

Standard Operating Procedure

Vacuum Oven at Birck 2031 (Fisher Isotemp Model 281A)
For training, please contact Joon Park (park218@purdue.edu)

Proper PPE: gloves and goggle.

Start and sample load:

1. Schedule and enable the vacuum oven in **iLab BRK Bio-Core**.
2. Place **POWER** switch to **ON** position.
3. **Clean the chamber and shelves** with Isopropanol (**IPA**). Cover the shelf with aluminum foil and place in the chamber.
4. Check the **vacuum valve** is **closed**, if not close it
5. Check the **vent/purge valve** is **closed**, if not close it.
6. Slowly **rotate TEMPERATURE control dial clockwise** until heat indicator comes on.
7. Observe the chart of approximate temperature settings. **Set the dial to the number indicated for the desired temperature.** Allow sufficient time for the oven to stabilize.

Dial	2	4	6	8	10	12	14	16	18
Temp (°C)	25	55	85	115	145	180	210	240	275

8. Due to the high mass of vacuum ovens the heat up time is relatively slow. **Readjust the temperature control dial for the exact temperature.**
9. After desired temperature is obtained, **place samples** to be processed in work chamber. **Before placing the new materials, please approve from staff.**
10. Apply a light film of vacuum grease around the oven seal, then close and lock the door in position. **Do not apply grease too much.** It will contaminate your sample with silicone.
11. **Turn on the vacuum pump.**
12. **Open the vacuum valve** slowly

Shut down:

1. Place **POWER** switch to **OFF** position.
2. **Close the vacuum valve.**
3. **Turn off the vacuum pump.**
4. **Open the vacuum valve.** This will open the vacuum oven line and refill the line up to the pump. **Be sure to do step 2 and 3 within several seconds.** Failure to do so could result in vacuum pump oil being sucked into the oven.
5. **Open the vent/purge valve** slowly.
6. If you like to cool down the sample slowly, wait until the temperature goes down.
7. **Open the door. Take out your samples** from the vacuum oven.