



Company Profile

MABAG GERIND India Pvt. Ltd., is a joint venture company between GERINDTEC, Germany GmbH, Germany and MAB AG. Germany that specializes in the design and supply of contact type rapid freezer (Blast freezer) for freezing products like Blood plasma , and drug substances filled in bags.

We also specialize in design and supply of very new concept in long term storage, handling and Management of large volumes of biological material (e.g. Blood Plasma , Human Tissues , chord blood , stem cells ,etc.), that guarantees long term quality of the stored sample and provide un broken chain of documentation through very innovative approach, for storage temperatures up (-) 190 Deg C.

The Freezing and storage systems are designed and manufactured in the production facilities based in Austria / Germany and supplied world over.

MABAG GERINDTEC India Pvt. Ltd., has been established in India to introduce the new concepts in freezing and long term storage and management of Blood plasma in Blood banks biological samples in chord blood banks , pharma industry , chord blood banks, and stem cell research centers, and in assisting to maintain the equipment supplied to our valued clientele.

We operate in India through a team of qualified, highly trained and motivated personnel, out of offices in Chennai , and New Delhi .

MABAG GERIND INDIA PVT. LTD

(Joint venture Company of GERINDTEC & MABAG Germany)

Bldg. No. 95, Flat-F, Second Floor, Shanthi Colony, 4th Avenue, Annanagar, Chennai-600040, India

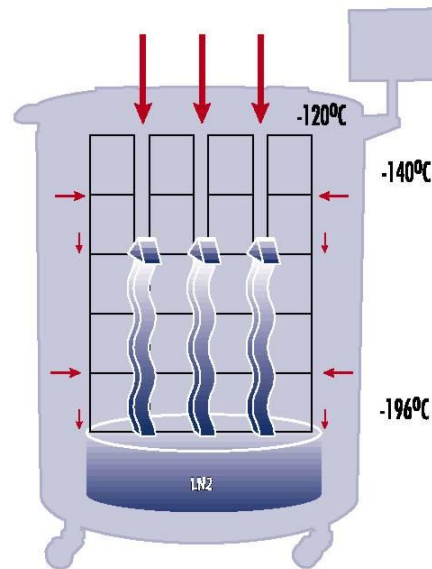
Phone: +91 44 2620 7594, +91 44 2620 7595, Fax: +91 44 2621 3549 – www.gerindtec.com

Product Profile

New Concept Long Term Storage systems for Biological materials /samples



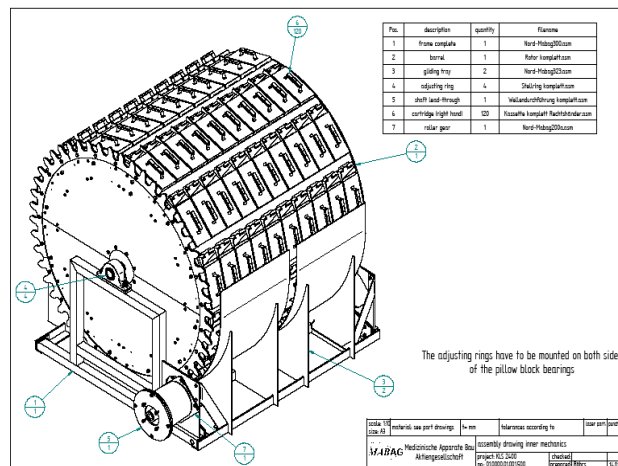
Common & Conventional Way of storage



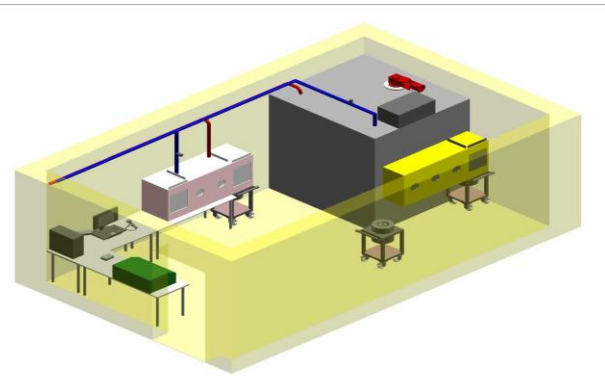
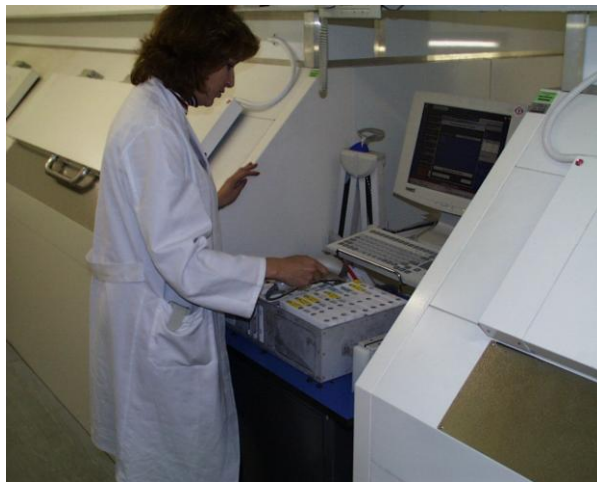
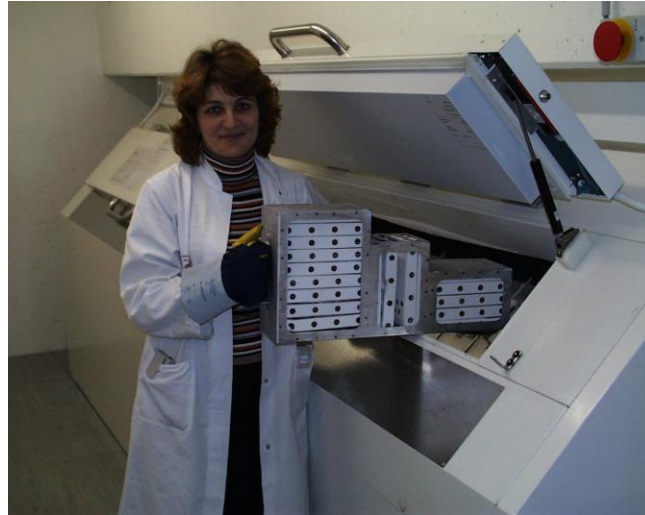
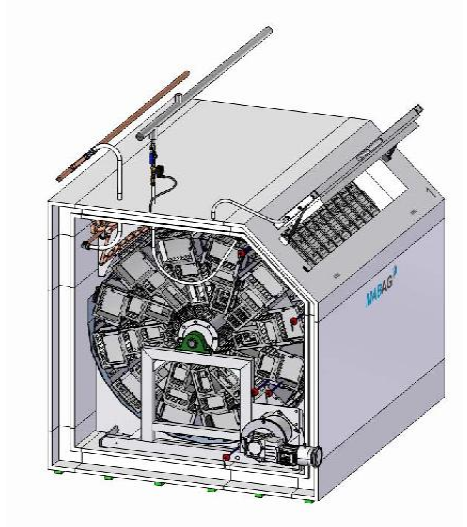
LN2 refrigerators have Temperature gradient



MABAG Modular Storage facility with small foot print



New rotary concept in cryo-storage for uniform temperature,
 Effective sample management and unbroken chain of documentation.



Modular GERINDTEC MABAG Storage systems can be designed built for any temperatures from +4 deg C to – 190 Deg C . The samples (Bags or vials are stored in specially designed cassettes and inserted into the rotary storage system under uniform temperature profile. (e.g. in vapor phase for -190 deg C) . The samples can be loaded and retrieved by means of a software which controls the rotation of the storage system so that the array/ cassette containing the sample can be brought near the trap door for loading and retrieving the sample.

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The storage system, besides offers a quantum leap in the long term quality of samples stored as compared to conventional systems of storage, ensures targeted, precise and quick loading and retrieval of samples so that other samples are not subjected to avoidable temperature gradients (which seriously affect the quality of the samples stored.(e.g.) cell viability in case of stem cells.

The system can be fully automated for loading retrieval operations and built integral with latest microchip identification systems, as manual handling can no longer fulfil the stricter legal requirements and the greater sensitivity of users to the subject of safety, compounded by the ever-increasing quality standards to which the products must comply.

GERINDTEC MABAG Storage systems including the design of the storage mode, cassettes, and protocols are custom designed and built to address the specific needs of each of the applications for which it is intended.

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BLAST FREEZER:

For Biological products like Blood plasma and certain pharmaceutical drug substances stored in bags. The rate of freezing is the most important quality factor to prevent the proteins from getting de-natured. It has been established that the best method of freezing the products in bags is to form the ice front from both sides of the bags and to freeze in layers at specified velocity of ice front formation and to attain core temperature of -30 / -40 Deg C, within a specified time period, for each of the applications.



MABAG GERINDTEC contact-type Blast freezers consist of a flat smooth surface and a movable surface. The surfaces are pre-cooled to -60 Deg C by means of a powerful cooling system within 15 minutes. The bags with the product to be frozen are then laid out on the flat surface and sandwiched between the two cold plates with a specially designed pneumatic system which applies uniform and required amount of pressure on the surface of the bags to take care of volume variations in the bags and to prevent the bags from rupturing.

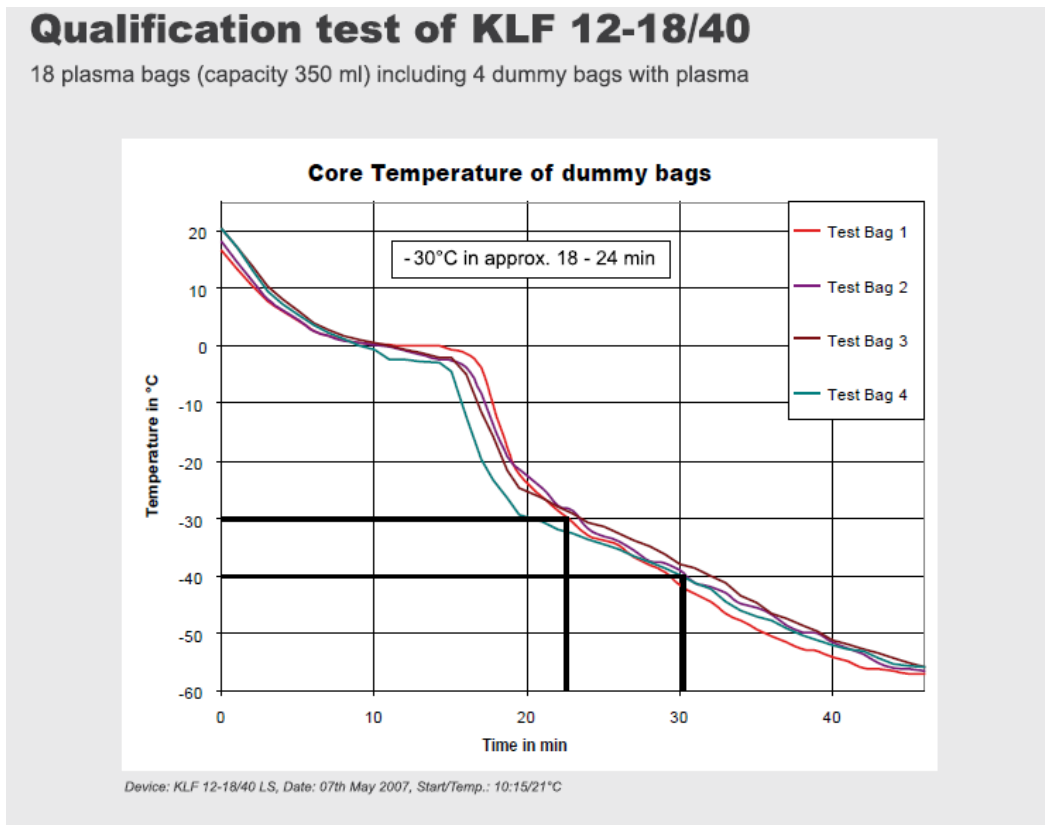
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When the freezing is started, ice front begins to form from the two outer surfaces of the bag in contact with the cold and precede gradually layer-by- layer to the core of bag until the bags are is frozen to the required level.



Standard Models are available in various capacities for applications like blood plasma bag freezing for blood banks. However for pharmaceutical , chord blood/stem cell applications freezer are generally of customized design to suit the specific needs of bags size, batch volumes and the rate of freezing required.

Models with air / water cooled condenser systems can also be designed to install the cooling unit outside the manufacturing facility to comply with **GMP requirements** in order to minimize the heat load inside the facility.