B
RANGE



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 13277 | AABB Standards |
Medical Device according to MDR (EU) 2017/745, Class IIa
or 21CFR Part 864.9700, Class II

- 9 MODELS
- +4°C TEMPERATURE
- 31 > 750 BLOOD BAGS (350ml)
- SN SN/T CLIMATE CLASS

medical systems

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
	○	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)

● Standard ○ Optional

Subject to change without prior notice.

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** I **SN/T** • Compliant to **DIN 13277** I **MDR (EU) 2017/745, Class IIa** I **AABB Standards**

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 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 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

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.



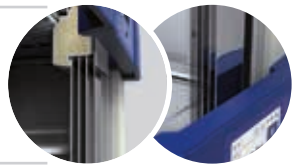
Versatile modularity

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

MODELS B401-501-701-901 | **PREMIUM LINE**

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.



Subject to change without prior notice. Some of the accessories shown in the pictures are optional.

B
RANGE

Technical Data
General features







	B51		B131		B291		B381		BF261		Refrigerator & Freezer combined	
Gross / Net volume (l)	52 / 45		121 / 106		297 / 269		362 / 329		R I 121 / 106		F I 121 / 106	
*Storage capacity (blood bags)**	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)	
Set temperature (preset)	+4°C										-32°C	
Preset cold / warm alarm limit	+2°C / 6°C										-37°C / -27°C	
Hold over time	1.5 h (+4°C to +10°C)		1.7 h (+4°C to +10°C)		1.8 h (+4°C to +10°C)		1.6 h (+4°C to +10°C)		1.7 h (+4°C to +10°C)		1.6 h (-32°C to -23°C)	
Climate class (ambient temperature range)	SN (+10°C to +32°C)											
Defrosting technique	Natural										Manual	
Refrigerant type	R600a										R290	
External 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			
Inner dimensions H x W x D (mm)	470 x 375 x 350		630 x 475 x 470		1470 x 475 x 470		1780 x 475 x 470		630 x 475 x 470		630 x 475 x 470	
Net weight with standard equipment (kg)	39	38	59	57	98	96	111	109	118	117		
Energy Saver – *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
Power (W)	100	100	200	200	200	200	200	200	200	200	300	360
Energy consumption (kWh/24h)	0.8 / 0.8	0.8	1.1 / 1.1	0.9	1.8 / 1.9	1.6	2.0 / 2.1	1.9	1.1 / 1.1	0.9	2.8 / 2.9	3.1
Heat emission (Kcal/h)	29	29	39	32	64	57	72	68	39	32	100	111
Compressor running time (%)	30	30	25	23	40	37	36	43	25	23	51	50
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

All values were measured at +25°C ambient temperature and without load. Hold over time measured at +20°C ambient temperature. 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.
*For guidance only. Values subject to change.

B
RANGE

Technical Data
General features






	B401	B501	B701	B901
Gross / Net volume (l)	478 / 390	634 / 517	792 / 645	949 / 773
*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			
Preset cold / warm alarm limit	+2.5°C / +5.5°C			
Hold over time	2.3 h (+4°C to +10°C)	2.8 h (+4°C to +10°C)	2.7 h (+4°C to +10°C)	2.6 h (+4°C to +10°C)
Climate class (ambient temperature range)	SN / T (+10°C to +43°C)			
Defrosting technique	Natural			
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
Inner dimensions H x W x D (mm)	1173 x 447 x 743	1173 x 593 x 743	1173x 740 x 743	1173 x 887 x 743
Net weight with standard equipment (kg)	206	228	251	273

Energy Saver	*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
	Power (W)	300	300	300	300	300	300	300	300
	Energy consumption (kWh/24h)	1.5 / 1.5	1.4	1.5 / 1.5	1.4	1.5 / 1.6	1.4	1.6 / 1.7	1.4
	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

All values were measured at +25°C ambient temperature and without load. Hold over time measured at +20°C ambient temperature. 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.
*For guidance only. Values subject to change.

B
RANGE

Technical Data
Specifications



		B51-131 & BF261	B291-381	B401-501-701-901
Regulation sensor		NTC, at 0°C ± 0.3°C		PT1000, at 0°C ± 0.1°C
Display sensor *in reference body / 100 ml DOW corning 200-5CST (Silicon Oil)*		NTC, at 0°C ± 0.3°C		PT1000, at 0°C ± 0.1°C
Accu data / function time of the control panel when system failure		12 V - 2.3 AH / 48h		12 V - 10.0 AH / 48h
Relative humidity at +32°C		≤ 75%		
Door insulation (polyurethane)		82 mm PU with 4-Layer PMMA organic glass*		65-82 mm PU with 5-Layer PMMA organic glass
Cabinet insulation (polyurethane)		60-65 mm PU		77-82 mm PU
Material	*Inner body*	Polypropylene (copolymer UV)		Stainless steel (1.4301)
	Outer body	Polypropylene (copolymer UV)		DX51D + Z100 coated
	Inner door	Polypropylene (copolymer UV)	Aluminium	Stainless steel (1.4301)
	Outer door	Polypropylene (copolymer UV)		DX51D + Z100 coated
	Drawer	Polycarbonate, transparent		Stainless steel (1.4301)
	Shelf	-		Wire DIN177, PA11 coated
European Medical Device Regulation		MDR (EU) 2017/745, Class IIa (models: 220-240 V - 50/60 Hz)		
EMC directive		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 | Medical Device		21CFR Part 864.9700, Class II (models: 115-127 V - 60 Hz)		
cCSAus certificate		Yes (models: 115-127 V - 60 Hz)		
Clean room classification | ISO 14644-1		Class 4 (excepted model BF261 = Class 5)		

*** BF261 (Freezer compartment) = 82 mm PU**
Subject to change without prior notice. Some of the accessories shown in the pictures are optional.

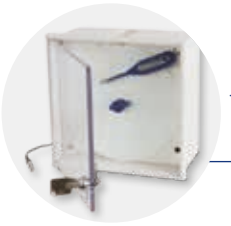
B
RANGE



7" FULL TOUCHSCREEN DISPLAY


ERGONOMIC HANDLE


ORGANIC GLASS DOOR


TEMPERATURE CHART RECORDER
(sample image)

Equipment
General

		B51	B131	B291	B381	BF261	B401	B501	B701	B901
B Medical Systems Electronics	Digital display	●	●	●	●	● 2	-	-	-	-
	7'' full touchscreen display	-	-	-	-	-	●	●	●	●
Ergonomic handle open/close - heavy duty door lock mechanism		-	-	-	-	-	●	●	●	●
Organic glass door for quick check / pre-selection of the refrigerator's content		●	●	●	●	●	●	●	●	●
Internal LED lighting		●	●	●	●	●	●	●	●	●
Ethernet interface		-	-	-	-	-	●	●	●	●
°B Connected - Monitoring Software		○	○	○	○	○	○	○	○	○
DCU - Data Communication Unit (in combination with °B Connected)		○	○	○	○	○	-	-	-	-
Temperature chart recorder pre mounted (in the form of a circular chart recorder)		○	○	○	○	○	○	○	○	○
Ambient temperature sensor		-	-	-	-	-	○	○	○	○
Potential-free alarm contact in case of system failure		●	●	●	●	●	●	●	●	●
Integrated port for external sensor (installed by customer)		●	●	●	●	● 2	●	●	●	●
Rollers		-	● 2	● 2	● 2	● 2	-	-	-	-
Smooth castors with stabilizers		-	-	-	-	-	● 4	● 4	● 4	● 4
Door hinge Right | Left		● | ○	● | ○	● | ○	● | ○	● | ○	● | ○	● | ○	● | ○	● | ○

● Standard ○ Optional - Not available

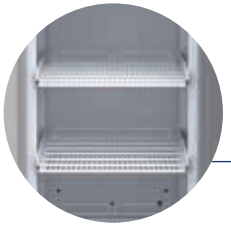
Subject to change without prior notice.

B
RANGE

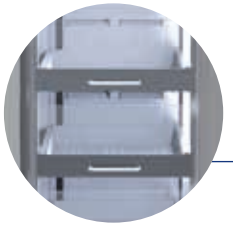


DRAWER

2 versions:
• with or without Front Cover
• bottom



WIRE SHELF

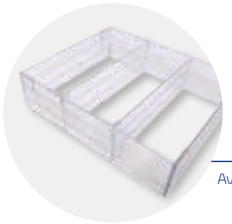


ST-DRAWER (STAINLESS STEEL)

Available with or without Front Cover

Equipment
Internal storage

Standard	B51	B131	B291	B381	BF261	B401	B501	B701	B901
	-	● 1	● 5	● 6	● 3	-	-	-	-
	● 1	-	-	-	-	-	-	-	-
	● 1	● 1	● 1	● 1	● 2	-	-	-	-
	-	-	-	-	-	● 2 VERSION 1 / - VERSION 2	● 2 VERSION 1 / - VERSION 2	● 2 VERSION 1 / - VERSION 2	● 2 VERSION 1 / - VERSION 2
	-	-	-	-	-	● 3 VERSION 1 / ● 5 VERSION 2	● 3 VERSION 1 / ● 5 VERSION 2	● 3 VERSION 1 / ● 5 VERSION 2	● 3 VERSION 1 / ● 5 VERSION 2
Optional									
	-	-	-	-	-	○ 13 (max. per unit)	○ 13 (max. per unit)	○ 13 (max. per unit)	○ 13 (max. per unit)
Accessories									
	-	● 1	● 5	● 6	● 3	-	-	-	-
	-	-	-	-	-	○ 10 (max. per unit)	○ 20 (max. per unit)	○ 25 (max. per unit)	○ 30 (max. per unit)
	-	-	-	-	-	○ 2 (max. per tray)	○ 3 (max. per tray)	○ 3 (max. per tray)	○ 4 (max. per tray)
	-	-	-	-	-	○ 2 (max. per tray)	○ 2 (max. per tray)	○ 3 (max. per tray)	○ 4 (max. per tray)
	-	-	-	-	-	○ 2 (max. per tray)	○ 3 (max. per tray)	○ 4 (max. per tray)	○ 4 (max. per tray)
	-	-	-	-	-	○ 13 (max. per unit)	○ 13 (max. per unit)	○ 13 (max. per unit)	○ 13 (max. per unit)

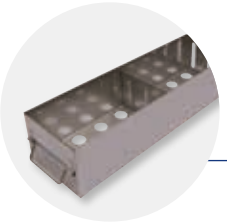


DIVIDERS SET

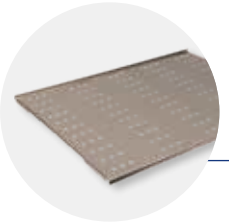
Available for Drawer with Front Cover



S-RACK



ST-RACK (STAINLESS STEEL)



ST-COVER (STAINLESS STEEL)

Available for Wire Shelf

● Standard ○ Optional - Not available

Subject to change without prior notice.

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



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.



Subject to change without prior notice.

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, 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



Subject to change without prior notice.

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



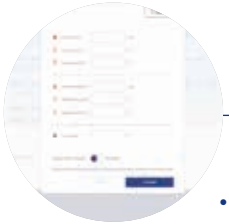
USER MANAGEMENT

- 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

Subject to change without prior notice.

°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

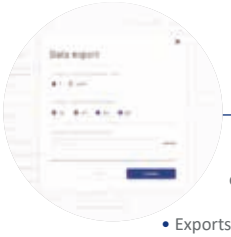
- No limitation in terms of time range
- Freely scalable
- Detailed information for any point of time
- Temperature data, events and alarms
- Login history and audit trails



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

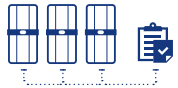


PRINTED ANALYSIS

- 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 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 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

Subject to change without prior notice.

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

Our Global Expertise

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.

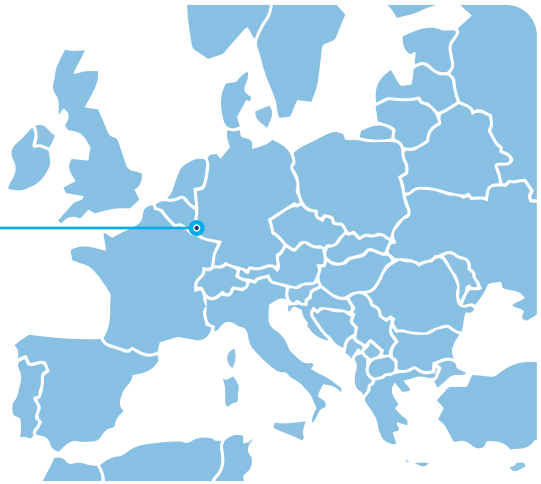
B medical systems

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.

Luxembourg, in the heart of Europe



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MADE IN LUXEMBOURG

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WE SUPPORT UN GLOBAL COMPACT

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.

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