

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.

Compliant to DIN 58371 | ÖNORM K 2030 | Medical Device Class IIa according to MDD 93/42/EEC













SAVING LIVES
THROUGH RELIABLE
AND INNOVATIVE
TECHNOLOGY

Blood Management Solutions



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	
		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 [not applicable for model BF261 (Freezer compartment)]
		Automatic switch-off of the evaporator fans when the door opens [not applicable for model BF261 (Freezer compartment)]
		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., average temperature and alarm duration
		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
		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
		Internal LED lighting
		Additional remote transmission alarm signal (via potential-free contact) in case of system failure (change-over contact)
		Smooth castors for optimum flexibility of movement
	\circ	Ambient temperature sensor
0		°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)
		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)

Blood Bank Refrigerators

B Medical Systems | B Range

9 models • Volume 52 > 895 L • Set temperature +4°C • Climate class SN | SN/T • Compliant to DIN 58371 | ÖNORM K 2030 | MDD 93/42/EEC, Class IIa

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

MODELS B51-131-291-381 & BF261 | PRECISION LINE

Integrated multi-function monitoring electronics

Integrated B Medical Systems multi-function 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 monitored 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 ergonomy 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.



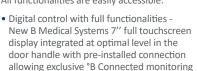
Exclusive integrated electronics handle bar (Patent pending)

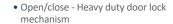
Blood Bank Refrigerators are devices intended for the safe storage of whole blood and blood components at

temperatures ranging from +2°C to +6°C with multiple controls, warning and data recording safety features developed as a result of over 35 years of expertise in

refrigeration technology.

All functionalities are easily accessible:





functionalities



High quality materials

New high quality coating, certified medical devices quality and antibacterial, high quality steel for better longevity and easy hygiene

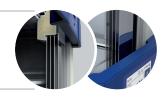


Versatile modularity

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



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.







Technical DataGeneral features











		В	151	В	131	В	291	B :	381	BF	261	Refrigerator 8 combined	Freezer
Gross / Net volume (I)		52 / 45 121 / 106			297 / 269		362 / 329		R 121 / 106		F 121 / 106		
Storage capacity (blood bags)		24 (450ml) 51 (450ml) 31 (350ml) 79 (350ml)			159 (450ml) 235 (350ml)		213 (450ml) 313 (350ml)		51 (450ml) 79 (350ml)		64 (plasma bags at 450ml) 104 (plasma bags at 350ml)		
Set temperature (preset)		+4°C								-32°C			
Ter	nperature cold / warm alarm limit					+2°C	C/+6°C					-37°C / -27°C	
Но	d over time	2.5 h (+4°C to	o +10°C)	2.7 h (+4°C to	+10°C)	2.2 h (+4°C to	+10°C)	1.9 h (+4°C to	+10°C)	2.7 h (+4°C to	+10°C)	0.7 h (-32°C t	o -23°C)
Clir	nate class (ambient temperature range)					SN (+10°	C to +32°C)						
Dej	rosting technique		Natural									Manual (for freezer)	
Refrigerant type						R	500a					R290	
Ext	ernal dimensions H x W x D (mm)	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	
Inn	er dimensions H x W x D (mm)	470 x 375 x	× 350	630 x 475 x 470		1470 x 475 x 470		1790 x 475 x 470		630 x 475 x 470		630 x 475 x 470	
Ne	weight with standard equipment (kg)	39		59		98		111				118	
	Supply voltage (V)	220-240	115-127	220-240	115-127	220-240	115-127	220-240	115-127	220-240	115-127	220-240	115-127
	Frequency (Hz)	50 / 60	60	50 / 60	60	50 / 60	60	50 / 60	60	50 / 60	60	50 / 60	60
Sar	Power (W)	100	100	200	200	200	200	200	200	200	200	300	360
ergy	Energy consumption (kWh/24h)	0.42 / 0.44	0.50	0.85 / 0.86	0.68	1.13 / 1.21	0.99	1.22 / 1.28	1.06	0.85 / 0.86	0.68	1.35 / 1.28	1.98
	Heat emission (Kcal/h)	12	12	27	24	34	34	41	34	27	24	53	65
	Compressor running time (%)	32	31	28	34	33	46	35	42	28	34	37	36
	Noise level (dB(A)) (at 1m height & 1m distance)	35 / 36	37	35 / 36	38	38 / 40	39	40	38	35 / 36	38	45 / 47	47



Technical DataGeneral features









		В	401	B!	501	B	701	B9	901			
Gross / Net volume (I)		451 / 384		598 / 510		747 / 636		895 / 763				
Storage capacity (blood bags)		270 (450ml) 375 (350ml)		360 (450ml) 500 (350ml)		450 (450ml) 625 (350ml)		540 (450ml) 750 (350ml)				
Set	temperature (preset)		+4°C									
Ten	nperature cold / warm alarm limit				+2°	C / +6°C						
Но	ld over time	2.5 h (+4°C to	+10°C)	2.8 h (+4°C to	+10°C)	2.8 h (+4°C to	o +10°C)	2.7 h (+4°C to +10°C)				
Clir	mate class (ambient temperature range)	SN / T (+10°C to +43°C)										
Dej	frosting technique				N	latural						
Refrigerant type		R600a										
External dimensions H x W x D (mm)		1988 x 699 x 1039		1988 x 845 x 1039		1988 x 992 x 1039		1988 x 1139 x 1039				
Inn	er dimensions H x W x D (mm)	1167 x 447 x 713		1167 x 590 x 713		1167 x 740 x 713		1167 x 887 x 713				
Ne	t weight with standard equipment (kg)	206		228		251		273				
	Supply voltage (V)	220-240	115-127	220-240	115-127	220-240	115-127	220-240	115-127			
	Frequency (Hz)	50 / 60	60	50 / 60	60	50 / 60	60	50 / 60	60			
y Save	Power (W)	300	300	300	300	300	300	300	300			
Energy	Energy consumption (kWh/24h)	1.50 / 1.50	1.40	1.50 / 1.50	1.40	1.50 / 1.60	1.40	1.60 / 1.70	1.40			
	Heat emission (Kcal/h)	36	30	35	35	36	35	41	36			
	Compressor running time (%)	27	25	26	29	27	29	29	30			
	Noise level (dB(A)) (at 1m height & 1m distance)	46 / 49	52	47 / 51	50	50 / 51	46	47 / 47	46			



Technical DataSpecifications

















B51-131 & BF261

B291-381

B401-501-701-901

			5251 551						
Regulation sensor Precision (from -80°C to +180°C) ± 0.3°C		NTC		PT1000					
Display senso Precision (from -8 in reference body corning 200-5CST	80°C to +180°C) ± 0.3°C v / 100 ml DOW	NTC		PT1000					
Accu data / function time of the control panel when system failure		12 V - 2.3 AH /	48h	12 V - 7 AH / 48h					
Relative hum	nidity at +32°C		≤ 7	75%					
Door insulation (polyurethane)		82 mm PU with 4-Layer PM	MA organic glass	65-82 mm PU with 5-Layer PMMA organic glass					
Casing insula	ntion (polyurethane)	60-65 mm P	U	77-82 mm PU					
	Inner body	Polypropylene (copo	lymer UV)	Stainless steel (1.4301)					
	Outer body	Polypropylene (copo	lymer UV)	DX51D + Z100 coated					
N A meta wind	Inner door	Polypropylene (copolymer UV)	Aluminium	Stainless steel (1.4301)					
Material	Outer door	Polypropylene (copo	lymer UV)	DX51D + Z100 coated					
	Drawer	Polycarbonate, tran	nsparent	Stainless steel (1.4301)					
	Shelf	-		Wire DIN177, PA11 coated					
European Me	edical Device Directive		93 / 42 / EEC, Class II	la (models: 220-240 V - 50/60 Hz)					
EMC directive	e	2014 / 30 / EU (models: 220-240 V - 50/60 Hz)							
Low voltage	directive		2014 / 35 / EU (models: 220-240 V - 50/60 Hz)						
FDA regulation	on	(Class II medical devices acc. to 210	CFR Part 864.9700 (models: 115-127 V - 60 Hz)					
cCSAus certif	icate		Yes (models: 1	115-127 V - 60 Hz)					
GMP - Clean	room classification	Class ISO 6 / EC C	GMP B	Class ISO 5 / EC GMP A					









Equipment General

		B51	B131	B291	B381	BF261	B401	B501	B701	B901
B Medical	Digital display	•	•	•	•	2	-	-	-	-
Systems Electronics	7" full touchscreen display	-	-	-	-	-	•			•
Ergonomic har open/close - heavy	ndle duty door lock mechanism	-	-	-	-	-	•	•	•	•
Internal LED lighting		•	•	•	•	•	•	•	•	•
°B Connected -	· Monitoring Software	\bigcirc	0	0	\bigcirc	0	•	•	•	•
DCU - Data Col (in combination wit	mmunication Unit	0	0	0	0	0	-	-	-	-
Ethernet interf	^f ace	-	-	-	-	-	•	•	•	•
Temperature c	hart recorder e form of a circular chart recorder)	0	0	0	0	0	0	0	\bigcirc	0
Ambient temp	erature sensor	-	-	-	-	-	$\overline{\bigcirc}$	0	0	0
Potential-free of system fa		•	•	•	•	•	•	•	•	•
Integrated por (installed by custon	t for external sensor ^{ner)}	•	•	•	•	2	•	•	•	•
Rollers		-	2	2	2	2	-	-	-	-
Smooth castor	s with stabilizers	-				-	4	• 4	• 4	• 4
Door hinge Rig	nht Left	\bullet \bigcirc	\bullet \bigcirc		\bullet \bigcirc	\bullet \bigcirc	\bullet \bigcirc	\bullet \bigcirc		





· with or without

DRAWER 2 versions:

Front Cover

bottom





Equipment Internal storage

Standard		B51	B131	B291	B381	BF261	B401	B501	B701	B901
Drawer with Fro	nt Cover	-	1	5	6	3	-	-	-	-
Drawer without	Front Cover	• 1	-	-	-	-	-	-	-	-
Bottom Drawer		1	1	1	• 1	2	-	-	-	-
Wire Shelf		-	-	-	-	-	02 2 - 2	2 2 -	2 1 - 2	2 7 -
ST-Drawer with Front Cover		-	-	-	-	-	93 VERSI 0 2	9 3 VERS 5	3 VERS 5	9 VERSI 2
Optional										
ST-Drawer with	out Front Cover	-	-	-	-	-	○ ≤ 13	○ ≤ 13	○ ≤ 13	○ ≤ 13
Accessories										
Dividers Set (H to facilitate the har	100 mm) ndling and storage management	-	•1	• 5	6	3	-	-	-	-
S-Rack (H 100 x	W 113 x D 638 mm)	-	-	-	-	-				
ST-Rack	with Wire Shelf	-	-	-	-	-				
(H 95 x W 134	with ST-Drawer	-	-	-	-	-				
x D 648 mm)	with ST-Shelf	-	-	-	-	-				







S-RACK

ST-RACK (STAINLESS STEEL)

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 monitored solution.



• Key power switch • O = OFF / I = ON

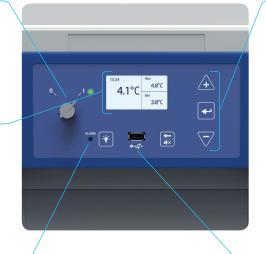
- To switch the unit on, turn the key switch to position "I". The green power LED lights up
- After the self-check, the temperature inside the device is displayed



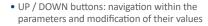
Digital display

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



Function buttons





 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



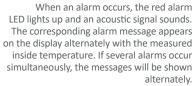
 MUTE / BACK button: in case of an alarm, the acoustic alarm can be muted for a specified time. In Parameter-mode the same key acts a "BACK-button" to go one step back



 LIGHT button: allows to switch on or off the interior light of the device without opening the door









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.



3.8°C

HAL

The new B Medical Systems Electronics

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

PREMIUM LINE | Multi-function 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



A Sub-Bass (S) V + V

• Touchscreen 7" full display

During normal operation the display shows:

- At the top: current voltage, current time, 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 measured inside temperature. If several alarms occur simultaneously, the messages will be shown alternately.



Keycard reader

Login / Unlock using a NFC card

O 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 any 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
- MESSAGE 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











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 forwarding, via email or SMS
- Generation of reports compiling crucial data and activities
- Temperature and detailed device data export for third-party software
- Important price 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







Movement state and door control

• Parameter settings of each device:

Factory settings, real time clock, language, firmware version, RS485 address, IP address

of Agitator devices

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







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 configurating 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 stored data
- The DCU combined with the °B Connected software replaces the paper temperature recorder
- All data are recorded and save in the internal storage of the DCU and backed up in °B Connected data base 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 facilities allowing flexible upgrades for individual projects







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

Reliable solutions for safe vaccination around the 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.

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

Our Global Expertise



SAVING LIVES THROUGH RELIABLE AND INNOVATIVE TECHNOLOGY

B Medical Systems (formerly Dometic Medical Systems) has more than 35 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. Having established a legitimate reputation in the medical equipment industry, the company has also become a global leader in vaccine cold chain.

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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.

Luxembourg, in the heart of Europe

