

LABCONCO



Freeze Dryer operation

Checklist:

- Wipe the interior of the collector chamber (big steel cylinder on top with protruding sample arms) with a soft cloth or paper towel to remove any moisture.
- Check the drain hose (lower left of stand unit) to make sure it is retracted and the plug is securely installed.
- Make sure the lid gasket is clean and free of contaminants.
- Make sure all sample valves are closed ("vent"/closed position = beveled side towards hole in valve neck) - none part-way open or closed.

Operation:

Start-up

- Turn the system ON (left side of control panel!). 
- Press REFRIGERATION AUTO button. (When the temperature reaches -40°C , the vacuum pump will automatically start.) 
- When the vacuum level reaches $<133 \times 10^{-3}$ mBar, the system is ready for samples.

Adding samples

- All samples should be pre-frozen (COMPLETELY frozen, no liquid moisture) in containers at least twice the sample size.
- Place frozen samples/containers into a clean freeze-dryer flask and connect the flask to the chamber with an adapter and the rubber flask lid.
- Turn the plastic valve knob to the "vacuum" position (beveled side toward sample port).
- Before adding another sample, allow the system to return to $<133 \times 10^{-3}$ mBar vacuum.

Removing samples

- When all frost has disappeared from the outer surface of the sample container and no cold spots can be detected by handling the container, the sample is nearly dry. Allow the sample to continue drying for several hours beyond this point to be sure of low final moisture content.
- When drying is complete, turn the plastic knob back to "vent" position which releases the vacuum on the sample. The sample can now be removed.

Shut Down

- When all samples have been removed (or when too much condensate/ice accumulates on the collector coil), the unit should be defrosted:
 - Release the system vacuum by turning one of the plastic valve knobs to "vent".
 - Remove the draincap (lower left of unit) and pull the drain hose out – be sure to place a container (e.g. dirty dish bin) below the hose for water collection.
 - Turn the unit OFF.
 - *Set collector left aside, to allow for evaporation of coil + chamber.*

CLEAN ALL COMMON-USE SUPPLIES IMMEDIATELY AFTER USE.

~~Remove the draincap with DI water, for softeners, perisat and put in a bin for disposal.~~