



## Power Filler 1 Instructions

Your Power Filler 1 is designed to quickly fill mini bottles (9-40 oz.) from a 10 – 35 lb. CO2 tank (“mother tank”).

Here's the trick. To get a good fill you want to get the temperature of the mini bottle being filled around **40 degrees F cooler than your mother tank**. You can do this by setting them in ice or in the refrigerator or freezer for a while. **One thing to be careful of is overfilling**. If the mother tank is at 80 degrees the mini bottle from the freezer is at 10 degrees the temp difference of 70 degrees (80 – 10). In this scenario overfill\* is high probable. **After every fill you must weigh the mini bottle** and if the weight is over you will have to dump CO2 until it gets down to the correct weight.

**Always weigh your mini bottles EMPTY before you fill them.** Write the empty weight on the bottle so you know what the proper fill weight should be. Weigh every bottle as there is a difference in weight from one bottle to the next. Use the same scale each time so you know the weights you wrote are correct with your scale. To save time and to give yourself a margin for error we recommend to fill to a 90% – 95% full range. For a 20 oz. mini bottle that means filling to 18 – 19 oz.

\*Overfill – This is when the CO2 in the bottle exceeds the capacity that the bottle was designed for. If a bottle is left in an overfilled state it is likely to break the safety blow off seal built into the valve which will release all of the CO2. If this happens the safety seal can be replaced and the bottle refilled.

### Steps:

1. **You must wear leather gloves and safety eyewear before proceeding.** You will need this protection to shut off the tank valve in the event of a CO2 leak or procedural mistake.
2. **Install the Power Filler 1 (PF1) onto the mother tank.** Note that the torque needed on the large nut that screws onto the tank valve is only 10-15 ft/lb. Over torquing is unnecessary and will ruin the seal inside.
3. **If your mother tank does not have a siphon tube it will have to be inverted (flipped upsidedown) so the “liquid” CO2 is pushed through the valve.** DO NOT set the tank’s weight directly on the valve or valve knob. DO NOT have a person hold the tank while filling. Mount the tank sturdy to a wall or use our tank inverter stand.
4. **Position the three way PF 1 valve knob to the side which is the “closed” position.** Always start the filling process with this knob in the closed position.
5. **Screw your mini bottle into the black “economizer” valve.** Make sure the knob on the economizer valve is turned “out” first.
6. **Open the mini bottle valve.** Does your mini bottle have a Pin Valve or an On / Off Valve?
  - If your mini bottle has a pin valve (a center pin that opens the valve when depressed) then turn the economizer knob “in” until the valve pin is depressed. Use a light touch here otherwise you may bend the pin or close off the opening unintentionally.
  - If your mini bottle has an on/off knob or lever then leave the economizer knob turned “out” and turn the valve knob to the open position.
7. **Open the mother bottle valve fully.** Now the valves of both bottles should be open and it’s time to fill.
8. **Fill.** Note that the knob on the PF1 has a sharp pointer end. **Turn the PF1 valve so it “points” to the mother bottle.** This will open the path from the mother bottle straight to the mini bottle and you will hear gas start to flow. In less than a minute you hear the gas stop flowing. Turn the PF1 knob back to the “closed” sideways position.
9. **Close the valves of both the mother tank and the mini bottle.**
10. **Purge the pressure on the mini bottle.** Turn the PF1 knob so it “points” to the mini bottle. This will release a small shot of pressure stored inside the PF1. **Move the PF1 knob back to the “closed” position and now you can remove the mini bottle.**

