



medical  
systems

From Azenta Life Sciences

**SAVING LIVES**  
THROUGH RELIABLE  
AND INNOVATIVE  
TECHNOLOGY

**Blood Management Solutions**





# Blood Management Solutions

*For a reliable cold chain within the scope of safety of blood transfusion specifications.*

## Saving lives through reliable and innovative technology

### **UNDERSTANDING THE NEEDS OF MEDICAL PROFESSIONALS REQUIRES A CONSTANT DIALOGUE.**

The medical challenges our partners and clients face on the ground can be overwhelming. By continuously engaging with them and gathering insights through dialogue and exchange, we are able to understand their evolving needs. As a key global player in the sector of medical technology, B Medical Systems is committed in delivering highly specialized and cutting-edge devices that always exceed expectations.

### **DESIGNING RELIABLE MEDICAL DEVICES IS AT THE HEART OF OUR INNOVATION PROCESS.**

We feel deeply connected to the international community of healthcare professionals and use optimized industrial processes to offer reliable products and services that help develop a relationship of trust. By managing the design, manufacturing, distribution and after-sales elements, we adopt a lifecycle approach and can ensure the Total Cost of Ownership of our products is as low as possible.

### **PUTTING PEOPLE FIRST STARTS WITHIN OUR ORGANIZATION.**

We take a customer-oriented approach in everything we do, and are guided by our values and high standards. Our team of highly skilled professionals share our desire to excel and stay ahead of the game in the field of technological innovation. As an organization, our core aim is to save lives through reliable and innovative technology.

### **SAFE GLOBAL BLOOD MANAGEMENT: FROM COLLECTION TO TRANSFUSION, TRANSPORTATION, PROCESSING AND STORAGE.**

B Medical Systems is a renowned expert in blood safety and management. Our reliable blood cold chain strictly observes international standards and World Health Organization recommended specifications. We keep blood safe through temperature-controlled transportation, processing and storage solutions. Additionally B Medical Systems offers innovative solutions for blood and derivatives treatment. These include an improved Contact Shock Freezer that delivers optimized performance with its innovative system – it enables faster and more homogenous freezing that saves time and money.



## SUMMARY

- 04-05** B Medical Systems Safety Standards  
For technical reliability and environmental friendliness
- 06-07** European Medical Device Regulation (EU) 2017/745  
For increased reliability to comply with European essential requirements
- 08-19** Blood Management Chain  
A selected range of products for an uninterrupted and precise temperature controlled blood cold chain
- 20-23** °B Connected, DCU & Electronics  
For optimum control and protection of your preparations

# A complete line for a reliable blood management chain

## Blood Management Solutions

### Blood Bank Refrigerators

B RANGE



	<b>B51</b>	<b>B131</b>	<b>B291</b>	<b>B381</b>	<b>BF261</b>	<b>B401</b>	<b>B501</b>	<b>B701</b>	<b>B901</b>
Gross / Net volume (l)	52 / 45	121 / 106	297 / 269	362 / 329	R   121 / 106 F   121 / 106	478 / 390	634 / 517	792 / 645	949 / 773
Storage capacity (blood bags)	24 (450ml) / 31 (350ml)	51 (450ml) / 84 (350ml)	159 (450ml) / 235 (350ml)	213 (450ml) / 313 (350ml)	51 (450ml) 84 (350ml)	270 (450ml) / 375 (350ml)	360 (450ml) / 500 (350ml)	450 (450ml) / 625 (350ml)	540 (450ml) / 750 (350ml)

Refrigerator & Freezer combined

### Blood Bank Chest Refrigerator

MRB



<b>MRB3000 SDD (Solar DC)</b>
278
90 (450ml)

### Plasma Storage Freezers

F RANGE



	<b>F131</b>	<b>F291</b>	<b>F381</b>	<b>F401</b>	<b>F501</b>	<b>F701</b>	<b>F901</b>
Gross / Net volume (l)	121 / 106	296 / 281	338 / 318	478 / 387	634 / 514	791 / 641	949 / 768
Storage capacity (plasma bags)	84 (350ml)	251 (350ml)	284 (350ml)	345 (350ml)	460 (350ml)	575 (350ml)	690 (350ml)

### Contact Shock Freezers\*

CSF RANGE



	<b>CSF61 L</b>	<b>CSF101 L</b>
Freezing capacity (plasma bags)	20 (1000ml) / 60 (350ml)	32 (1000ml) / 96 (350ml)

\*available in versions: air-cooled (CSF61 L & CSF101 L), water-cooled (CSF61 W & CSF101 W) and split (CSF61 S)

### Ultra-Low Freezers

U RANGE



	<b>U201</b>	<b>U401</b>	<b>U501</b>	<b>U701</b>	<b>U901</b>
Gross / Net volume (l)	232 / 217	478 / 454	634 / 602	791 / 751	949 / 900
Storage capacity (plasma bags)	150 (350ml)	300 (350ml)	400 (350ml)	500 (350ml)	600 (350ml)

### Transport Systems

MT RANGE



	<b>MT2</b>	<b>MT4</b>	<b>MT8</b>	<b>MT12</b>	<b>MT25</b>
Gross volume (l)	2.2	8	20	24	44
Storage capacity (bags)	1 (450ml) / 2 (270ml)	4 (450ml) / 6 (270ml)	8 (450ml) / 14 (270ml)	15 (450ml) / 25 (270ml)	26 (450ml) / 40 (270ml)
Cooling system	Passive	Passive	Passive	Passive	Passive

SAVING LIVES THROUGH RELIABLE AND INNOVATIVE TECHNOLOGY

# Safety Standards

## B Medical Systems

The Safety Standards developed by B Medical Systems define certain significant technical features of a product. These ensure the safe storage of the preparations as well as setting the highest standards of safety for the user.

PRECISION LINE	PREMIUM LINE	CSF RANGE	
●	●	●	B Medical Systems Electronics
●			B Medical Systems digital display
	●	●	B Medical Systems 7" full touchscreen display
●			Safety door lock (with 2 keys) and key-operated power switch ON/OFF (with 2 keys)
●	●	●	Power indicator light and digital temperature indicator (display: 0.1 digits)
●	●		Controlled fan cooling system for constant temperature and even temperature distribution across the entire refrigerating chamber <i>[not applicable for F models (Precision Line) &amp; U range]</i>
●	●		Automatic switch-off of the evaporator fans when the door opens <i>[not applicable for F models (Precision Line) &amp; U range]</i>
●	●	●	Self-contained alarm system with integrated battery takes over the alarm function and temperature value measurements in case of system failure for at least 48 hours
●	●	●	Acoustic and visual alarm signal in case of temperature alarm and system failure
	●	●	The alarm history function on the electronic stores all the relevant values during a temperature alarm, such as: min., max. and average temperature <i>[+ alarm duration for Premium Line models]</i>
●	●	●	Remote transmission alarm signal (via potential-free contact) in case of temperature alarm (change-over contact)
●	●		Safety thermostat prevents dropping of the temperature below +2°C <i>[not applicable for F/U ranges]</i>
●	●		Door opening alarm (visual / acoustic)
●		●	Designed and tested for climatic class SN (ambient temperature range +10°C to +32°C)
	●		Designed and tested for climatic class SN / T (ambient temperature range +10°C to +43°C)
	●	●	Interior made from stainless steel <i>[evaporator plates and drip channel made from stainless steel for CSF range]</i>
●	●	●	Internal LED lighting <i>[not applicable for F/U ranges]</i>
●	●	●	Additional remote transmission alarm signal (via potential-free contact) in case of system failure (change-over contact)
	●	●	Smooth castors for optimum flexibility of movement
	○	○	External water cooling <i>[not applicable for B range]</i>
	○	●	Ambient temperature sensor
	●	●	Ethernet interface for the visualization of all operating and control functions (hardware and software settings) via °B Connected monitoring software on a peripheral device (computer)
○	○	○	°B Connected - Universal software for the monitoring of refrigeration devices, including the acquisition, recording and visualization of temperature data
○			DCU (Data Communication Unit) - Hardware module monitoring all operating conditions and passing them through to a central database – via local network (in combination with °B Connected)
	○		Remote temperature monitoring device (RTMD), offering real-time worldwide remote monitoring, data access over WEB and GPS position <i>[integrated with U range &amp; optional for F models (Premium Line)]</i>



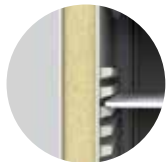
## PRECISION LINE | MODELS B51, B/F131-291-381 & BF261

## PREMIUM LINE | MODELS B/F/U401-501-701-901 & U201



### Integrated multifunction monitoring electronics

Integrated B Medical Systems multifunction electronics; with easy access in the door level; offers alarms, central alarm system, set point security, battery backup, full display and many other control features; compatible with °B Connected solution for data monitoring and recording.



### Rotomoulded or steel models

- **Models B51-131-291-381, F131 & BF261:** One piece material cabinet with a lifetime warranty for zero corrosion, highest quality polypropylene for better insulation and no sharp edges to provide easier maintenance and cleaning
- **Models F291-381:** Steel cabinets feature lower overall energy consumption, superior temperature distribution and a highly stable air circulation within the cabinet, remarkable sealing between gaskets, long autonomy and holdover times, and an exceptional life-span for the compressor
  - Smart ergonomics - Easier and safer handling because of heavier components placed at the bottom



### Innovation for more reliability

*In conformity with national and international guidelines, regulations for Medical Devices offering reliability, efficiency and safety at an optimal price.*

### Exclusive integrated electronics handle bar

All functionalities are easily accessible:

- Digital control with full functionalities - B Medical Systems 7" full touchscreen display integrated at optimal level in the door handle with pre-installed connection allowing exclusive °B Connected monitoring functionalities
- Open/close - Heavy duty door lock mechanism



### High quality materials

High quality coating, certified medical devices quality and antibacterial, high quality steel for better longevity and easy hygiene control.



### Versatile modularity

Excellent storage capacity and modularity - Large choice of shelves and drawers offering modularity for every need.

# European Medical Device Regulation (EU) 2017/745

**B Medical Systems S.à r.l. successfully passed the certification audit** according to the harmonized European Quality Management System Standard for Medical Devices EN ISO 13485 and the European Medical Device Regulation (EU) 2017/745.

The medical devices class IIa manufactured by B Medical Systems S.à r.l. that are presented in this brochure are labeled with CE Label (CE0123). The product in question concerns blood product cooling devices / blood bank refrigerators. A blood storage refrigerator and a blood storage freezer are devices intended for medical purposes that are used to preserve blood and blood products by storing them at cold or freezing temperatures.

## WHY THE EN ISO 13485 CERTIFICATION?

*This EN ISO 13485 was published in 2016 and represents the requirements for a comprehensive management system for the design and manufacture of Medical Devices.*

*This certificate demonstrates that an organization is able to provide Medical Devices and related services, meeting customer and regulatory requirements applicable to medical devices and related services. The primary objective is to facilitate harmonized Medical Device regulatory requirements for quality management systems.*

*The positive assessment to this certificate allows the CE0123 Mark and the permission to sell the Medical Device in the European Union.*

## THE REAL IMPORTANCE OF THE REGULATION (EU) 2017/745

*The Medical Device Regulation (EU) 2017/745 from 2017, is a new regulation in order for a manufacturer to legally place a medical device on the European market. The regulation has become mandatory since May 2021 and establishes general safety and performance requirements and standards for the manufacture, design, packaging and distribution of medical devices within the EU.*

*The Medical Device calls for all manufacturers who distribute in the European Economic Area to comply with essential requirements that benefits the safety of those in the EEA. The devices must be designed and manufactured in such a way that as they are used by users, they will no way compromise the health of patients.*



**OUR MEDICAL DEVICE RANGES:**

- Blood Bank Refrigerators | B Range
- Plasma Storage Freezers | F Range
- Ultra-Low Freezers | U Range
- Contact Shock Freezers | CSF Range
- Transport Systems | MT Range
- Blood Bank Chest Refrigerator | MRB



**All Blood Management Solutions products are certified medical devices according to MDR (EU) 2017/745, Class IIa.**

# Blood Bank Refrigerators

## B Medical Systems | B Range

**Blood Bank Refrigerators are devices intended for the safe storage of whole blood and blood components at temperatures ranging from +2°C to +6°C with multiple controls, warning and data recording safety features developed as a result of 40 years of expertise in refrigeration technology.**

9 models • Volume 52 > 949 L • Set temperature +4°C • Climate class SN | SN/T • Compliant to DIN 13277 | MDR (EU) 2017/745, Class IIa | AABB Standards



### ● Integrated multifunction monitoring electronics

Integrated B Medical Systems multifunction electronics; with easy access in the door level; offers alarms, central alarm system, set point security, battery backup, full display and many other control features; compatible with °B Connected solution for data monitoring and recording.



### ● Lifetime warranty corrosion-free cabinet

- One piece material cabinet with a lifetime warranty for zero corrosion, highest quality polypropylene for better insulation and no sharp edges to provide easier maintenance and cleaning
- Smart ergonomics - Easier and safer handling because of heavier components placed at the bottom



### ● High storage capacity

High storage per square meter in terms of net volume, with a very versatile inner volume utility due to multiple user friendly rails allowing modularity.



### ● Exclusive integrated electronics handle bar

All functionalities are easily accessible:

- Digital control with full functionalities - B Medical Systems 7" full touchscreen display integrated at optimal level in the door handle with pre-installed connection allowing exclusive °B Connected monitoring functionalities
- Open/close - Heavy duty door lock mechanism



### ● High quality materials

High quality coating, certified medical devices quality and antibacterial, high quality steel for better longevity and easy hygiene control.



### ● Versatile modularity

Excellent storage capacity and modularity - Large choice of shelves and drawers offering modularity for every need.

### ● Highest insulation value (organic glass door)

4-layer (Precision Line) and 5-layer (Premium Line) PMMA organic glass offering highest insulation, combined with reduced weight reducing efforts to close door and constraints on hinges, offering better longevity.







## Blood Bank Refrigerators



**B51**



**B131**



**B291**



**B381**



**BF261**

Refrigerator & Freezer combined

<i>Gross / Net volume (l)</i>	52 / 45	121 / 106	297 / 269	362 / 329	R   121 / 106	F   121 / 106
<i>Storage capacity (blood bags)</i>	24 (450ml) / 31 (350ml)	51 (450ml) / 84 (350ml)	159 (450ml) / 235 (350ml)	213 (450ml) / 313 (350ml)	51 (450ml) 84 (350ml)	84 (plasma bags at 350ml)
<i>External dimensions H x W x D (mm)</i>	670 x 495 x 575	830 x 595 x 695	1670 x 595 x 695	1980 x 595 x 695	1650 x 595 x 695	



**B401**



**B501**



**B701**



**B901**

<i>Gross / Net volume (l)</i>	478 / 390	634 / 517	792 / 645	949 / 773
<i>Storage capacity (blood bags)</i>	270 (450ml) / 375 (350ml)	360 (450ml) / 500 (350ml)	450 (450ml) / 625 (350ml)	540 (450ml) / 750 (350ml)
<i>External dimensions H x W x D (mm)</i>	1988 x 699 x 1039	1988 x 845 x 1039	1988 x 992 x 1039	1988 x 1139 x 1039

# Plasma Storage Freezers

## B Medical Systems | F Range

Plasma Storage Freezers are devices intended for the safe storage of frozen blood plasma or blood components at temperatures below  $-27^{\circ}\text{C}$  developed as a result of 40 years of expertise in refrigeration technology.

7 models • Volume 121 > 949 L • Set temperature  $-41^{\circ}\text{C}$  /  $-32^{\circ}\text{C}$  • Climate class SN | SN/T • Compliant to DIN 13277 | MDR (EU) 2017/745, Class IIa | AABB Standards



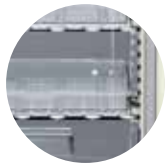
### ● Integrated multifunction monitoring electronics

Integrated B Medical Systems multifunction electronics; with easy access in the door level; offers alarms, central alarm system, set point security, battery backup, full display and many other control features; compatible with °B Connected solution for data monitoring and recording.



### ● Rotomoulded or steel models

- **Model F131:** One piece material cabinet with a lifetime warranty for zero corrosion, highest quality polypropylene for better insulation and no sharp edges to provide easier maintenance and cleaning
- **Models F291-381:** Steel cabinets feature lower overall energy consumption, superior temperature distribution and a highly stable air circulation within the cabinet, remarkable sealing between gaskets, long autonomy and holdover times, and an exceptional life-span for the compressor
- Smart ergonomics - Easier and safer handling because of heavier components placed at the bottom



### ● High storage capacity

High storage per square meter in terms of net volume, with a very versatile inner volume utility due to multiple user friendly rails allowing modularity.



### ● Exclusive integrated electronics handle bar

All functionalities are easily accessible:

- Digital control with full functionalities - B Medical Systems 7" full touchscreen display integrated at optimal level in the door handle with pre-installed connection allowing exclusive °B Connected monitoring functionalities
- Open/close - Heavy duty door lock mechanism



### ● High quality materials

High quality coating, certified medical devices quality and antibacterial, high quality steel for better longevity and easy hygiene control.



### ● Versatile modularity

Excellent storage capacity and modularity - Large choice of shelves and drawers offering modularity for every need.

### ● Special features for easy deicing and defrosting

- Evaporator offering better performance than market average, resulting in lesser ice formation with automatic defrost
- Insulated inner doors for significantly lower loss of cooling when open

Subject to change without prior notice. Some of the accessories shown in the pictures are optional. The figures are approximate, and may vary based on the number of bags that are actually stored and the different bag manufacturers' specifications available on the market, the actual bag sizes as well as the individual user's practice of loading.



## Plasma Storage Freezers



**F131**



**F291**



**F381**

<i>Gross / Net volume (l)</i>	121 / 106	296 / 281	338 / 318
<i>Storage capacity (plasma bags)</i>	84 (350ml)	251 (350ml)	284 (350ml)
<i>External dimensions H x W x D (mm)</i>	830 x 595 x 695	1750 x 603 x 650	1950 x 603 x 650



**F401**



**F501**



**F701**



**F901**

<i>Gross / Net volume (l)</i>	478 / 387	634 / 514	791 / 641	949 / 768
<i>Storage capacity (plasma bags)</i>	345 (350ml)	460 (350ml)	575 (350ml)	690 (350ml)
<i>External dimensions H x W x D (mm)</i>	1988 x 699 x 1039	1988 x 845 x 1039	1988 x 992 x 1039	1988 x 1139 x 1039

# Ultra-Low Freezers

## B Medical Systems | U Range

5 models • Volume 232 > 949 L • Set temperature -82°C • Climate class SN/T • Compliant to DIN 13277 | MDR (EU) 2017/745, Class IIa



### Exclusive integrated electronics handle bar

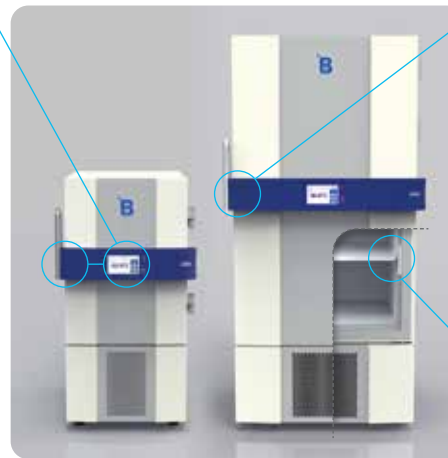
All functionalities are easily accessible:

- Digital control with full functionalities - B Medical Systems 7" full touchscreen display integrated at optimal level in the door handle with pre-installed connection allowing exclusive °B Connected monitoring functionalities
- Open/close - Heavy duty door lock mechanism



### Versatile modularity

Excellent storage capacity and modularity - Large choice of racks offering modularity for every need.



### Special features

- Integrated pressure release valve in the door permitting faster opening in one move, and offering easy access for cleaning
- Insulated inner doors for significantly lower loss of cooling when open
- Full compatibility of inner modules and rails, no need to buy new racks, you can keep racks previously used in different models



### High quality materials

High quality coating, certified medical devices quality and antibacterial, high quality steel for better longevity and easy hygiene control.



**Ultra-low freezers are devices intended for the storage of blood components and blood plasma, human cells, tissues, live virus vaccines, and other laboratory samples at ultra-low temperatures down to -86°C. The devices include an integrated alarm system that warns against unexpected temperature excursions and power failures.** U models reflect the highest and most uncompromising requirements with state-of-the-art technology and economy. The cooling system is optimally designed with respect to energy consumption as well as to the development of waste heat and noise. Standard factory setpoint is -82°C, temperature is adjustable from -86°C to -20°C.

Subject to change without prior notice. Some of the accessories shown in the pictures are optional. The figures are approximate, and may vary based on the number of bags that are actually stored and the different bag manufacturers' specifications available on the market, the actual bag sizes as well as the individual user's practice of loading.

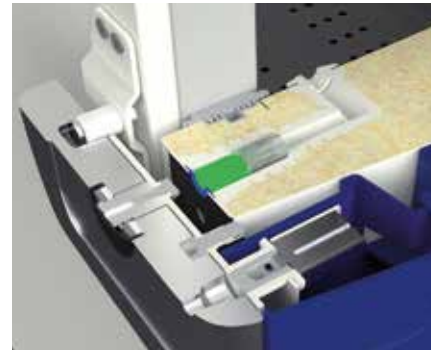


## Ultra-Low Freezers



**U201**

<i>Gross / Net volume (l)</i>	232 / 217	
<i>Storage capacity</i>	<i>Plasma bags</i>	150 (350ml)
	<i>Cryoboxes (models H50)</i>	170 (with 6 Cryo-Racks)
	<i>Vials</i>	15500 (2ml)
<i>External dimensions H x W x D (mm)</i>	1293 x 699 x 1039	



### INTEGRATED PRESSURE RELEASE VALVE

This aluminium die cast handle offers a strong and ergonomic feeling that allows the user to open the door with one hand. Inside the freezers, the vacuum will be automatically removed through a release valve, located in the door, in order to allow easy cleaning.

The handle is equipped with an electric lock that can be deactivated through the user interface.



**U401**



**U501**



**U701**



**U901**

<i>Gross / Net volume (l)</i>	478 / 454	634 / 602	791 / 751	949 / 900
<i>Storage capacity</i>	<i>Plasma bags</i>	300 (350ml)	400 (350ml)	500 (350ml)
	<i>Cryoboxes (models H50)</i>	345 (with 9 Large Cryo-Racks and 3 Cryo-Racks)	460 (with 12 Large Cryo-Racks and 4 Cryo-Racks)	575 (with 15 Large Cryo-Racks and 5 Cryo-Racks)
	<i>Vials</i>	34500 (2ml)	46000 (2ml)	57500 (2ml)
<i>External dimensions H x W x D (mm)</i>	1988 x 699 x 1039	1988 x 845 x 1039	1988 x 992 x 1039	1988 x 1139 x 1039

# Contact Shock Freezers

## B Medical Systems | CSF Range

2 models • Set temperature  $-30^{\circ}\text{C}$  • Climate class SN • Compliant to MDR (EU) 2017/745, Class IIa | AABB Standards

### ● Rapid plasma freezing

Our contact shock freezers provide very short freezing cycle on core temperature of  $-30^{\circ}\text{C}$ : up to 96 units of 250 ml within less than 60 minutes.



### ● State-of-the-art contact freezing technology™

Our innovative and patent pending system of inclined trays delivers homogeneous freezing and offers the repeatability and productivity, with operator independent performance for performance consistency.

### ● Highest degree of ergonomics

Each tray has an effective and usable height, giving easier access for quicker loading and enabling easier manipulation of bags.



### ● Optimized pull-down of the layers

The freezing down is quick, the clinical payback on investment is maximised and the concentration of factors VIII, IX and albumin is increased.

### ● Integrated multifunction electronics

Located at eye level, the electronics are easily accessible and can be connected with our fully integrated monitored solutions for a complete traceability of frozen bags.



### ● Maintenance-friendly design

- Our contact shock freezers offer an easy cleaning and disinfection facility
- Thanks to the additional battery, plates can still be opened to access the bags, in case of power failure

**Contact shock freezers are devices intended for the quick-freezing and subsequent temporary storage of blood plasma or biological samples to a core temperature below  $-30^{\circ}\text{C}$  within less than one hour.** CSF models are built in compliance with directives for the preparation of blood plasma and offers multiple controls, warning and data recording safety features developed as a result of 40 years of expertise in refrigeration technology.

CSF models are available as air-cooled version (CSF61-101 L), split version (CSF61 S) and water-cooled version (CSF61-101 W). Technical data available upon request.



## Contact Shock Freezers



**CSF61 L**



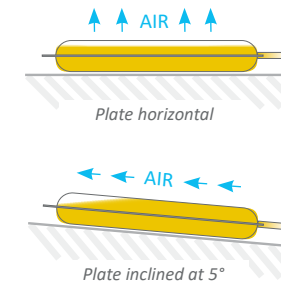
**CSF101 L**

<i>Freezing capacity (plasma bags)</i>	<i>Single layer</i>	20 at 1000ml (content 850ml)	32 at 1000ml (content 850ml)
	<i>Double layer</i>	30 at 350ml (content 250ml)	48 at 350ml (content 250ml)
<i>Freezing time to core temperature of -30°C at +25°C ambient temperature (in single layer)</i>		60 at 350ml (content 250ml)	96 at 350ml (content 250ml)
		20 units (1000ml) ± 45 min.	32 units (1000ml) ± 50 min.
		30 units (350ml) ± 26 min.	48 units (350ml) ± 26 min.
<i>Operating temperature (preset)</i>	<i>Pre-cooling</i>	-40°C	-40°C
	<i>Freezing</i>	-50°C	-50°C
	<i>Eco-mode</i>	-43°C	-43°C
<i>External dimensions H x W x D (mm)</i>		1910 x 1080 x 830	1910 x 1500 x 830



### OPTIMIZED CONTACT FREEZING

- Levels operate independently, allowing simultaneous freezing and defrosting as necessary
- Inclined plates at 5° ensure full contact with plasma and minimizes effect of air trapped in bags negatively influencing repeatability of freezing cycle times, providing operator independent performance for performance consistency



# Transport Systems

## B Medical Systems | MT Range

5 models • Volume 2.2 > 44 L • Compliant to ADR | RID | IMDG | ICAO-TI | IATA-DGR | MDR (EU) 2017/745, Class IIa



### Designed for intensive use

- The special transport boxes, made from rotationally moulded polyethylene (a literally indestructible synthetic), feature an extraordinarily sturdy casing that is almost impervious to external forces, e.g. caused by bumps and falls, whose sturdiness has been proven in drop tests
- The corrosion free material offers easier and safer handling and is light weight. All transport systems can easily and thoroughly be cleaned and disinfected with conventional disinfectants. There are no inaccessible corners or areas inside the transport systems
- The clasps can be sealed or equipped with locks and are therefore protected against unauthorised access during transport



### Highest insulation value

- The polyurethane foam injected into the double walls of these transport systems is free of CFC and HCFC and ensures optimum insulation and protection of quality of the transported goods, especially with longer transport times
- Due to the outer casing's self-insulation against the environment, the B Medical Systems transport systems maintain a stable temperature even at higher ambient temperatures



**Transport Systems are devices intended for the safe transport of blood or other blood components.** The model range MT consists of five passive transport systems. B Medical Systems transport systems are ideal for intensive use with many transport applications, even under difficult climatic conditions. MT models conform with the European agreement on the international transport of hazardous goods by Road (ADR), by Rail (RID), by sea (IMDG) and with International regulations for air transport (ICAO-TI / IATA-DGR).

For all passive transport boxes PCM cooling systems are available as an option (-32°C, +4°C, +22°C and +37°C)\*.

\* MT2 is not validated with PCMs. MT12 is not validated for the PCM +22°C and PCM +37°C. MT 25 is not validated for the PCM +37°C. Subject to change without prior notice. Some of the accessories shown in the pictures are optional. The figures are approximate, and may vary based on the number of bags that are actually stored and the different bag manufacturers' specifications available on the market, the actual bag sizes as well as the individual user's practice of loading.





## Transport Systems



**MT2**



**MT4**



**MT8**



**MT12**



**MT25**

<i>Cooling system</i>	Passive	Passive	Passive	Passive	Passive
<i>Gross volume (l)</i>	2.2	8	20	24	44
<i>Storage capacity (bags)</i>	1 (450ml) / 2 (270ml)	4 (450ml) / 6 (270ml)	8 (450ml) / 14 (270ml)	15 (450ml) / 25 (270ml)	26 (450ml) / 40 (270ml)
<i>External dimensions H x W x D (mm)</i>	210 x 250 x 150	299 x 362 x 283	437 x 588 x 288	499 x 550 x 475	499 x 710 x 550



# Blood Bank Chest Refrigerator

B Medical Systems | MRB 3000 SDD

Volume 278 L • Set temperature +4°C • Climate class SN/T • Compliant to MDR (EU) 2017/745, Class IIa



## Highest insulation value

- Rotomoulded body construction: rust free and extremely robust
- 100 mm PU foam insulation guarantees highest possible hold over time
- Double silicon gaskets (replaceable) and lockable clasps ensures tight sealing



## Blood Bank Chest Refrigerator

- High storage capacity
- Delivered with 5 storage wire baskets: facilitates the handling and storage management of the blood bags.



## Integrated electronics

- Electronics controller with integrated digital temperature monitoring
- Temperature monitoring maintained in system failure
- High alarm and low alarm (visual and acoustic)



## Special features

### Plug & Play installation

- Quick connector allows for “plug and play” installation, only one way works!
- Operates directly from solar panels without batteries and without a regulator (length of cable: 25 meters each generator)
- Requests only one solar generator (2 x 200W / 25V panels)



**Blood Bank Chest Refrigerator is device intended for the safe storage of whole blood and blood components at temperatures ranging from +2°C to +6°C by means of an ice-lined compression cooling system.**

MRB 3000 SDD operates directly from solar panels without batteries and without a regulator.



## Blood Bank Chest Refrigerator



### MRB 3000 SDD

Gross volume (l)	278
Storage capacity (blood bags)	90 (450ml)
External dimensions H x W x D (mm)	910 x 1270 x 780
Energy source	DC: 2 Solar panels (200 W / 25 V)
Climate class	SN/T
Autonomy time	> 72 h at +32°C
Hold over time	> 72 h at +32°C

## Variations Solar Generator (optional)



### G1 Solar panels (roof installation)

2 solar panels (200W) on fixed roof installation. This solution is easy to install and ideal for high sunshine levels. G1 is equipped with an anti-theft. Installation to be made by B Medical Systems certified agents.



### G2 Adjustable solar panels (roof or ground installation)

2 adjustable solar panels (200W) for roof or ground installation. This solution optimizes the energy collection and enables the positioning anywhere. G2 is equipped with an anti-theft. Installation to be made by B Medical Systems certified agents.

# Full functionalities at a glance

## B Medical Systems | Electronics

**PRECISION LINE** | Multifunctional electronics with digital display and easy access, in the door handle; compatible with °B Connected monitoring solution.



### Key power switch O = OFF / I = ON

- To switch the unit on, turn the key switch to position „I“. The green power LED lights up
- After the self-check, the temperature inside the device is displayed



### Digital display

During normal operation the display shows:

- Left-hand side: current time and internal temperature displayed in °C (Celsius) or °F (Fahrenheit) in increments of 0.1°
- Right-hand side: the maximum and minimum inside temperature



### Acoustic and visual alarm signal

When an alarm occurs, the red alarm LED lights up and an acoustic signal sounds. The corresponding alarm message appears on the display with the inside measured temperature. If several alarms occur simultaneously, the messages will be shown alternately.



### Function buttons

- UP / DOWN buttons: navigation within the parameters and modification of their values
- ENTER button: use the ENTER-key to confirm the actual selection. This applies the parameter value. The change of a parameter only becomes effective when confirmed
- MUTE / BACK button: in case of an alarm, the acoustic alarm can be muted for a specified time. In Parameter-mode the same key acts as “BACK-button” to go one step back
- LIGHT button: allows to switch on or off the interior light of the device without opening the door (for B range)



### USB port

A USB port is available for data export only. Measured values of the display sensor are stored for at least 30 days (ring buffer) together with a time stamp.



### The B Medical Systems Electronics

offers a wide range of adjustment and diagnostic functionalities as well as additional protection / warning operations (via external alarm operations, histories and individual display signals).

**PREMIUM LINE** | Multifunction electronics with 7" full touchscreen display, integrated at optimal level in the door handle with pre-installed connection allowing exclusive °B Connected monitoring functionalities.



#### Power switch OFF / ON

- To switch on press the ON/OFF button for 1 second. The green LED will light up
- Switch off protected by password. The door will automatically unlock before powering down



#### Touchscreen 7" full display

During normal operation the display shows:

- At the top: current voltage, current time, defrosting (for F range), gasket heater (for F and U ranges) and login status (user level)
- Left-hand side: temperature of the regulation sensor (displaying this temperature can be disabled through the settings) and internal temperature displayed in °C (Celsius) or °F (Fahrenheit) in increments of 0.1°
- Right-hand side: touch buttons to access door unlock, clean, menu, alarm mute and message functions



#### USB port & SD card slot

#### Acoustic and visual alarm signal

When an alarm occurs, the red alarm LED lights up and an acoustic signal sounds. The corresponding alarm message appears on the display together with the inside measured temperature. If several alarms occur simultaneously, the messages will be shown alternately.



#### Keycard reader

Login / Unlock using an NFC card

#### Touch buttons

- DOOR UNLOCK button: unlocks the door of the device
- CLEAN button: the cleaning button allows the user to disable the touch capability of the screen for a short period of time in order to clean the screen. This button is replaced by the logout button when user is logged in
- MENU button: allows access to the menu screen
- ALARM MUTE button: deactivates the acoustic alarm for a predefined period of time
- ACTIVE ALARMS AND WARNINGS button: during a warning or alarm situation, the color of this button and the corresponding level will change. Information on an active alarm and warning is accessible by pressing the message button



**SAVING LIVES** THROUGH RELIABLE AND INNOVATIVE TECHNOLOGY

# Optimum control and protection

B Medical Systems | °B Connected & DCU



## °B CONNECTED | MONITORING SOFTWARE

*Universal software for the monitoring of refrigeration devices, including the acquisition, recording and visualization of temperature data.*



- Unique monitoring software for the full range of Blood Management Solutions and Medical Refrigeration products
- Web-based interfaces for computers and mobile devices
- Modern design for simple and intuitive use
- Graphic display of temperature curves
- Integrated event and activity history of appliances' components
- Data recording on centralized database for long-term archiving
- Easy setting of specific alarm, via email or SMS alerts
- Generation of reports compiling crucial data and activities
- Temperature and detailed device data export for third-party software
- Important cost advantage compared to a traditional circular chart recorder and its spare parts
- REST API to access raw data directly from the database in read-only mode

### KEY BENEFITS:

- Unique interface for the monitoring of the full range of refrigeration devices
- Centralized database providing data access to entire customer network

### 1 CONFIGURATION



#### USER MANAGEMENT

- Password login
- Access right



#### DEVICE SETTINGS

- Device information
- Device & user configuration



#### ALARM PROFILE

- Parameters of the alarm profile (day, hour, minute)
- Alarm management

### 2 DISPLAYING



#### DETAILED DISPLAY

- Optimized design for mobile and touch compatible devices
- Support of multiple languages
  - Real-time data: Current temperatures, set point, upper and lower limit, door state, compressor runtime
- Log data: Events, alarms within date/time, event type, description of the event. Event and alarm confirmation function
  - Parameter settings of each device: Factory settings, real-time clock, language, firmware version, RS485 address, IP address
  - Batch management: Plasma bag barcodes scanned on device and imported in the database

°B Connected & DCU offer a highly flexible system that is adaptable to specific customer requirements

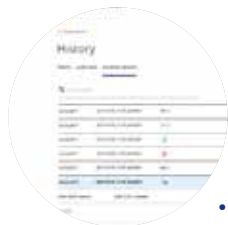
- > Complete & legally safe documentation of temperature data
- > Comprehensive applications and diagnostic functionalities

### 3 ANALYSING



#### REAL TIME GRAPHICS

- Graphic temperature progress (in real time)
- Adjustable time axis
- Offline navigation



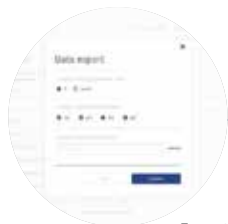
#### INTERACTIVE ANALYSIS

- No limitation in terms of time range
- Freely scalable
- Detailed information for any point of time
- Temperature data, events and alarms
- Login history and audit trails



#### CONTROL CENTER

- Overview (Control Monitor) of all monitored appliances:
- Information regarding status, appliance name, location, connection, upper and lower limits, current temperature, events / alarms
  - Dashboard to combine several temperature measurements in one single graph

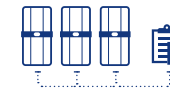


#### PRINTED ANALYSIS

- Customizable print reports on daily, weekly and monthly basis
- Exports in various file types
- Standardized format

## DCU | DATA COMMUNICATION UNIT (PRECISION LINE)

Hardware module monitoring all operating conditions and passing them through to a central database – via local network.



- Interface connection of B Medical Systems appliances to an existing network
- Graphical user interface displaying temperature and configuring devices and alarms easily
- Direct connection to Ethernet and serial bus RS485
- Digital in/out (programmable and customer-specific use)
- Recording and storing appliance-relevant data
- Integrated USB port allowing to export archived data
- The DCU combined with the °B Connected software replaces the paper temperature recorder
- All data are recorded and saved in the internal storage of the DCU and backed up in °B Connected database if connected
- Several additional self-sufficient temperature sensors (up to 4 PT1000) may be connected
- Humidity sensor input (4-20 mA)

#### KEY BENEFITS:

- Central system collecting relevant temperature data of the appliances and their respective operating conditions
- A number of connection abilities allowing flexible upgrades for individual projects

SAVING LIVES THROUGH RELIABLE AND INNOVATIVE TECHNOLOGY



## Blood Management Solutions

Safe global blood management: from collection to transfusion, transportation, processing and storage



## Vaccine Cold Chain

Reliable solutions for safe vaccination around the world



## Medical Refrigeration

State-of-the-art technology for the exacting needs of the medical world



### After Sales support and service

We strive to provide you with the highest standards of service; not only through our selected distributors and partners for all your maintenance and service but also our second line trouble shooting and after sales service. This factory-based group of engineers is there to help our partners and yourself to get the best solution for your cold storage needs.

### Our Global Expertise



From Azenta Life Sciences

Luxembourg, in the heart of Europe

### SAVING LIVES THROUGH RELIABLE AND INNOVATIVE TECHNOLOGY

B Medical Systems (formerly Dometic Medical Systems) has more than 40 years' experience in the medical refrigeration sector.

The company, formerly known as Electrolux Medical Systems, was founded in 1979 when the World Health Organization approached Electrolux in Vianden, Luxembourg, to create a solution for the safe storage and transport of vaccines around the world. In 2001, Electrolux Medical Systems became part of the Dometic Group, and was renamed Dometic Medical Systems. In 2015 after MBO, the company was named B Medical Systems. In 2022 Azenta Life Sciences acquired B Medical Systems.



#### B Medical Systems India Private Limited

Mehta Estate, Gala No. 8, 9, 10, 10a, 11

Andheri Kurla Road, Gundavli, Chakala

Andheri East, Mumbai 400093

info@bmedicalsyste.ms.com



www.bmedicalsyste.ms.com

WE SUPPORT



Since 2019 B Medical Systems has been committed to the UN Global Compact corporate responsibility initiative and its principles in the areas of human rights, labour, the environment and anti-corruption.