ML/MP
RANGE

Medical Refrigerators

B Medical Systems | ML/MP Range

Medical Refrigerators are devices intended for the safe storage of laboratory and pharmaceutical preparations at cold temperatures between +4°C and +15°C.

Compliant to DIN 13221 | DIN 58345

- 4 MODELS
- +5°C TEMPERATURE
- 670 L > 1430 L VOLUME
- SN SN/ST CLIMATE CLASS

medical systems

SAVING LIVES
THROUGH RELIABLE
AND INNOVATIVE
TECHNOLOGY

Medical Refrigeration

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.

ML/MP RANGE	
●	B Medical Systems Electronics
●	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
●	Automatic switch-off of the evaporator fans when the door opens
●	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
●	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) *[for MP models]*
●	Designed and tested for climatic class SN / ST (ambient temperature range +10°C to +38°C) *[for ML models]*
●	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
○	°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.

Medical Refrigerators

B Medical Systems | ML/MP Range

4 models • Volume **670 > 1430 L** • Set temperature **+5°C** • Climate class **SN** I **SN/ST** • Compliant to **DIN 13221** I **DIN 58345**

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

MODELS ML670-1430SG & MP670-1430SG

Integrated multifunction electronics

Integrated B Medical Systems multifunction electronics, compatible with °B Connected monitoring solution for data monitoring and recording.

High quality materials

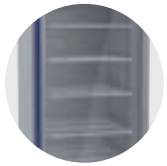
High quality stainless steel, certified antibacterial, for better longevity and easy hygiene control.

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.

Special features

- Control of storage temperature and documentation of temperature changes can - depending on the application - be carried out via an optional integrated temperature recorder (in the form of a circular chart recorder) or via the optional DCU, through the Monitoring & Visualization Software °B Connected
- Full compatibility of inner modules and rails, no need to buy new racks, you can keep racks previously used in different ML/MP models
- MP models are equipped with triple insulating glass door (anti-mist) for quick check and pre-selection of the refrigerator's content



Medical Refrigerators are devices intended for the safe storage of laboratory and pharmaceutical preparations at cold temperatures between +4°C and +15°C with multiple safety features developed as a result of 40 years of expertise in refrigeration technology.

*** Compliant to DIN 13221 (ML models) and DIN 58345 (MP models)**
Subject to change without prior notice. Some of the accessories shown in the pictures are optional.

ML/MP RANGE

Technical Data
General features




	ML670SG	ML1430SG	MP670SG	MP1430SG
Gross / Net volume (l)	670 / 615	1430 / 1395	670 / 615	1430 / 1395
Set temperature (preset)	+5°C			
Set temperature (setting range) *can be adjusted in steps of 0.1°C*	+4°C to +15°C		+5°C to +15°C	
Temperature cold / warm alarm limit	+2°C / +8°C			
Hold over time (+5°C to +10°C)	120 min.	85 min.	60 min.	50 min.
Climate class (ambient temperature range)	SN / ST (+10°C to +38°C)		SN (+10°C to +32°C)	
Defrosting technique	Natural			
Refrigerant type	R290			
External dimensions H x W x D (mm)	2050 x 710 x 910	2050 x 1441 x 910	2050 x 710 x 910	2050 x 1441 x 910
Inner dimensions H x W x D (mm)	1544 x 560 x 707	1544 x 1291 x 707	1544 x 560 x 707	1544 x 1291 x 707
Net weight with standard equipment (kg)	152	244	172	285
Energy Saver *Supply voltage (V)*	220-240			
Frequency (Hz)	50			
Power (W)	230	270	230	270
Energy consumption (kWh/24h)	1.1	1.9	1.5	2.5
Heat emission (Kcal/h)	31	48	44	73
Compressor running time (%)	16	20	22	30
Noise level (dB(A)) *(at 1m height & 1m distance)*	47	50	47	50

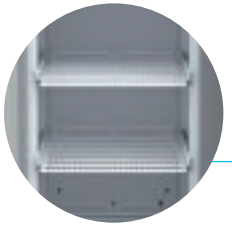
All values were measured at +25°C ambient temperature and without load (with inertial mass).
Subject to change without prior notice. Some of the accessories shown in the pictures are optional.

ML/MP
RANGE

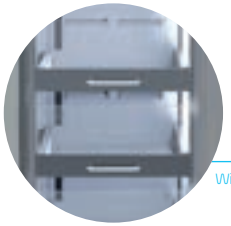
Technical Data
Specifications

		ML670-1430SG	MP670-1430SG
Regulation sensor *Precision (from -80°C to +180°C) ± 0.3°C*		PT1000 2-WIRE 1/3DIN CL.B	
Display sensor *Precision (from -80°C to +180°C) ± 0.3°C in reference body / 100 ml DOW corning 200-5CST (Silicon Oil)*		PT1000 2-WIRE 1/3DIN CL.B	
Accu data / function time of the control panel when system failure		12 V - 7 AH / 48h	
Relative humidity at +32°C		≤ 75%	≤ 70%
Door insulation (polyurethane)		63 mm PU	63 mm PU with triple insulating glass
Casing insulation (polyurethane)		56-75 mm PU	
Material	*Inner / Outer body*	Stainless steel (V2A - 1.4301)	
	Inner / Outer door	Stainless steel (V2A - 1.4301)	
	Shelf	Wire DIN177, PA11 coated	
Compliance		DIN 13221	DIN 58345
Safety class		I	
EMC directive		2014 / 30 / EU	
Low voltage directive		2014 / 35 / EU	

ML/MP RANGE



WIRE SHELF



ST-DRAWER (STAINLESS STEEL)
Without Front Cover

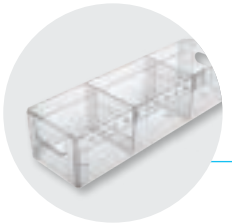
Equipment
Standard & optional

		ML670SG	ML1430SG	MP670SG	MP1430SG
B Medical Systems Electronics		●	●	●	●
Interior equipment	*Wire Shelf*	● 6 | ○ ≤ 12	● 12 | ○ ≤ 24	● 6 | ○ ≤ 12	● 12 | ○ ≤ 24
	ST-Drawer	○ ≤ 12	○ ≤ 20	○ ≤ 12	○ ≤ 20
Internal LED lighting		○	○	○	○
°B Connected - Monitoring Software		○	○	○	○
DCU - Data Communication Unit (in combination with °B Connected)		○	○	○	○
Ambient temperature sensor		○	○	○	○
Potential-free alarm contact in case of system failure		●	●	●	●
Integrated port for external sensor (installed by customer)		●	●	●	●
Glass door heating (anti-mist)		-	-	●	●
Shortened feet (unit height 1990 mm)		○	○	○	○
Smooth castors with stabilizers		○	○	○	○
Door hinge Right | Left		● | ○	-	● | ○	-
Wooden packaging for ocean transport / export		○	○	○	○

● Standard ○ Optional - Not available

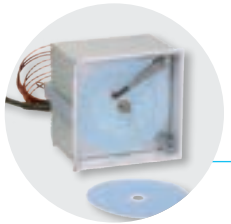
Subject to change without prior notice.

ML/MP RANGE



W-RACK
(Shown with bags separators)

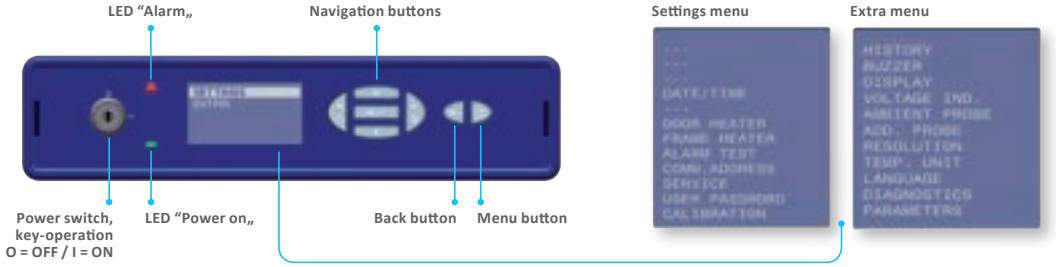
AL-KIT
Available for ST-Drawer



TEMPERATURE CHART RECORDER

Accessories
Optional

	ML670SG	ML1430SG	MP670SG	MP1430SG
W-Rack *(H 104 x W 155 x D 640 mm)*	◯ ≤ 3 (per level)	◯ ≤ 3 (per level)	◯ ≤ 3 (per level)	◯ ≤ 3 (per level)
Bag separator for W-Rack	◯	◯	◯	◯
AL-Kit *to facilitate the handling and storage management*	◯	◯	◯	◯
Temperature chart recorder *integrated (in the form of a circular chart recorder)*	◯	◯	◯	◯
Additional reference bottle *with reference fluid and fitting*	◯	◯	◯	◯



THE B MEDICAL SYSTEMS ELECTRONICS OFFERS (STANDARD):

- A wide range of adjustment and diagnostic facilities as well as additional protection / warning operations (via external alarm operations, histories and individual display signals)
- An optional PT 100 sensor inlet to show the sensor's temperature data on the display as well as forwarding and further processing via a 4-20 mA outlet
- An optional 20 mA outlet to transmit temperature data of a sensor connected to the electronic
- Connection facilities for additional (optional) temperature sensors
- °B Connected (Monitoring Software) and the DCU (Data Communication Unit) allows illustration of texts on the product's display (optional)

◯ Optional - Not available

Subject to change without prior notice.

Optimum control and protection

B Medical Systems | °B Connected & DCU

°B CONNECTED | MONITORING SOFTWARE

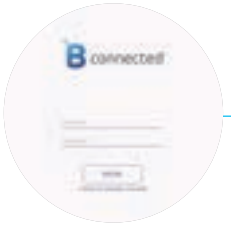
Universal software for the monitoring of refrigeration devices, including the acquisition, recording and visualization of temperature data.

- 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

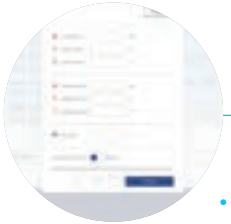


USER MANAGEMENT

- Password login
- Access right

DEVICE SETTINGS

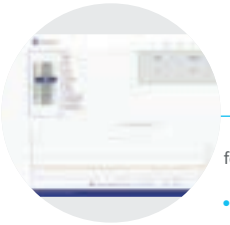
- Device information
- Device & user configuration



ALARM PROFILE

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

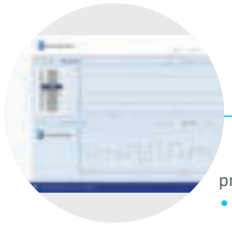
2 DISPLAYING



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

°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



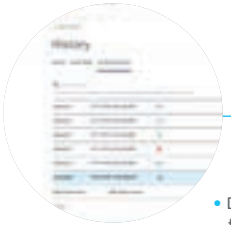
REAL TIME GRAPHICS

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

CONTROL CENTER

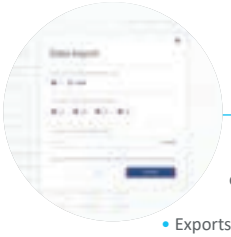
Overview (Control Monitor) of all monitored appliances:
- Information regarding status, appliance name, location, connection, upper and lower limits, current temperature, events / alarms
- Dashboard to combine several temperature measurements in one single graph

3 ANALYSING



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



PRINTED ANALYSIS

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

DCU | DATA COMMUNICATION UNIT

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

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.

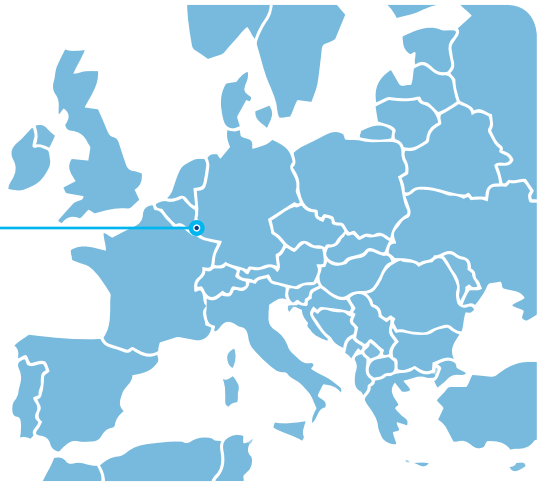
B medical systems

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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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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