

Critical Point Dryer

WARNING: PLEASE do not use TOOLS to open the screws on the chamber cap.

1. Turn the power on by setting the power switch to the “On” position. Wait about 15 minutes for the CPD to warm up.
2. Unlock the chamber cap by unscrewing (with your hand and **not a tool**) the grooved nuts.
3. Pour liquid nitrogen into the chamber until the temperature gauge reads zero. Wear appropriate protective gear. We have a mask and gloves available.
4. Place the specimen containers into the CPD chamber. Place the cap on and tighten it by screwing the grooved nuts. Screw the nuts by rotating through all three of them equally (i.e., tighten them simultaneously.) Please be sure not to **over tighten** the screws.
5. Close the vent, drain, and fill valves, and open the liquid carbon dioxide tank.
6. Slowly open the fill valve, which will begin the flow of liquid CO₂ into the chamber. Fill the chamber until the liquid fills 3/4 of the chamber window. **CAUTION:** Watch the chamber carefully and make sure you are filling the chamber in a controlled manner.
7. Hold the chamber at 3/4 full for 1 to 2 minutes, then drain the liquid CO₂ by opening the drain valve. Drain the liquid until it is just covering the specimen containers. **CAUTION:** Do not drain the entire chamber.
8. Repeat steps 6 and 7 five times.
9. Fill the chamber 3/4 once again. Turn the heater on by flipping the power switch to “Heat.” Notice that the pressure will begin to slowly rise. At this point, you can close the CO₂ tank.
10. Maintain the chamber pressure around 900-1000 psi by draining very gently when necessary. **CAUTION:** High chamber pressure can result in the cap being blown off and potential user injury.
11. When the temperature reaches the critical point 38°-42°C the red temperature light will shut off. Flip the power switch back to “On.”
12. Slowly open the drain valve and release the pressure 100 psi/minute (therefore, the entire draining process should take 10 minutes).
13. When the pressure reads zero, slowly open the three screws that hold the chamber cap in place and remove the cap.
14. Remove your specimens. Bleed the CO₂ line by opening the fill valve. Close the fill valve when the line has been completely emptied. Secure the chamber cap back on.