Labconco

Labconco FreeZone Benchtop Freeze Dryer

Tool Type: Lyophilizer
Manufacturer: Labconco
Location: Elings Hall 2440

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About

The Labconco FreeZone Benchtop Freeze Dryer is a vital tool for material preservation through lyophilization, ensuring ease of handling and long-term shelf stability of samples. Equipped with a 4.5 L capacity collector that efficiently maintains a temperature of –84°C, it is uniquely suited for lyophilizing mixtures such as acetonitrile and water, or any sample with a eutectic point of –64°C or higher, ensuring optimal drying results. This unit allows for the simultaneous freeze-drying of multiple samples using any of its 12 manifold ports, accommodating a wide range of flask sizes from 40 to 600 mL. Additionally, the collector's PTFE lining provides resistance to corrosion, making this system ideal for handling samples containing dilute acids such as TFA or formic acid, which are often used in preparative high-performance liquid chromatography.

Labconco Lyophilizer Start-up Procedure

The Labconco lyophilizer is used for freeze-drying chemical samples. Before lyophilization, samples should be frozen in water. Trace amounts of organic solvents, such as acetonitrile, are compatible, but corrosive substances should be avoided. For optimal freezing, submerge samples in liquid nitrogen before lyophilization.

1. Wake the System
The lyophilizer will start in Sleep mode. Tap the screen to wake it up.

2. Turn on the Collector
On the home screen, select the Collector tab to turn on the collector. The system will begin pumping down to -84°C, which takes approximately 10 minutes.

3. Drain the Collector (if needed)
If prompted to “Drain the Collector” (due to solvent from a previous use):

1. Insert the waste tube into a solvent waste bottle.
2. Attach the waste tube to the collector outlet on the left side of the instrument.
3. Once the solvent has drained, detach the waste line by pressing the detachment button at the port. (Failure to detach the waste line will prevent the system from establishing vacuum.)

4. Check the Tower and Vacuum Ports
Ensure the tower is seated properly and that all vacuum ports are closed.

5. Start the Vacuum
Go to the Vacuum tab and set the Vacuum Set Point to 0.01 mbar. Click Start. Turn on the secondary pump located below the instrument by pressing the green button. The pump should engage, and the system will begin to pump down. If the vacuum reading stays “High” after one minute, check the system for leaks.

6. Attach Your Sample
Once your sample is properly frozen, place it into a vacuum jar and attach it to a vacuum port. Slowly open the vacuum port by turning the black knob. Be cautious: if the vacuum is opened too quickly, or if the sample isn't fully frozen, it may begin to melt.

7. Remove the Sample
After freeze-drying is complete, close the vacuum port and remove your sample.

8. Shut Down the System
Turn off the condenser and vacuum by selecting “Stop” in their respective tabs.

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Reference Documentation

Freeze Dryer Manual