



-18°C
-20°C
-30°C
-35°C
-40°C
-65°C

HIBERNY

Fully Automated Store for Frozen Plasma



HibernX Series - Automated Blood-Libraries

Hereby, each blood establishment manufactures tens to hundreds of thousands of units of the recovered plasma and plasma from plasmapheresis procedures. Those plasma units are used as Fresh Frozen Plasma and as a Source Plasma.

High costs of virus inactivation procedures make the quarantine the best safeguard method for FFP plasma.

Interaction with pharmaceutical fractionators and fluctuating market demand prevents the industry from collecting source plasma is on an immediate or regular basis. As a consequence blood establishments are forced to store substantial amounts of this frozen component over a significant period of time.

At times the storage process involves lengthy and tedious operations and the storage of blood components is the last element in the chain of blood establishment production which has not yet been successfully automated.

The new LiCONiC HibernX now revolutionizes the blood plasma production process by providing complete automation and total monitoring-safety in blood plasma storage.

Benefits of the HibernX system:

- Simplified workflow
- Reduced running costs of low temperature storage
- Seamless integration
- Reliable temperature stability
- Customized capacity of storage

The typical downsides of traditional cold rooms now become history. The operator works in an increased temperature environment. In the new HibernX system, blood components are stored absolute safely, efficiently and handled fully automatically.

LiCONiC Instruments

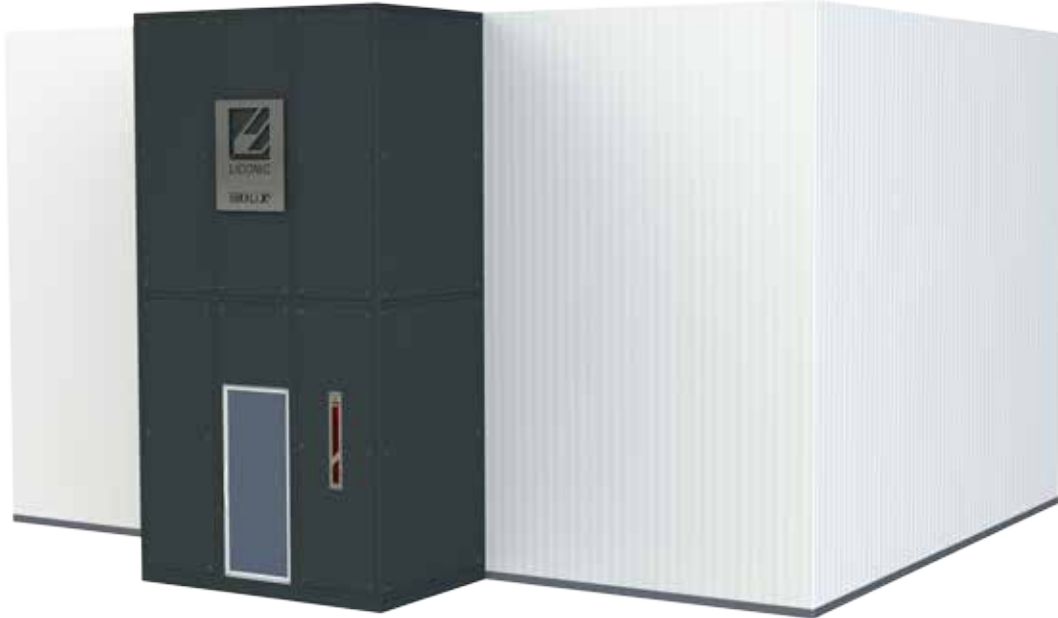
LiCONiC is the world's leading supplier of automated storage systems. LiCONiC's excellent reputation is built upon 25 years of providing successful automated sample storage solutions that offer a comprehensive line of storage systems, with each system tailored to specific needs. Thousands of systems sold worldwide have resulted in the market's most comprehensive selection of Automated Biobanking Repositories.

LiCONiC is a privately held, engineering focused company. Our business is dedicated on exclusively providing innovative, high quality automated solutions for sample handling processes. Our products and our product support are highly respected in the industry by both end users and peer life science automation providers.

HibernX Series Product Overview

The new HibernX series is the world's first fully automated storage system specifically designed for long-term storage of frozen plasma and reaches temperatures as low as -65°C depending on local requirements. The demand for long term storage and convenient access to stored plasma led to the development of this revolutionary instrument. The HibernX system perfectly suites the requirements of blood establishments of different types: blood donation centers, plasma collection centers and hospital blood banks.

The HibernX system now allows quick and simple storing of plasma units in PVC bags. The system's automation fully supports as well as batch sample handling.



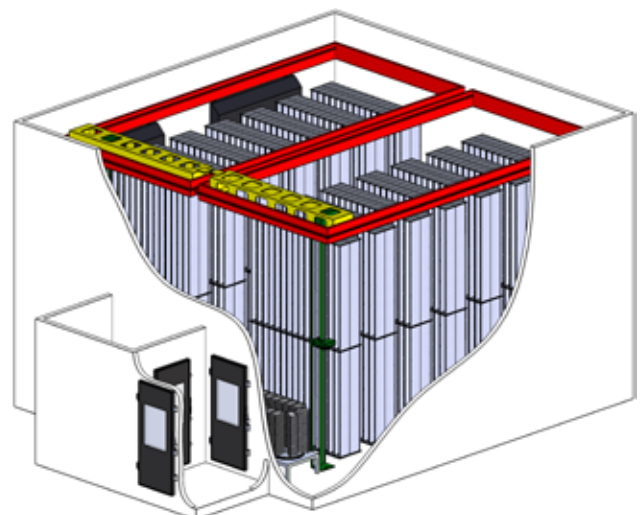
The system ensures full traceability on the stored content and individual history of each component stored within the instrument. Within minutes, plasma units are stored and retrieved based on chosen criteria, such as, donation id, quarantine status, blood group, donation date, etc. Additionally, quarantine and released material can be kept in separate partitions of the storage space.

The HibernX system operates by storing individual units on reusable trays or in disposable carton boxes, which fit on uniquely designed compact shelves. The shelves within the HibernX are accessed by an XYZ-coordinate robotic handling shuttle system via tray transfer from a carousel in order to speed up the loading and unloading process. The fully featured system control software manages all storage processes and monitors temperature and other important climate conditions within the system. The interface of the control software allows simple integration in existing or commonly used LIMS system.

Temperature uniformity and stability is ensured by an energy efficient redundant refrigeration system that contains a CO₂ back up system to safeguard the environment for the frozen plasma.

Main Features

- Long Term Plasma Storage at -18°C , -20°C , -30°C , -35°C , -40°C or -65°C
- Fully Automated Storage and Retrieval Process
- High Throughput Batch and Single Access
- Flexible Capacity and Configuration
- Optional Module for Storage of Archival Samples
- Convenient Access to Plasma Bags from $>0^{\circ}\text{C}$ Environment
- Best Temperature Uniformity and Stability
- Unique Compact Shelf Design
- Energy Efficient Refrigeration



RBB Capacities

The system's flexibility allows a storage layout to fit the exact number of plasma units needed by the specific application and space available at the institution. Capacities may range from being able to process 10,000 samples to over 200,000 samples, assuming plasma bag sizes of 300 ml. HibernX can also be used for the storage of plasmapheresis units of 600 to 800 ml, as well as pediatric doses of 100 ml, or any combination of the types.

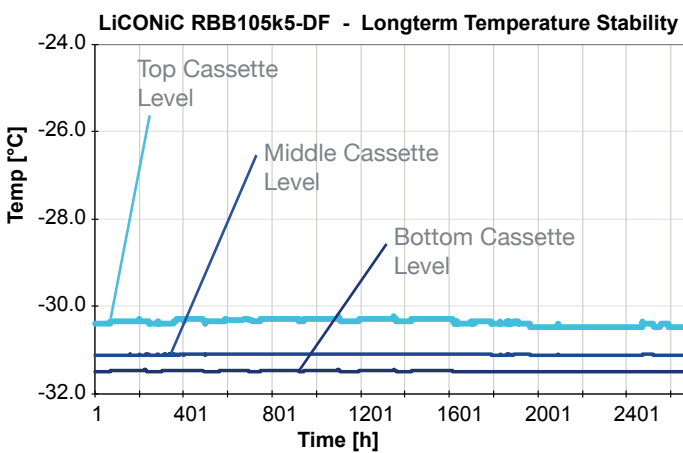
| HIBERNX | | RBB186k0-DF | RBB242k0-DF | RBB607k5-DF |
|------------|--------------|-------------|-------------|-------------|
| Bag Volume | Dimensions | Samples | Samples | Samples |
| 300ml | 250x135x30mm | 32'032 | 42'000 | 105'300 |



RBB Storage Conditions

LiCONiC's unique chest freezer design naturally creates two important benefits:

- 1) Two climate zones, one for active components at -30°C another for passive elements at -65°C
- 2) Stable horizontal temperature layers in DF storage area.

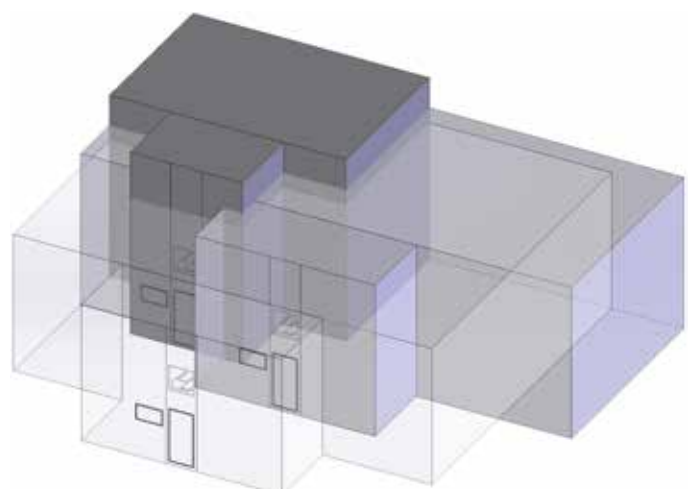


| HIBERNX Regional Temperatures | |
|---|-----------------------|
| Region | Setpoint |
| USA: AABB temperature standard for FFP | -18°C |
| USA: Plasma for further manufacture into critical medicines | -20°C |
| EU: most of the countries | -30°C |
| Russia | -35°C |
| Some Middle East Countries | -40°C |
| USA: long term storage | -65°C |

Space Efficiency

The HibernX Series Automated Blood Libraries make best use of given room constraints by:

- “Built to space” modular design.
- System size and layout tailored to needs and workflow requirements.



Intuitive Software

Graphical Job Creation for Import/Export of Samples

Easy Search of Samples by Donation ID, Quarantine Status, etc.

Complete Audit Trail

Automatic Inventory Defragmentation

Automatic Data Backup

Integration to LIMS Database

Remote Support

Mobile Device Control

Options & Accessories

Flexible Plasma Bag Volume

Configurable to Room Constraints

Tablet Interface

External Database Integration

Remote Monitoring

Internal Vision System

Multi Bag Picker

RFID-Integration

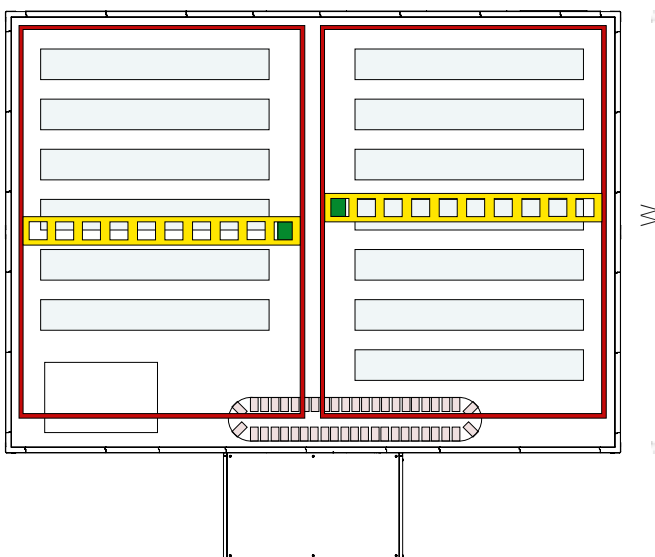
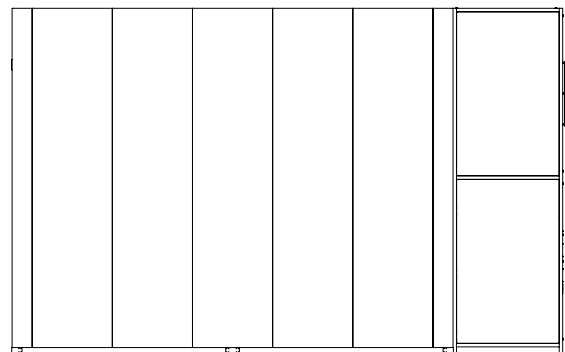
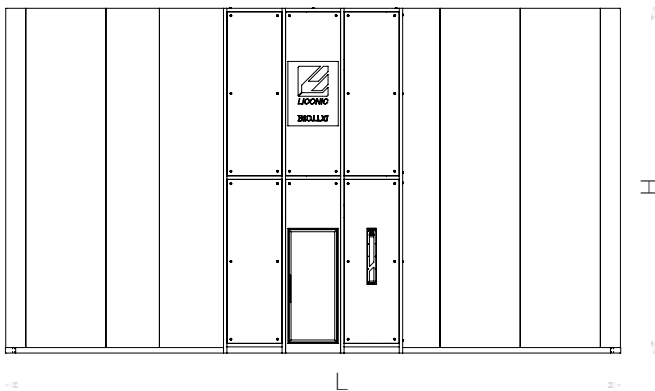
2D - BCR Rack Scanner

Redundant Refrigeration

Dynamically Configurable Storage Cassettes

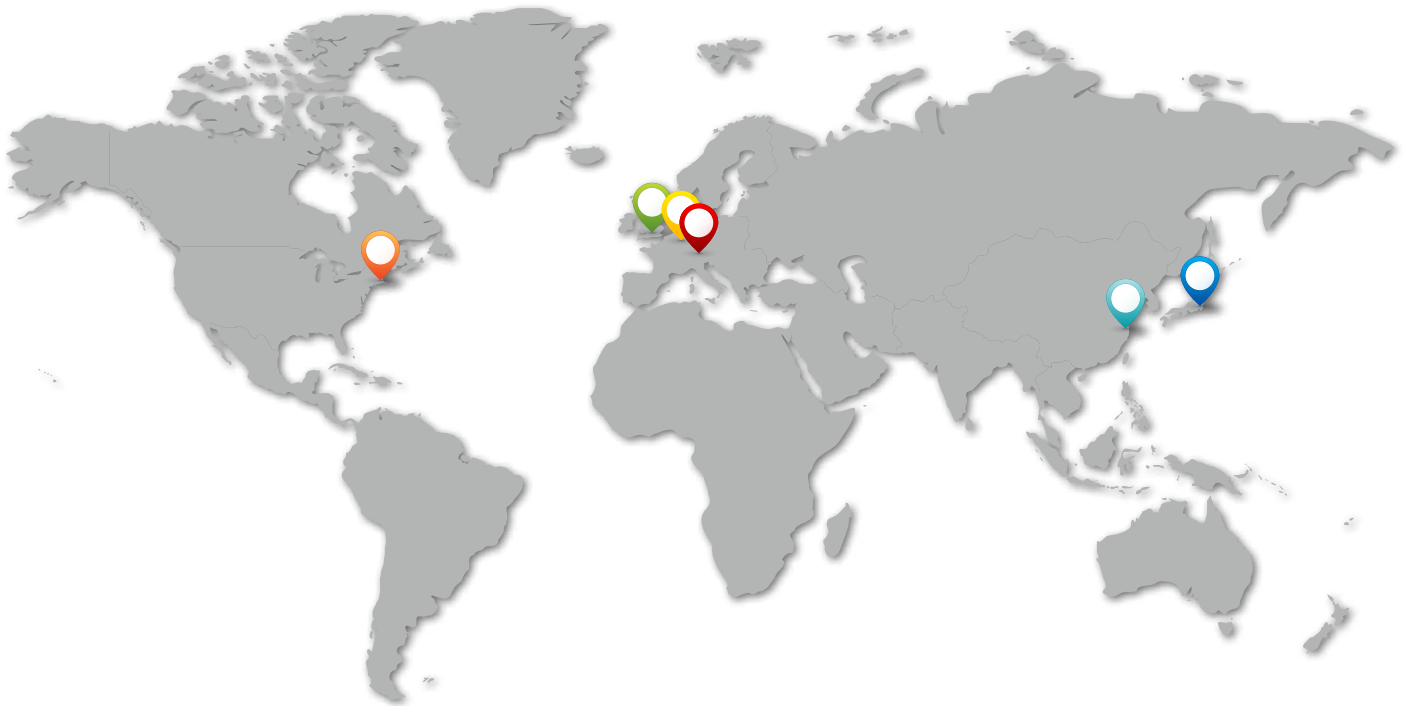
External Interface Station

RBB Dimensions



| HIBERNIX | | RBB Dimensions examples | | |
|-------------|-----------|-------------------------|-----------|--|
| Type | L= Length | W= Width | H= Height | |
| RBB186k0-DF | 9360 mm | 9075 mm | 3500 mm | |
| RBB242k0-DF | 10245 mm | 7605 mm | 5500 mm | |
| RBB607k5-DF | 12000 mm | 11115 mm | 7000 mm | |

Worldwide Presence



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