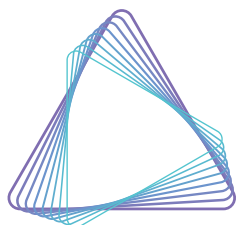


Cryo Freezer Quick Start Guide



AZENTA
LIFE SCIENCES

382452 Revision A

Introduction

Cryo Freezers are designed for safe and efficient storage of biological samples in dry liquid nitrogen (LN₂) vapor at -190 °C (-310 °F). This is a stainless steel, vacuum-insulated, non-pressurized dewar. The control system automatically maintains the LN₂ level inside the freezer while monitoring and logging storage conditions. LN₂ must be regularly replenished in order for the freezer to maintain its cooling function. If LN₂ is depleted and not replenished, the freezer slowly warms and eventually reaches ambient temperature.

Cryo Freezers arrive ready for a plug and play setup. The control system is installed with temperature and level sensors factory calibrated. A convenient initial fill routine suppresses alarms as the freezer cools down. The initial fill is longer and uses more LN₂ than a normal fill.

The LN₂ input connection is a 1/2" 45 degree flare (CGA-295).

Installation Checklist

Circle **Yes** or **No** as it applies to each of the following specifications:


| Specification | Yes / No |
|---|----------|
| Outlet power: 110-230 VAC, 50-60 Hz | Yes / No |
| LN ₂ supply: 22-35 PSI (1.5-2.4 bar), sufficient volume for initial fill/cool down: A220: 180 L A440: 230 L A700: 410 L A1000: 460 L | Yes / No |
| LN ₂ transfer hose connected | Yes / No |
| Sufficient ventilation for LN ₂ service; oxygen monitoring installed, if required | Yes / No |
| Freezer on level floor with sufficient load support | Yes / No |
| Minimum clearance: 6 in. (152 mm) all sides and 35 in. (889 mm) above lid | Yes / No |
| Seismic restraints installed, if required | Yes / No |
| User and safety training plan in place | Yes / No |
| Routine LN ₂ resupply scheduled | Yes / No |
| Routine, manual verification of freezer and LN ₂ supply plan in place | Yes / No |

Safety

LN₂ safety precautions must be followed; refer to the Cryo Freezer Operator Manual (PN: 383055). The Cryo Freezer conforms to UL STD 61010-1 | CSA STD C22.2 # 61010-1 | LVD (2014/35/EU).



Setup and Initial Fill

| Step | Action |
|------|---|
| 1. | Open the freezer lid. Remove any desiccant packs. |
| 2. | Connect the outlet power (110-220VAC). Switch the battery backup on.  |
| 3. | Connect the LN ₂ supply (22-35PSI) with the provided transfer hose. Open the LN ₂ supply valve and check for leaks. |
| 4. | Press Start Fill to begin the initial fill routine. Close the lid when complete. |

The initial fill can take 1-2 hours. When complete, normal controller operation maintains LN₂ levels while monitoring and logging storage conditions. Allow the freezer to cool for 48 hours before introducing samples. Routinely verify freezer status and ensure sufficient LN₂ supply.

Adjusting Settings

| Step | Action |
|------|--|
| 1. | <p>Connect to a WiFi network in the <i>Network Settings</i> tab. The freezer automatically pushes data to the cloud when connected to WiFi.</p> <p>NOTE: When your freezer is connected to the cloud, you can see real time operating conditions, such as current top and bottom temperature, daily LN₂ usage, high and low level set points, and any active alarms. You can also see which software version your freezer is operating on for both the PLC and HMI, the freezer serial number, and temperature and LN₂ usage trends, as well as the entire event log for the freezer.</p> |
| 2. | <p>Set up text and email notifications in the <i>Notifications Settings</i> tab. The freezer must be connected to WiFi for text and email notifications to be sent.</p> |
| 3. | <p>Set up lid access control in the <i>Advanced Settings</i> tab and add user in the <i>User Settings</i> tab.</p> |
| 4. | <p>Alarm contacts are available on the back of the display for local or building monitoring.</p> |
| 5. | <p>Independent temperature and level monitoring is supported.</p> |
| 6. | <p>The default Admin password is 8888 and can be changed in the <i>Advanced Settings</i> tab.</p> |

Freezer Status Following Fill

Enter the following specifications following the initial 48 hour cool down:

| Specification | Current Status |
|-----------------------|----------------|
| Top Temperature | |
| Bottom Temperature | |
| LN ₂ Level | |
| LN ₂ Usage | |
| Date | |
| Time | |

Revision History

Part Number: 382452

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| Revision | Date |
|------------|-------------|
| Revision A | 13 JUN 2022 |