

**OPERATIONAL INSTRUCTIONS FOR SAMDRI 780A  
CRITICAL POINT DRYER**

- Step 1            Make sure all valves (inlet, cool, bleed, and purge-vent) are closed. Turn on Power/Lamp switch (Heat switch off).
- Step 2            Place small amount of 100% ethanol in the CPD chamber (just enough to cover sample). Transfer sample to chamber. Inspect O-ring – should be clean and totally in its groove. Place lid and hand tighten using equal pressure on all three knobs.
- Step 3            Open tank valve. Open cool valve. Chamber temperature should drop to near 0°C in less than 90 seconds. Close cool valve.
- Step 4            Open inlet valve slowly until chamber is full, then open several more turns.
- Step 5            To purge all the ethanol out of the chamber, open purge-vent valve slowly until the purge rate is equal to the LCO<sub>2</sub> inlet rate, i.e., chamber should remain full. Continue in this mode until all the ethanol is exhausted. if chamber temperature goes above 12°C during purge, open cool valve until chamber is cooled to about 0°C, then close it.
- Step 6            Close purge-vent valve. Make sure the chamber is full of LCO<sub>2</sub>, then close inlet valve. Close tank valve.
- Step 7            Turn heat switch on. Chamber temperature will rise and be automatically maintained between 33° and 39° C. Chamber pressure should rise to and be maintained at about 1200 psi. If pressure exceeds 1500 psi, open bleed valve slightly to bring back down but never below 1200 psi.
- Step 8            For best results, wait four (4) minutes at this “equilibrium state.”
- Step 9            Slowly open bleed valve and adjust pressure decrease rate to about 100 psi per minute. Submerging the hose end in a vessel of water serves as a rate-of-flow indicator. (Power and heat switches are on, inlet, cool, and purge-vent valves are closed).
- Step 10           When pressure reaches 0, remove knurled knob and lid. Remove specimen from chamber.

NOTICE:        Do not leave hose end in beaker of water after using.