**Freeze Dryer Instructions**

**Freeze Drying Process**

1. Check Oil
   1. ½ up sight glass
   2. not milky or foamy
2. Pre-frozen Recommended.
3. Close Vacuum Release Valve (red handle horizontal).
4. Turn on Breaker Panel Switches.
5. Turn on Specimen and Condenser Chamber Switches.
6. Wait until Specimen Chamber cools down to 35°F.
7. Wait until Condenser Chamber cools down to -40°F.
8. This will take 15-20 minutes.
9. Move Thermocouple Sensor to positions 1 and 2 to monitor temperature change.
10. Turn on Vacuum Pump Switch
    1. Should get below 500 atm
    2. Best below 200 atm

**Defrost**

1. Turn Vacuum Release Valve to turn.
2. Turn off Vacuum Pump Switch.
3. Turn off Condenser Switch.
4. Remove Condenser Door and Gasket.
5. Wait for air hissing to stop.
6. Put 120V solenoid coil over solenoid to reverse coolant to defrost.
7. Turn on Condenser Switch (10-15 min).
8. Let the ice melt. You can pull some out in the process.
9. Turn off Condenser.
10. Remove Solenoid coil.
11. Remove food.
12. Wipe down everything.
13. Replace doors.
14. Turn everything off
15. Turn Breakers off
16. Unplug and move to storage area.