Cryopreservation Technical Tips

Aluminum Dewars

Elpro Data Logger

In March Chart will be replacing the Elpro Libero Te1-PY data logger to the new Elpro Libero CE logger. Chart will offer the Libero CE logger as an annual data logger and will continue to offer preinstalled options onto the cork/cover for certain tank models. The new Libero CE will also require a new mounting bracket. Chart is projected to ship the new Libero CE logger mid-March.

Specification Comparison

	Libero CE	LIBERO Te1-PY
Temperature range	-200 to + 400	- 200 to +200
Increased memory	75,500	16,000 values
Scenario: logging every 5 min	Logger lasts 265 days	Logger lasts 48 days
Can switch off alarming for refill	Yes	No
IATA approved battery	No Dangerous goods form	Dangerous goods form
needed for air transport		
Certificate of Validation	Available online	Printed
Better connection of sensor/probe	M8 improved fit connection	Wired connection
Additional / Improved Alarm settings	8 alarm levels	6 alarm levels
	Can set MKT alarm	No MKT alarm
	Can be set on shipment duration	No such option
Start-up delay	Can be set on temp or time	Only time delay available

For more information on the Elpro Libero CE please visit the links below:

Elpro Libero CE - Specification

Elpro Libero CE – Operating Manual

Elpro Libero CE – Release Notification



Safety Cryo Kit

This Cryo Safety Kit ensures proper safety when dealing with cryogenics. The Cryo Safety Kit part number is 21487922.

Cryo Safety Kit includes:

Face shield PN AAA3009, Adj Helmet PN AAA3018, Long Large Gloves PN 9717159 Cryo Apron PN 10464394.



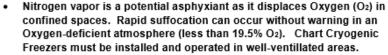
Safety Corner

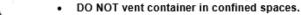
Cryogenic Liquid Safety

Liquid Nitrogen Safety

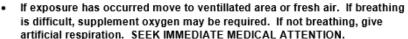
Liquid nitrogen (LN2) is used in Chart Cryogenic Freezers as a refrigerant. Understanding potential hazards and following safety precautions is important when handling LN2 and these freezers. Nitrogen is a colorless, odorless, and tasteless gas that makes up approximately 78.1% of the Earth's atmosphere in its gaseous state. LN2 becomes vapor at temperatures greater than -320.8°F (-196°C). In liquid state, nitrogen has a temperature range from -320.4°F to -346°F (-195.8°C to -210°C).



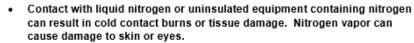














In case of frostbite, warm area with warm water not exceeding 105°F (40°C) and SEEK IMMEDIATE MEDICAL ATTENTION.



Never place LN2 in a sealed container without a pressure relief device. The expansion ratio of liquid nitrogen to gaseous nitrogen is 1 to 700 (1 cubic foot of liquid nitrogen becomes 700 cubit feet of gaseous nitrogen when evaporated).

Recommended protective clothing



- Cryogenic gloves (loose fitting)
- Full-face shield or chemical splash goggles
- Cryogenic apron
- Long sleeve shirt and cuffless pants
- Closed toe shoes (no sandals)

