Baso®

Plasma Freezing System with Full Temperature Control

Patented temperature control system provides real–time monitoring and automatic calibration of freezing parameters to improve quality of frozen plasma.

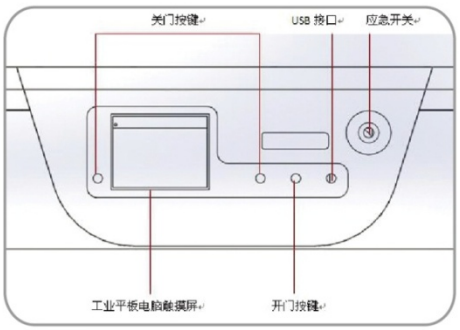
International Standards (WHO, FDA, CE)

Shorter plasma freezing time will provide a higher level of biological activity of unstable blood coagulation factors V and VIII. (European standards require that plasma be frozen to -30℃ within 60 minutes.) Using higher quality frozen plasma will yield better clinical outcomes.

Baso's Plasma Freezing System with Full Temperature Control is the world's first plasma freezing instrument that conforms with international standards and all applicable Chinese laws. It includes a data management system for plasma freezing that can track the plasma bag's core temperature and simultaneously monitor freezing time during the whole process.

◆Simple Operation

- ✓Colorful touch-screen interface makes the Plasma Freezing System more convenient to use.
- ✓Separated functional buttons for easy operation.
- ✓Equipped with VGA, USB, internet ports and more.
- ✓Equipped with Windows operating system for wide compatibility and easy operation.



Pic.1


Pic.3

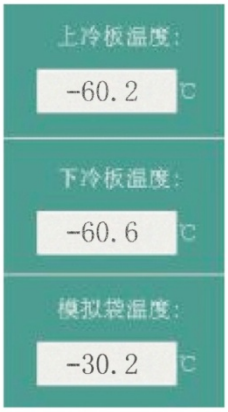
Pic.2

Design drawing of controller interface and photos of actual machine.
Pic.1: Introduction of buttons on Baso's Plasma Freezing System.
Pic.2: Display of Baso's Plasma Freezing System.
Pic.3: Partial views of Baso's Plasma Freezing System.

◆Low Temperature Output

Upper and lower cold plates can reach a temperature of -60°C.

When processing a full load, it takes about 30 minutes to cool the core temperature of plasma bags to -30°C.



◆Data Traceability and Quality Management

✓Simulated Plasma QC Bag (Patented technology)

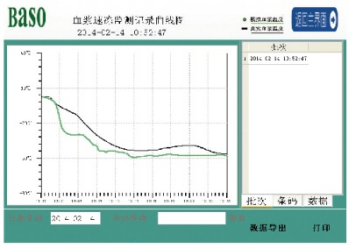
Baso's Plasma Freezing System includes a simulated plasma QC bag, a patented technology that tracks plasma freezing performance and provides quality control.

Because the simulated plasma QC bag (pic.1) has a specific heat capacity similar to that of a real plasma bag, the time required for freezing the simulated plasma QC bag serves as a reference point for estimating the freezing time of a similar real plasma bag, provided that the same environmental conditions apply. Hence, by inserting a thermostat probe into the core of the simulated plasma QC bag to track the freezing process and freezing time of the simulated plasma QC bag, one can accurately estimate the freezing time of a comparable real plasma bag. (pic.2)

The real core temperature of plasma bag, together with the variation curve and other data associated with the freezing process can be obtained by collecting real-time temperature and freezing time (pic.3) required from when the entire freezing process is carried out under the same environment and conditions. (pic.4)

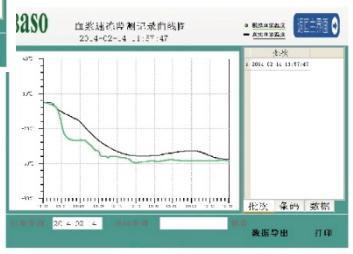
Pic.1

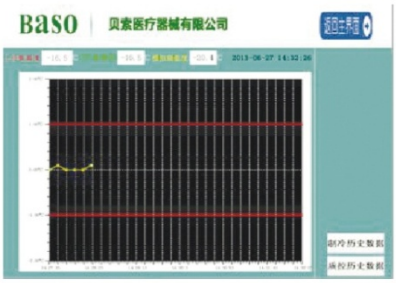
Pic.2



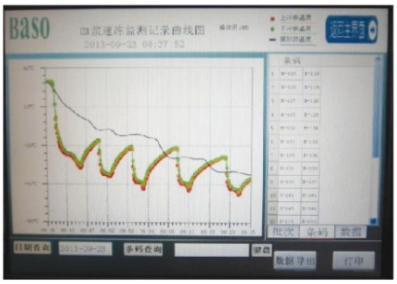
Pic.3
Freezing time & temperature curve of simulated plasma QC bag.

Pic.4
Freezing time & temperature curve of real plasma.





Pic.5



Pic.6


Pic.7

Quality Management of machine

By monitoring the temperature difference between the upper and lower cold plates, temperature probes provide real-time monitoring that ensures meeting quality control requirements.

•Archived quality control data can be searched by specific date.

•Monitoring temperature difference (△T): uncertainty of ±1℃

Quality management of freezing process

The core temperature of plasma can be collected, stored, transported and summarized through analog plasma QC bags.

Quality control and data traceability

The touch-screen display allows real-time monitoring of the core temperature of analog plasma bags and the temperature of the upper and lower cold plates. Temperature variations throughout the processed are saved for subsequent searching and review.

• Freezing core temperature / time data can be searched.

•Code number of instrument can be searched.

• Data of plasma bags can be searched by bar code.

• All freezing data can be searched by specific date.

•Operator can be searched by code number.

◆Intelligent Operation System

Control monitor system

Touch-screen interface and USB, VGA ports and windows system are well equipped for simple operation.

✓Equipped 128G electronic drive for data storage.

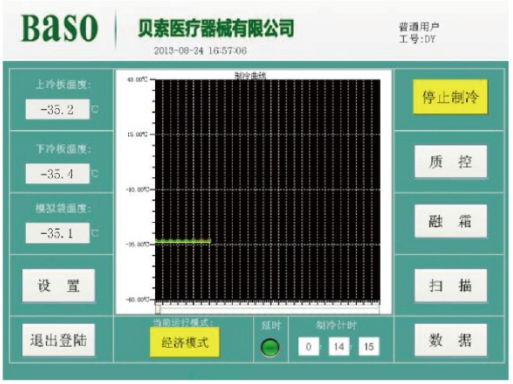
✓Equipped Windows system for wide compatibility and easy operation.

✓Outer scanner, remote monitor system can be directly connected.

✓Data can be sent and received wirelessly.

Eco Mode

After the freezing process, the machine will switch to eco mode to maintain the temperature of frozen plasma. When the temperature of the frozen compartment reaches -30 ℃, the machine will automatically maintain the temperature at below -30 ℃.



Custom made

Indoor Type　　Outdoor Type

Pallet-type plasma freezing system(all-in-one type)

✓Set up easily.
✓Rapid movement.

Pallet-type plasma freezing system(split type)

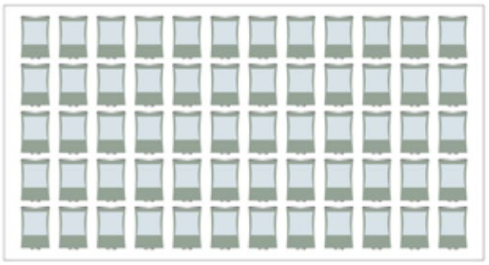
✓Equipped with an external cold air circulating system.
✓Noise-free.
✓No warm air in indoor.

Pellet-type plasma freezing system(double casing type)

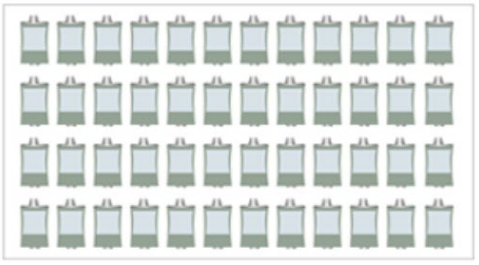
✓Doubled quantity of plasma bags can be frozen at one time.
✓Work efficiency can be enhanced.

Position of Plasma Bags (illustrations)

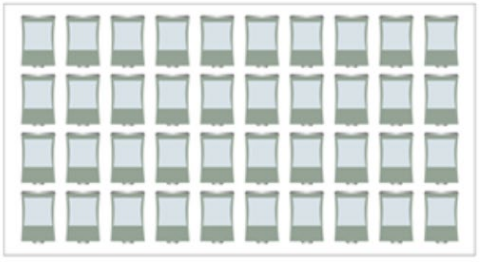
Folding Type 100ml 5x12 (60bags)



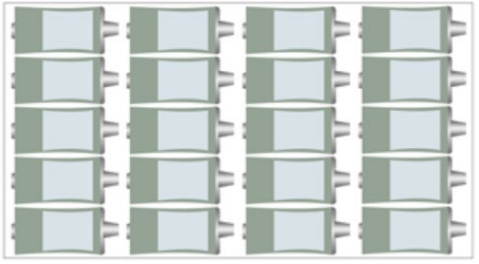
Unfolding Type 100ml 4x12 (48bags)



200ml 4x10 (40bags)



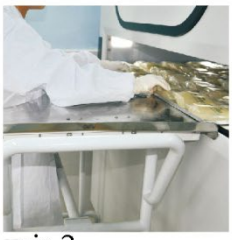
600ml 5x4 (20bags)



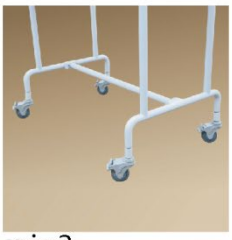
Cart for moving Baso's Freezing System

- ✓Designed for easy transportation of plasma bags into cold storage.(pic.1)
- ✓The cart is ergonomically designed and has an adjustable height. (pic.2)
- ✓Cart is made of aluminum alloy and stainless steel (304) that can be moved conveniently. (pic.3)
- ✓Equipped with 13 wheels for easy movement of freezing plates.(pic.4)
- ✓Can carry up to 50 kg.

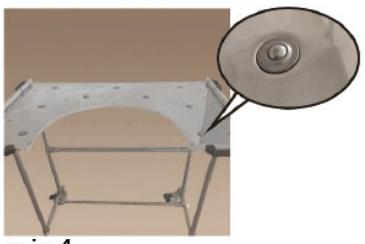
pic.1



pic.2



pic.3



pic.4

Patent Protection

Technical Parameters

Model	BSSD-II-01	BSSD-III-01	BSSD-IV-02
Structure	Integrated Type	Separated Type	
Noise	70dB	Inside machine: 53dB; Outside machine: 73dB	
Weight of Inside Machine	640KGS	410KGS	570KGS
Weight of Outside Machine	\	275KGS	275KGS*2
Dimensions of Inside Machine	1410x780x1720mm	1410x780x1680mm	1581x784x1924mm
Dimensions of Outside machine	\	1300x520x1245mm	1300x520x1245mm*2
Enclosure	ABS	Inside machine: ABS Outside machine: Metal Plate	
Dimension Cold Plate	1100x630mm		1100x630mm*2
Min. Temperature	≤-60℃		
Defrosting time	≤8min		
Pre-cooling	No-load: From normal temperature to -60℃ for 15min or less		
Freezing Time (To reach Core Temp. of -30℃)	≤30min (40bags 200ml)		≤30min (80bags 200ml)
Freezing Capacity	100ml: 60 bags; 200ml: 40 bags; 600ml: 20 bags;		100ml: 120 bags; 200ml: 80 bags; 600ml: 40 bags;
Storage Condition	-40℃~55℃; ≤80%RH		
Compressor	FRASCOLD Italy		
Control Management System; Data Records and Storage	Microcomputer touch screen; Windows operation systems; 128G electronic hard drive can process and store 60,000 sets of recorded data.		
Record Data	It can capture and record operator, plasma bag barcode, QC curve, temperature / time curve etc.		
Simulated Plasma Bags	It can detect the core temperature of plasma bags and ensure consistency of frozen results.		
Soft-touch Cushion	Although the thickness of the plasma bags may vary, consistency of the thermal conductivity environment is ensured.		
Optical Control Protection	Adapt the light-protection to prevent the hands from nipping		
Remote Monitoring system	The user can use a server to remotely monitor devices at any time.		
Power Supply	3Ph~; AC380-415V 50/60Hz 6000VA		3Ph~; AC380-415V 50/60Hz 12000VA