BioStor Systems, Inc. CLF Rapid Plasma Freezer



BioStor CLF The Rapid Plasma Freezer, with its unique horizontal plate originally freezina system. was developed in Germany to meet the stricter EU standards for freezing plasma and the demands now being made on the blood banking industry. It has proved its worth in clinical tests. This ready to plug in freezer is equipped with the latest compression technology, which utilizes direct contact with the bags in order to freeze the plasma with maximum energy transfer. usina conduction Bv (and not convection, as many blast freezers do) the freezer is able to freeze faster to - $30^{\circ}C^{1}$, as well as guaranteeing uniformly shaped and flat plasma bags, thus greatly simplify further handling and labeling. Numerous cycles can be frozen without defrosting². Continuous monitoring of the temperature of the freezing plates and the probe bag controls the freezing process and

ensures that the bags are frozen to the temperature set by the user. The freezing process can be run in automatic or manual modes. The CLF touch control screen is easy to use and can be programmed by the user to freeze plasma from -20°C to -50°C. The CLF is also equipped with an integral hot-gas defrost cycle and multiple safety devices for both the user and the freezer itself. It can also be remotely diagnosed via the internal modem, if required.



Sample Touch Control Screens

¹ Freezing times may vary depending upon the volume and number of the plasma bags and the ambient room conditions.

² Defrosting depends on the ambient room conditions.

Technical specifications:

Capacity:	(12) 500ml single donor bags or their equivalent
Core temperature/freezing	-30°C / approximately 30 minutes ³
	-30°C / approximately 20 minutes ⁴
Defrost Cycle:	approximately 5 minutes or +32°C
Dimensions:	52.75 x 49.6 x 35 inches (1340 x 1260 x 890mm)
Electrical power req.:	208-230V / Three (3) Phase
Fuse Protection:	40A, GFCI
Weight (empty)	Approx. 660 lbs. (300 kg.)
Floor load:	Approx. 51.2 lbs./ft ²

Test Data on Performance from Poster presented at the 55th Annual Meeting of AABB 2002 and TXPO Orlando, Florida USA, October 26 - 29, 2002



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All technical data and specifications were provided to the best of our knowledge. However, we reserve the right to make changes or alterations as part of the product development process.

³ Dependent upon ambient room conditions and average bag volume of approximately 250ml of plasma. ⁴ Achieved after unit has cooled to operating temperature. Also dependent upon ambient room conditions and average bag volume of approximately 250ml of plasma.

and average bag volume of approximately 250ml of plasma. ⁵ A copy of the Poster Presentation is available on our website (<u>www.biostorsystems.com</u>) or on request.

German Red Cross Blood donation appraisal:



Potsdam, 28. March 2002 dr.ka-cru

Dear Sirs.

We are delighted to confirm our high level of satisfaction with the plasma freezer KLF 12/40. This machine brings together numerous advantages for the operating authority and its operating personnel. For one thing, it is easy to install because its dimensions, rollability and ready-to plug equipment make costly supplementary instal1ations and/or building work unnecessary. The automated processes automatic defrosting) make the (e.g. machine easy and safe to operate, whilst its cleaning and disinfection are similarly unproblematic. The speed at which the freezing temperature of -60°C is reached (approx. 10-15 minutes) after the machine has been switched on also deserves to be mentioned, as do the variable placement options for different numbers of plasma bags with slight volume deviations. The use of tableaus (optional) will make the machine even more comfortable to operate for the placement or removal of bags. The incorporation of a temperature display,

including disk drive and dummy connection, means that validations can be carried out easily and the freezing process can be documented. As well as these advantages, we must also give particular emphasis to the efficiency of the freezing unit. In our validation checks, which we conduct using only 1000 ml bags containing 715 ml plasma, we were able to prove that the -30°C core temperature is passed through after an average of 39 minutes (statistical mean value). The measurement took place in a fully stacked freezer, using temperature sensors between dummy half bags. The further freezing process below -30°C progresses rapidly, with the result that the freezing unit can pass from continuous operation to conservation mode. The various freezers that we previously used were never able to deliver performances data of this kind. In the seven-month operating period so far, there have been no technical faults.

To summarize, we can express our satisfaction with the efficiency, handling and reliability of the freezer KEF 12/40 and recommend the device to other users.

Yours faithfully,

Dr. med. Karl Institute Director

For more information, contact:



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