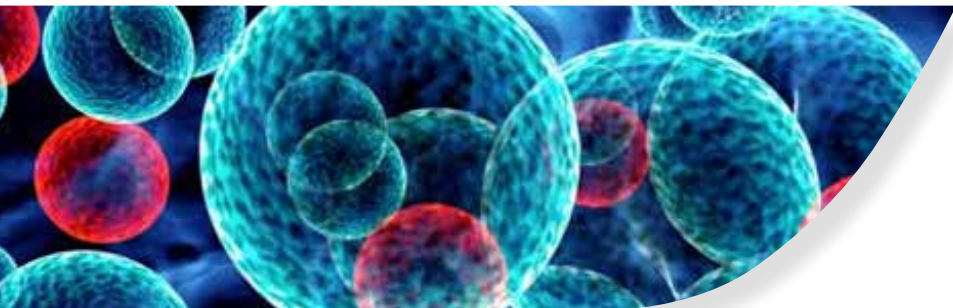


FAST BLAST FREEZERS





FAST BLAST FREEZERS

Supported by more than 60 years of experience in climatic engineering, FROILABO has developed one of the most efficient ranges of fast blast freezers (chock freezers) available on the market. Based on an unique concept, these equipment get the benefit of innovative and reliable technical solutions allowing to achieve exceptional performances.

That equipment allows very fast freezing of products such as human plasma, active principals, virus solutions commonly used in pharmaceutical industries and more generally any solution requesting a fast temperature decrease without any alteration of the product. The product to be deep freeze can be stored in a bag or in a bottle (up to 2 liters).

The various equipment answer and exceed the requirement of specification for the human plasma freezing (-11°C in 60 minutes and -30°C to the core within de 90 minutes) and are capable of achieving -30°C in 60 minutes.

In addition to the standard one piece equipment and base on our significant experience, we are able to adapt our machines to specific demands such as water cooled condenser, remote compressor or full remote machinery (ie : clean room requirement).

A large number of blood transfusion center, pharmaceutical laboratories or industries are looking for our skills in that specific very technology. We are also offering large capacity water bath (up to 200 liters) for safe and accurate de-froosting. Don't hesitate to ask for it!



CRP

A UNIQUE CONCEPT :

Maximum protection of the cooling unit for a maximum power

Based on a high performance double compressor cascade proven technology, the architecture of the FROILABO cooling system combined with a high cooling fluids velocity/swiftness allows an extreme simplification of the cooling circuit, reducing very significantly clot risks and so, minimize considerably hard maintenance request

- Standards cooling fluids : R134A and R410A (CFC and HCFC free)
- Low working pressure / limited pressure drop
- Gas back to the compressor at low temperature : oil and compressor extended life

EXCEPTIONNAL PERFORMANCES :

- From +20°C down to -30°C to the core in 60 minutes for 250 ml, 650 ml or 800 ml blood plasma bags
- Reserve power that ensures attaining the required performances and the reproducibility of freezing
- Uniform deep freezing
- Obtaining uniform pockets without breaking pipe
- Real performance qualification test on site after installation

A PROVEN CONSTRUCTION :

- Cold air ventilation
- Insulation by vacuum insulation panels (VIP) for maximum energy efficiency
- Stainless steel tank as well as all interior equipment
- No corrosion associated with the use of detergents and disinfectants In compliance with all safety standards for staff, products, disinfection, facilities and environment
- Rapid defrost by return of hot gases

TRACEABILITY :

- Data storage in non-volatile flash memory
- Data transfer and storage on remote server via Ethernet
- Processing software and recording of freezing cycles
- Printing temperature curves
- Output for temperature sensor « product » on terminal and probe passing (30 mm) for temperature qualifications

OPERATION :

- Direct loading on internal or removable racks with loading trolley
- Steering blast freezer with touch screen and cycle management by PLC
- Setting parameters protected by password
- Audible and visual signal at the end of the freezing cycle
- Confirmation of the end of the temperature cycle from -30°C to the core
- Maintaining temperature at -40°C at the end of the freezing cycle (adjustable temperature allowing recovering of product several hours after the end of the cycle)
- Manual defrost secured and protected

TECHNICAL DATA

FAST BLAST FREEZERS SPECIFICATIONS

| | CRP | | |
|---|-------------------|------------------------------|------------------|
| | CRP BM 20 | CRP BM 40 | CRP BM 100 |
| 280 ml plasma bags | 20 | 40 | 100 |
| 650 ml plasma bags | 8 | 12 | 40 |
| Temperature uniformity | | +/- 1,5°C | |
| Actual dimensions l x d x h (mm) | 630 x 408 x 710 | 630 x 408 x 710 | 630 x 408 x 1080 |
| Obstruction l x d x h (mm) | 875 x 1300 x 2000 | on demand, please contact us | |
| Actual volume (l) | 181 | 170 | 270 |
| Weight (kg) | 330 | on demand, please contact us | |
| Air condenser | CRP20/A | CRP40/A | - |
| Water condenser | - | CRP40/E | CRP100/E |
| Remote air condenser | - | CRP40/A/CD | - |
| Air condenser, refrigerating unit remoted | - | CRP40/A/GD | CRP100/A/GD |
| Water condenser, refrigerating unit remoted | | | CRP100/E/GD |
| Cooling power at -30°C (W) | 1800 | 3000 | 4000 |
| Air circulation (m³/h) | 2500 | 5000 | 7000 |

ELECTRICAL SPECIFICATIONS

| | | | |
|-------------------------|-------------|--------------|--------------|
| Power supply | Mono 230V+T | 400V tri N+T | 400V tri N+T |
| Frequency and Intensity | 50Hz 30A | 50Hz 32A | 50Hz 40A |

ACCESSORIES

Loading and handling trolley with stainless steel racks
Racks on base



Since 2009, **FROILABO** is a member of the **TECHCOMP GROUP** alongside other scientific manufacturers such as **PRECISA GRAVIMETRICS** in Switzerland.

With more than 100 years of experience in temperature and humidity control, **FROILABO** offers a product range from - 86°C to 250°C (-123°F to -148°F) with precision and homogeneity rarely achieved by other manufacturers and in accordance to the only European norm in force: **EN60068-3-11**. By using a **FROILABO** product, the end-user ensures its own security, protects its samples and takes care of the environment at the same time.

Precision for life



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