



BLAST FREEZER



Quality, Management, Environment, Health & Safety Standards



CDSCO Certified



USFDA Listed



European CE



ISO 13485:
NABCB/IAF



ISO 9001: IAF



7 Electric Safety
Certifications

INTRODUCTION

The MarkEn Plasma Blast Freezer sets a new standard for rapid and efficient plasma preservation. This advanced vertical model ensures fast freezing, consistent quality, and long-term reliability, making it the ideal choice for medical and laboratory needs.



SUPERIOR FREEZING EFFICIENCY



Freezes 450ml plasma bags in under 45 minutes.



Maintains temperatures from -40°C to -80°C, even in environments up to +43°C.



Advanced thermal exchange technology for rapid, uniform freezing.



Flexible automatic or manual defrosting options.

INNOVATIVE DESIGN & DURABILITY



Conical wells simplify plasma bag extraction and solidification.



Direct contact freezing eliminates the need for traditional cold baths.



Uniform weight distribution enhances durability and performance.



Independent refrigeration systems ensure consistent operation.



Triple-point gasket minimizes ice buildup and prevents air leakage.



Built for a 10-year lifespan with guaranteed parts availability.

EXCEPTIONAL PLASMA QUALITY PRESERVATION



Microcrystal formation preserves tissue structure and integrity.



96% fibrinogen recovery and up to 81% Factor VIII and IX concentration.



Accommodates 24 or 48 bags (250ml/450ml) with plasma content of at least 230cc.

ADVANCED CONTROL SYSTEM



Intuitive Touchscreen Interface – 7"/10" LCD HMI display, operable with gloved hands.



Smart Data Management – Electronic recorder & barcode reader (optional) for batch scheduling.



Full Traceability – Microprocessor/PLC-based controller with user ID tracking, logs, and protocol monitoring.



Advanced Configurations – Customizable alarm settings, temperature monitoring, and programmable freezing cycles.



Real-Time Monitoring – On-board data logging with RS 485 port for wireless transfer & central monitoring.



Power Backup – Optional UPS ensures uninterrupted display and alarm function during outages.



Customizable Freezing Schedules – Set parameters for plasma units, operator details, and pull-down curves.



Seamless Data Access – Internal memory stores temperature logs, alarms, and notifications, viewable on PCs, laptops, and smartphones.

ROBUST CONSTRUCTION & SECURE STORAGE



Rust-free outer door with heavy-duty hinges and automatic closing.

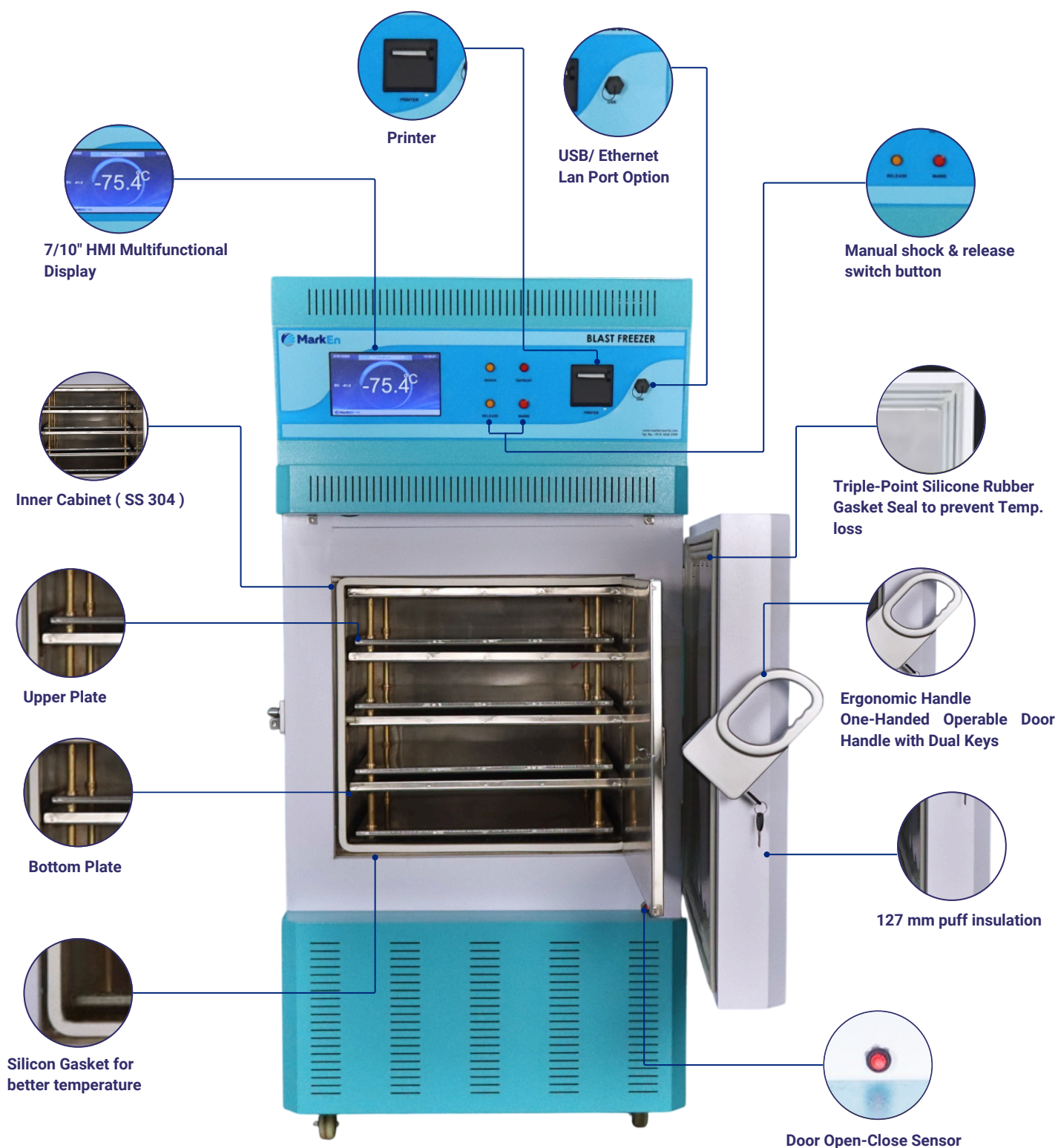


Magnetic-mechanical latches minimize cold air loss and enhance security.

OPTIONAL ACCESSORIES

- Alcohol Stem Thermometer
- Barcode Reader
- Servo Voltage Stabilizer (5/10 KVA)
- 4 Dummy Bags with Core Temperature Sensors

Capacity in Bags	24 Plasma Bags (vertical position)	48 Plasma Bags (vertical position)
Dimensions (WxDxH)	1700 x 800 x 900mm	2200 x 800 x 1260mm
Inner Shelves	04 Nos Contact Blast Shelves	04 Nos Contact Blast Shelves
Weight	300 Kg	440 Kg



TECHNICAL SPECIFICATIONS

Make	MarkEn	
Type of Cabinet	Vertical	
Color	White	
Outer Body Material	Corrosion resistance CRCA/GI scratch less powder coated steel	
Inner Cabinet Material	Corrosion resistance AISI Heavy Gauge Stainless Steel 304	
Insulation Material	Water Blown CFC free Vacuum PUFF	
Insulation Thickness	Cabinet : 127 mm	Door : 127 mm
Ground Clearance	100 mm	
Castors Wheels	4 castor wheels (2 Lockable and 2 un-lockable)	
Door	Solid counterbalanced door with a lock-and-key handle, along with one inner door.	
Inner Shelves	04 Nos Contact Blast Shelves with Inner Door	
Compressor	Hermetically sealed compressor with air-cooled refrigeration system.	
Refrigerants	CFC/HCFC-free, non-flammable, eco-friendly refrigerants.	
Condensing	Skin condenser and air-cooled grooved aluminum fins.	
Operating Temperature Range	-40°C to -80°C adjustable with setting accuracy +0.1°C	
Rapid Freezing of Plasma Bags	-30°C or below within 30 minutes at 25°C ambient temperature.	
Cooling Plate Temperature	Upper Plate: -40°C & Lower Plate -80°C	
Pre-Cooling Temperature	Upper Plate: -45°C Lower Plate: -80°C	
Pull down time	Less Than 60 minutes	
Temperature uniformity	±3°C or Less	
Environmental Condition	Maximum +43°C with Humidity 5% to 95% RH	
Control System	Fully programmable microprocessor control with membrane keypad and password-protected, eye-level control panel.	
Temperature Monitoring System	Real-time central monitoring with IoT (cloud-based management) support (optional) and chart recorder (optional). Supports up to 8 Pt 100 channels with a USB port for cycle/coding history and an external printer interface (non-thermal).	
Internal Configuration	The internal case has 6 wells	
Display	7"/10" touchscreen display showing top and bottom plate temperatures, freezing process, and timing, along with additional features.	
Alarms (with recording facility)	Audible and visual alarm system for over- and under-temperature conditions, power outages, system malfunctions, door openings, and low battery.	
Battery Backup	12-48 hours of battery backup for digital display, internal temperature monitoring, total alarm system, and temperature recording system, all with an automatic recharging facility.	
Noise level	<55 db	
Power Consumption	Stable Running: 2.040 kWh/24Hrs Cool Down Test:2.30kWh/24Hrs.	
Power supply	Suitable for Input Voltage Range 100 to 290 VAC, 50 Hz +10%	

CERTIFICATIONS

Quality, Management, Environment, Health & Safety Standards



**50 Products
CDSCO Certified**



USFDA Listed



**8 products tested by a
WHO-accredited laboratory**



European CE



NABCB: ISO 13485



ISO 9001: IAF



ISO 14001: IAF



ISO 45001: IAF



**7 Electric Safety
Certifications**



WHO GMP



**BIFMA Certified,
BIFMA Level 3**



**ASTM- Corrosion
Free Products**



ISO 2409

**EN 13523-26,
ISO 13849-1,
IP 69, IP 65**

& many other...

ALL-IN-ONE SOLUTION FOR

Cold Chain Solution
Medical Equipment
Blood Bank Equipment

Hospital & Scientific Equipment
Hospital Furniture & Infrastructure
Commercial Refrigeration



25+

Years of Excellence



350+

Product Range



500+

Service center



1000+

Committed Engineers



1,00,000+

Satisfied Users

OUR ESTEEMED CUSTOMERS



& MANY MORE...



-  **Regd office & Factory:** 93/1, MIDC Satpur, Nashik- 422007 (IND)
-  **Corporate office:** 410, Maker Chambers V, Nariman Point, Mumbai - 400021
-  **New Delhi office** - DLF Tower, Jasola | **Chandigarh Office** - CCC, VIP Road
-  **Customer Care No.**+91 91 3030 5959
-  **www.markenworld.com**  **info@markenworld.com**



Authorized Distributor Details