

## Regenerating the Cryo Pump with Venting the Main Chamber

### REGENERATING THE CRYO PUMP

1. Ensure the load lock is pumped down.



2. Open the load lock gate valve between the load lock and the main chamber.



3. Close the gate valve between the cryo pump and the main chamber.  
Now the turbo is pumping on the main chamber and the load lock.



4. Turn off the compressor. The cryo pump temperature will slowly go up.



5. Wait until the cryo pump temperature is around 35K. You can then open the cryo vent valve and turn on the gas heater by plugging it into the power strip. Then wait until the temperature reaches room temperature.



6. Close the load lock valve between the main chamber and the load lock.



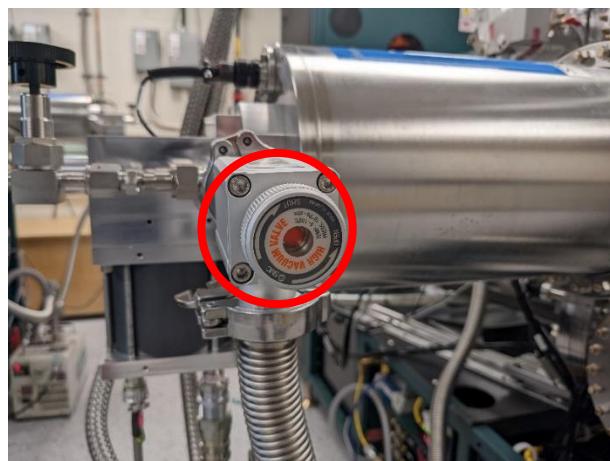
7. Turn off the load lock pumps and vent the load lock.



8. Close the valve between the roughing pump and the turbo pump.



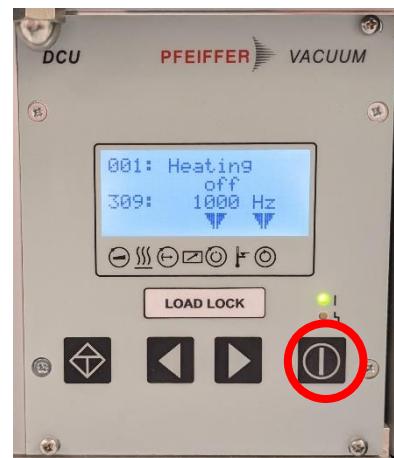
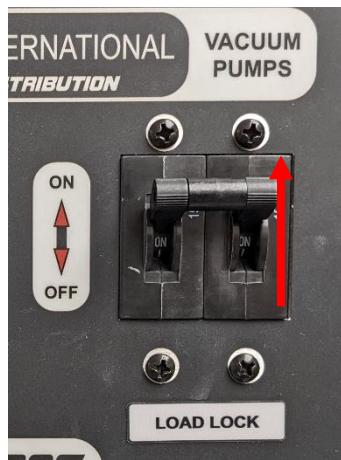
9. Open the valve between the roughing pump and the cryo pump.



10. Close the cryo pump vent valve if you opened it. Unplug the gas heater.



10. Turn on the load lock pumps. Turn the turbo pump off (using the button on the face of the controller) so that it does not try to spin up without the roughing pump.



11. Wait overnight for the roughing pump to rough out the cryo pump.

1. After this is done, close the valve between the roughing pump and the cryo pump.



2. Turn on the compressor.



3. Turn off the load lock pumps.



4. Open the valve between the roughing pump and the turbo pump



5. Do not turn on the pumps yet.

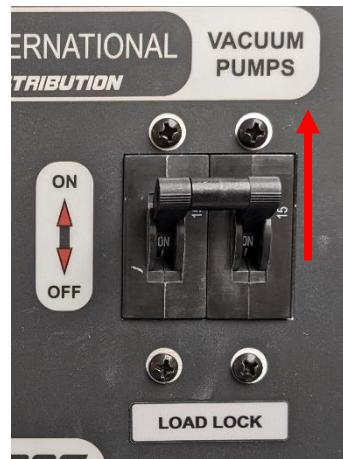
6. Vent the main chamber.

7. Once the capacitance manometer registers room pressure, open the transfer valve between the main chamber and the load lock.



8. Close the main chamber vent valve.

9. Turn on the load lock pumps.



10. Turn on the turbo pump using the button on the face of the controller. This will pump out both the main chamber and the load lock.



11. Wait for the cryo pump to reach 13K or lower.



12. Once the cryo is at 13K and the pressure is on the order of  $10^{-6}$  mTorr, open the gate valve between the cryo and the main chamber.



13. Close the transfer valve between the load lock and the main chamber.

