for safety.** Use an Ohmmeter to measure electrical continuity from the dispenser chassis to the nearest cold water copper (metal) pipe (such as the inlet to the carbonator). If the chassis is not grounded, you must add a wire connected to the chassis and an acceptable Earth ground (such as a cold water copper pipe) or other electrical equipment that is Earth grounded.
3. Check to verify the 24VAC power common wire is connected to the dispenser chassis. **Failure to connect the power common wire to the chassis may result in erratic or intermittent operation.** Use an Ohmmeter to measure electrical continuity from the power common wire to the dispenser chassis. The power common wire is attached to pin #2 of each valve power connector (the black wire on Cornelius equipment). If this wire is not connected to the dispenser chassis, you may use the power wire chassis grounding kit (P/N 4024) and follow the installation instructions supplied with the kit. *The use of a Cornelius Earth-Grounded Power Supply P/N 163408-010 (manufactured after 02/01/96) is specifically recommended for OptiFill™ installations.*
4. The OptiFill™ control **module does NOT require sensitivity adjustments** before operation can begin. The control is designed to operate automatically with all carbonated beverages. The “Top-Off” time delay is factory preset for 4.0 seconds. Should you require resetting or disabling the Top-Off time delay, **follow the procedure for “Setting Top-Off Delay” found either in the UF-1 OptiFill™ Programming Instructions shipped with each valve (P/N 315222008) or in the UF-1 Operator’s Manual (P/N 315222002).**