U
RANGE



Ultra Low Freezers

B Medical Systems | U Range

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.

Compliant to DIN 58375 | Medical Device according to MDR (EU) 2017/745, Class IIa or 21CFR Part 864.9700, Class II

- 5 MODELS
- -82°C TEMPERATURE
- 15K > 60K VIALS (2ml)
- 300 > 600 PLASMA BAGS (350ml)
- SN/T CLIMATE CLASS
- MEDICAL DEVICE Certified (EU) 2017/745

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.

PREMIUM LINE	
●	B Medical Systems Electronics
●	B Medical Systems 7'' full touchscreen display
●	Power indicator light and digital temperature indicator (display: 0.1 digits)
●	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)
●	Door opening alarm (visual / acoustic)
●	Designed and tested for climatic class SN / T (ambient temperature range +10°C to +43°C)
●	Interior made from stainless steel
●	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
○	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
●	Integrated remote temperature monitoring device (RTMD), offering real-time worldwide remote monitoring, data access over WEB and GPS position

● Standard ○ Optional

Subject to change without prior notice.

Ultra Low Freezers

B Medical Systems | U Range

5 models • Volume **214 > 895 L** • Set temperature **-82°C** • Climate class **SN/T** • Compliant to **DIN 58375** I **MDR (EU) 2017/745, Class IIa**

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

MODELS U201-401-501-701-901 | **PREMIUM LINE**







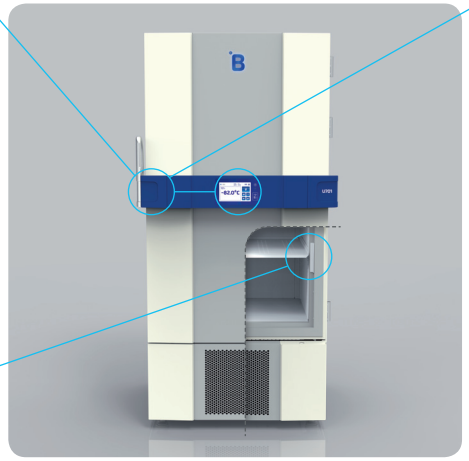
Exclusive integrated electronics handle bar *(Patent pending)*

All functionalities are easily accessible:

- Digital control with full functionalities - New 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

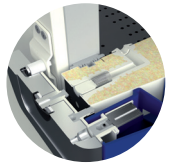
High quality materials

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



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





Versatile modularity

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



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 -20°C to -86°C.

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

U
RANGE

Technical Data
General features



		U201	U401	U501	U701	U901
Gross / Net volume (l)		214 / 206	451 / 434	598 / 577	747 / 720	895 / 863
Storage capacity	*Vials*	15000 (2ml)	30000 (2ml)	40000 (2ml)	50000 (2ml)	60000 (2ml)
	Cryoboxes	150 (model H50)	345 (model H50)	460 (model H50)	575 (model H50)	690 (model H50)
	Plasma bags	150 (350ml)	300 (350ml)	400 (350ml)	500 (350ml)	600 (350ml)
Set temperature (preset)		-82°C				
Set temperature (setting range) *can be adjusted in steps of 0.1°C*		-86°C to -20°C				
Preset cold / warm alarm limit		-87°C / -77°C				
Hold over time (-82°C to -60°C)		1 h 00 min.	1 h 18 min.	1 h 18 min.	1 h 18 min.	1 h 24 min.
Climate class (ambient temperature range)		SN / T (+10°C to +43°C)				
Defrosting technique		Manual				
Refrigerant type		R290 / R170				
External dimensions H x W x D (mm)		1293 x 699 x 1039	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)		672 x 447 x 713	1370 x 447 x 713	1370 x 581 x 713	1370 x 740 x 713	1370 x 887 x 713
Net weight with standard equipment (kg)		195	250	276	297	320

Energy Saver	*Supply voltage (V)*	230	220	230	220	230	220	230	220	230	220
	Frequency (Hz)	50	60	50	60	50	60	50	60	50	60
	Power (W)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
	Energy consumption (kWh/24h)	12.0	12.0	11.0	12.5	11.3	12.5	11.9	13.5	12.4	15.5
	Heat emission (Kcal/h)	209	338	326	405	404	433	426	511	444	567
	Compressor running time (%)	45	45	46	44	51	47	50	55	59	61
	Noise level (dB(A)) *(at 1m height & 1m distance)*	49	50	49	50	52	53	48	49	51	52

All values were measured at +25°C ambient temperature, -82°C Setpoint and without load.
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.

U
RANGE

Technical Data
Specifications



		U201-401-501	U701-901
Regulation sensor		PT1000, from -80°C to -180°C at 0°C ± 0.1°C	
Display sensor *in reference body / 100 ml DOW corning 200-5CST (Silicon Oil)*		PT1000, from -80°C to -180°C at 0°C ± 0.1°C	
Accu data / function time of the control panel when system failure		12 V - 7 AH / 48h	
Relative humidity at +32°C		≤ 75%	
Door insulation (polyurethane)		65-82 mm PU with 20 mm VIP	
Cabinet insulation (polyurethane)		77-82 mm PU with 20-30 mm VIP	
Material	*Inner body / door*	Stainless steel (1.4301)	
	Outer body / door	DX51D + Z100 coated	
	Separate interior doors	Anodized aluminium	
	Shelf	Stainless steel (1.4301)	
European Medical Device Regulation		MDR (EU) 2017/745, Class IIa (models: 230 V - 50 Hz)	
EMC directive		2014 / 30 / EU (models: 230 V - 50 Hz)	
Low voltage directive		2014 / 35 / EU (models: 230 V - 50 Hz)	
FDA regulation | Medical Device		21CFR Part 864.9700, Class II (models: 220 V - 60 Hz)	
cCSAus certificate		Yes (models: 220 V - 60 Hz)	
GMP - Clean room classification		Class ISO 5 / EC GMP A	
Energy Star certificate		-	Yes

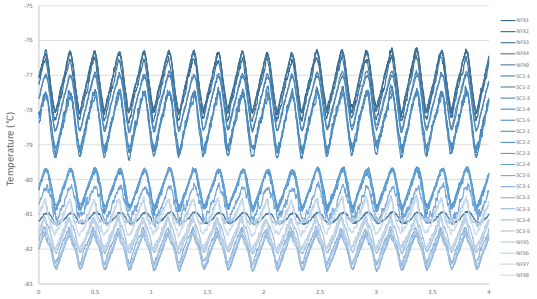
EXAMPLE OF "STABLE RUNNING (TEMPERATURE STABILITY)"

For all models, temperature distribution graphs for the stages "Cool Down (Cooling)", "Stable Running (temperature stability)" and "Hold Over (temperature graphs, for example in case of system failure)" are available upon inquiry for various voltages. Determined at 5 measuring points per level or compartment (empty).

U401

Voltage: 230V / 50Hz
Ambient temperature: +25°C
Relative humidity: 45%

Set point: -82°C
Cold alarm: -87°C
Warm alarm: -77°C

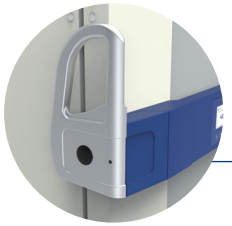


Subject to change without prior notice. Some of the accessories shown in the pictures are optional.

U RANGE



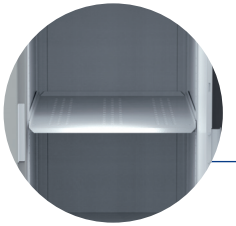
7" FULL TOUCHSCREEN DISPLAY



ERGONOMIC HANDLE



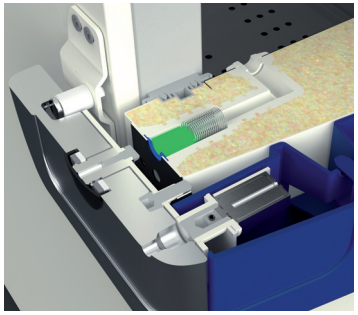
SEPARATE INTERIOR DOORS



ST-SHELF (STAINLESS STEEL)

Equipment
General

	U201	U401	U501	U701	U901
B Medical Systems Electronics 7'' full touchscreen display	●	●	●	●	●
Ergonomic handle open/close - heavy duty door lock mechanism	●	●	●	●	●
Integrated pressure release valve	●	●	●	●	●
Separate interior doors in order to minimize the loss of cold air	● 1	● 2	● 2	● 2	● 2
ST-Shelf	● 1	● 3	● 3	● 3	● 3
Ethernet interface	●	●	●	●	●
°B Connected - Monitoring Software	○	○	○	○	○
Integrated remote temperature monitoring device (RTMD)	●	●	●	●	●
Ambient / condenser temperature sensor	○	○	○	○	○
Potential-free alarm contact in case of system failure	●	●	●	●	●
Integrated port for external sensor (installed by customer)	●	●	●	●	●
External water cooling	○	○	○	○	○
CO_2 BackUp / Emergency cooling system	○	○	○	○	○
Smooth castors with stabilizers	● 4	● 4	● 4	● 4	● 4
Door hinge Right | Left	● | ○	● | ○	● | ○	● | ○	● | ○



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.

● Standard ○ Optional - Not available

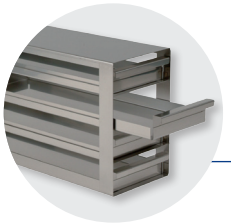
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U RANGE



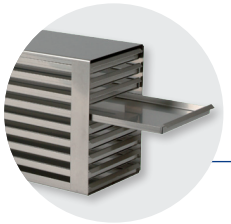
CRYO-RACK

Available for Cryoboxes H50 / H75 / H100

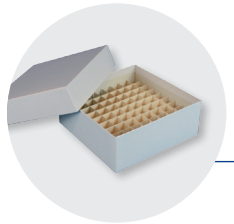


D-RACK

Available for Cryoboxes H50 / H75 / H100



D-RACK MICROTITER

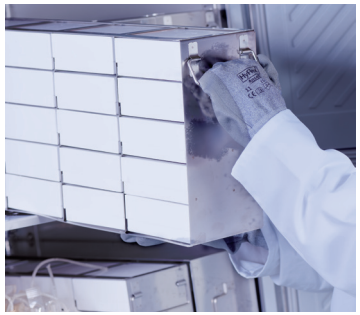


CARTON CRYOBOX

(Shown with carton separator)

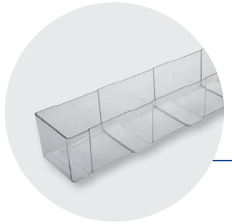
Equipment
Accessories

		U201	U401	U501	U701	U901
Large Cryo-Rack H50 *for the storage of 30 Cryoboxes H50*		-	◯ 9 (max. per unit)	◯ 12 (max. per unit)	◯ 15 (max. per unit)	◯ 18 (max. per unit)
Cryo-Rack H50 / H75 / H100 *for the storage of 25 Cryoboxes H50 / 15x H75 / 10x H100*		◯ 6 (max. per unit)	◯ 12 (max. per unit)	◯ 16 (max. per unit)	◯ 20 (max. per unit)	◯ 24 (max. per unit)
D-Rack H50 / H75 / H100 *for the storage of 20 Cryoboxes H50 / 15x H75 / 10x H100*		◯ 6 (max. per unit)	◯ 12 (max. per unit)	◯ 16 (max. per unit)	◯ 20 (max. per unit)	◯ 24 (max. per unit)
D-Rack microtiter H22		◯ 6 (max. per unit)	◯ 12 (max. per unit)	◯ 16 (max. per unit)	◯ 20 (max. per unit)	◯ 24 (max. per unit)
Carton Cryobox		-	◯ 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)	◯ 690 (with 18 Large Cryo-Racks and 6 Cryo-Racks)
	H50 (H 50 x W 136 x D 136 mm)	◯ 150 (with 6 Cryo-Racks)	◯ 300 (with 12 Cryo-Racks)	◯ 400 (with 16 Cryo-Racks)	◯ 500 (with 20 Cryo-Racks)	◯ 600 (with 24 Cryo-Racks)
		◯ 120 (with 6 D-Racks)	◯ 240 (with 12 D-Racks)	◯ 320 (with 16 D-Racks)	◯ 400 (with 20 D-Racks)	◯ 480 (with 24 D-Racks)
	H75 (H 75 x W 136 x D 136 mm)	◯ 90 (with 6 Cryo-/ D-Racks)	◯ 180 (with 12 Cryo-/ D-Racks)	◯ 240 (with 16 Cryo-/ D-Racks)	◯ 300 (with 20 Cryo-/ D-Racks)	◯ 360 (with 24 Cryo-/ D-Racks)
	H100 (H 100 x W 136 x D 136 mm)	◯ 60 (with 6 Cryo-/ D-Racks)	◯ 120 (with 12 Cryo-/ D-Racks)	◯ 160 (with 16 Cryo-/ D-Racks)	◯ 200 (with 20 Cryo-/ D-Racks)	◯ 240 (with 24 Cryo-/ D-Racks)
Carton separator *for Cryoboxes H50 / H75 / H100*		◯	◯	◯	◯	◯
S-Rack (H 100 x W 113 x D 638 mm) *for the storage of bags*		◯ 6 (max. per unit)	◯ 12 (max. per unit)	◯ 16 (max. per unit)	◯ 20 (max. per unit)	◯ 24 (max. per unit)
Separator for S-Rack *to facilitate the handling and storage management of bags*		◯	◯	◯	◯	◯
Temperature chart recorder *pre mounted (in the form of a circular chart recorder)*		◯	◯	◯	◯	◯

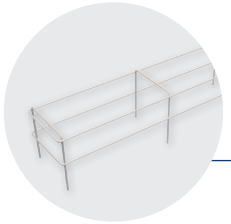


VERSATILE MODULARITY

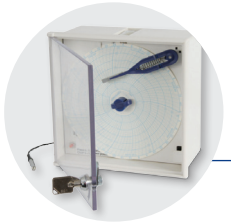
Excellent storage capacity and modularity - Large choice of racks offering modularity for every need.



S-RACK



SEPARATOR FOR S-RACK



TEMPERATURE CHART RECORDER

(sample image)

◯ Optional

Subject to change without prior notice.

Full functionalities at a glance

B Medical Systems | Electronics

The new 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, gasket heater 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

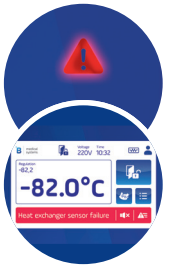




USB port & SD card slot

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

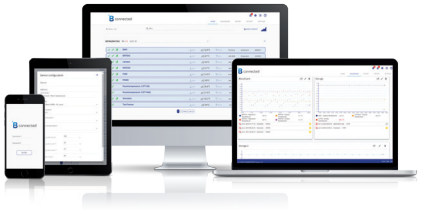
- DOOR UNLOCK button: unlocks the door of the device
- CLEAN button: the cleaning button allows the user to disable the touch capability of the screen for a short period of time in order to clean the screen. This button is replaced by the logout button when user is logged in
- MENU button: allows access 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 & RTMD



°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



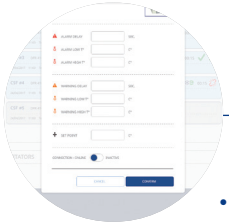
USER MANAGEMENT

- 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



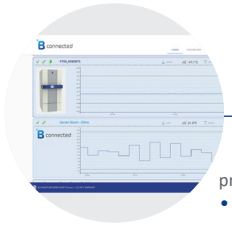
DETAILED DISPLAY

- 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 & RTMD 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

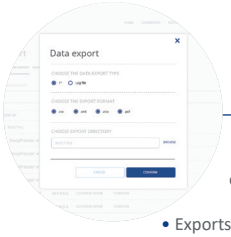
- No limitation in terms of time range
- Freely scalable
- Detailed information for any point of time
- Temperature data, events and alarms
- Login history and audit trails



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

RTMD | REMOTE TEMPERATURE MONITORING DEVICE (INTEGRATED)

*Hardware module monitoring all operating conditions and passing them through our web based Vaclog network ensuring a high performing and reliable cold chain 24*7.*

- Real time monitoring of temperature(s), door / lid openings & GPS position
- Includes a SIM chip with prepaid communication for the duration of the warranty period contractually agreed
- Crucial for the quality surveillance of the cold chain and monitoring of vaccines
- Rechargeable battery
- Worldwide remote monitoring & data access over WEB
- Only 2G or 3G coverage is necessary to operate
- Google Maps positioning using integrated GPS module
- Alarms include temperature deviations and door / lid openings
- Alarms are sent by text messages or emails



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.

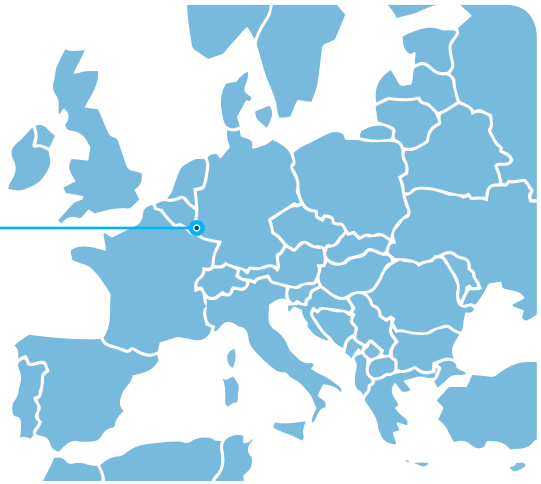
B medical systems

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. Having established a legitimate reputation in the medical equipment industry, the company has also become a global leader in vaccine cold chain.

Luxembourg, in the heart of Europe



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MADE IN LUXEMBOURG

www.bmedicalsystems.com

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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