B Medical Systems’s Biomedical Refrigeration product range is the solution for safe storage, transport & handling of temperature sensitive preparations in the appropriate optimum conditions without any risks.

The products cover the spectrum of the specific and exacting needs of the market: hospitals, laboratories, pharmacies, blood banks, research centres, universities and industry.

www.bmedicalsystems.com
B Medical Systems
Your global partner to save lives.

B Medical Systems S.à r.l. is a pioneer in the medical industry. The company was founded in 1979 when the World Health Organization approached Electrolux in Vianden, Luxembourg, to provide a solution to their problems in safely storing and transporting vaccines around the world. Subsequently, the Electrolux refrigeration division became the Dometic Group.

In March 2015 Navis Capital Partners and the management team acquired the medical division from the Dometic Group under the new name B Medical Systems S.à r.l.. The name change reflects the deep conviction of the team and shareholders, to continuously deploy dedicated solutions in its customers in the healthcare field.

B Medical Systems S.à r.l. specializes in research, development and the manufacture of professional refrigerators, freezers, storage and solutions for transport and safe transport and management of blood and vaccines. With our worldwide network of distributors, our own Research and Development capability and flexible manufacturing facilities, we will continually strive for excellence in product development, manufacturing and customer service across all of our product lines.

We are committed to exploring new technologies, increasing the variety of our products and seeking new fields of business. B Medical Systems S.à r.l. is a flexible, innovative and customer-oriented company, which has always been recognized for the excellence and performance of its products. We have always based our reputation on one rule: “never compromising on standards” to deliver the best performance these programs deserve, for humanity.

Over the past few years, we have been supported extensively and passionately by our regional consultants and country partners who dedicate themselves to our cause and have gained credibility in their own right with the regional agencies and country authorities.

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B Medical Systems Safety and Green Standards
For technical reliability and environmental friendliness
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For increased reliability to comply with European essential requirements
Biomedical Refrigerators, Freezers and Transport Systems
For any cooling need in laboratories, research, biotechnology
Electronic & Software
For optimum control and protection of your preparations
Gold & Silver Safety Standards

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 the trend-setting safety of the user. The B Medical Systems Silver Safety Standard ensures the reliable and safe operation of all B Medical Systems refrigerators and deep freezers. Safety for the stored preparations and the user. Silver models are denominated with a “S”.

The B Medical Systems Gold Safety Standard efficiently complements the safety requirements of the B Medical Systems Silver Safety Standard and therefore exceeds even the official standards. Gold models are denominated with a “G”.

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<td>G</td>
<td>S</td>
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<tr>
<td>Interior made from stainless steel</td>
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<td>S</td>
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<tr>
<td>Internal LED lighting</td>
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<td>Additional remote transmission alarm signal (via potential-free contact) in case of power failure (change-over contact)</td>
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1 Not for models BR / DFR / FR / LR / PR 110 GG
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Gold & Silver Safety Standards Green Standard

The B Medical Systems Gold Safety Standard efficiently complements the safety requirements of the B Medical Systems Silver Safety Standard and therefore exceeds even the official standards. Gold models are denominated with a “G”.

These new “green” models convince by their technical optimizations in terms of economy and environmental protection:

- Use of environmentally friendly, natural gases as refrigerants accompanied by enormous reduction of CO₂ emissions
- 40-60 % less energy consumption
- Over 80 % less heat ejection
- Up to 40 % less power needed

In addition, the new models stand out because of:
- Improved hold over times thanks to optimized door insulation
- Drastically reduced noise level for more workplace convenience

Green Standards

- Environmentally friendly refrigerants
- Reduced energy consumption
- Reduced CO₂ emission
- Less heat ejection
- Less power needed

B Medical Systems is pleased to announce a complete new range of high efficient and low noise appliances using natural gases such as isobutane, propane and ethane as refrigerants.

Your global partner to save lives.
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 13485 and the European Medical Device Directive 93 / 42 / EEC.

All medical devices manufactured by B Medical Systems S.à r.l. will be labeled with the CE-Label (CE 0499). 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.

Our medical device products will be all blood banks refrigerators from our range BR, as well as all plasma freezers from our ranges MF and FR.

Why the EN 13485 certification?

This EN Standard was published in 2003 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 requirement for quality management system.

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

The real importance of the directive 93/42/EEC


The Medical Device calls for all manufacturers who distribute in the European Economic Area to comply with essential requirements that benefits the safety. 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.
Refrigerators for the legally safe storage of blood bags / erythrocyte concentrates at +4°C
> according to DIN 58371, ÖNORM K 2030 & Medical Device 93/42/EEC

The interior temperature of the blood refrigerators is monitored via an autonomous control sensor and adjusted to +4°C. This ensures that the product temperature of the stored preparations is kept at +4°C ± 1.5°C.

The models of the BR range feature a natural defrosting system that does not affect the product temperature of the stored preparations during defrosting.

BR models are equipped with a glass door for quick checks and pre-selection of the refrigerator’s content.

The transparent front panel of the ST-Drawers, which are part of the standard equipment of the BR models, minimize cold losses when the door is opened.

Models BR 250 - 750 G are available as 220 V (50/60 Hz) and 115 V (60 Hz) versions.

### BR range

The BR range comprises 5 Blood Refrigerators that are built in compliance with the requirements of:

- DIN 58371 (Germany, “Blutkonserven-Kühleräte”/ Blood Refrigerators)
- ÖNORM K 2030 (Austria, “Blutkonserven-Kühlschränke”/ Blood Refrigerators)
- European Medical Device Directive 93/42/EEC

In conformity with:

- AS 3864 (Australia, “Medical refrigeration equipment – for the storage of blood & blood products”)
- European Directive “Guide to preparation, use and quality assurance of blood components”

### BR models

#### BR 110 GG
- Gross volume (l): 106
- Net volume (l): 92
- Storage capacity (blood bags): 54 at 450 ml
- External dimensions H x W x D (mm): 820 x 560 x 580
- Energy consumption (Kwh/24h): 0.75
- Noise level (dB(A)): 41

#### BR 250 G / GG
- Gross volume (l): 246
- Net volume (l): 167
- Storage capacity (blood bags): 120 at 450 ml
- External dimensions H x W x D (mm): 1300 x 850 x 785
- Energy consumption (Kwh/24h): 1.50
- Noise level (dB(A)): 49

#### BR 410 G / GG
- Gross volume (l): 489
- Net volume (l): 395
- Storage capacity (blood bags): 300 at 450 ml
- External dimensions H x W x D (mm): 1735 x 850 x 785
- Energy consumption (Kwh/24h): 1.90
- Noise level (dB(A)): 51

#### BR 490 G / GG
- Gross volume (l): 489
- Net volume (l): 395
- Storage capacity (blood bags): 400 at 450 ml
- External dimensions H x W x D (mm): 1950 x 850 x 785
- Energy consumption (Kwh/24h): 2.00
- Noise level (dB(A)): 51

#### BR 750 G / GG
- Gross volume (l): 746
- Net volume (l): 620
- Storage capacity (blood bags): 450 at 450 ml
- External dimensions H x W x D (mm): 1900 x 910 x 985
- Energy consumption (Kwh/24h): 2.10
- Noise level (dB(A)): 51

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

Your global partner to save lives.
Freezers for the low-temperature storage of plasma and other substances under optimum conditions

B Medical Systems’s biomedical freezer range is the perfect solution for a safe storage and handling of temperature-sensitive preparations such as plasma and other blood products in conformity with national and international norms and guidelines. Models FR 250 - 750 G are available as 220 V (50/60 Hz) version, model MF 290 SG as 220 V (50/60 Hz) & 115 V (60 Hz) versions and model MF 110 SG as 115 V (60Hz) version.

### MF 110 SG
- **Gross volume (l):** 110
- **Net volume (l):** 104
- **Storage capacity (plasma bags):**
  - 69 at 450 ml
  - 69 at 350 ml
- **External dimensions (H x W x D (mm)):** 900 x 595 x 630
- **Energy consumption (Kwh/24h):** 1.70
- **Noise level (dB(A)):** 41

### MF 290 SG
- **Gross volume (l):** 290
- **Net volume (l):** 265
- **Storage capacity (plasma bags):**
  - 168 at 450 ml
  - 168 at 350 ml
- **External dimensions (H x W x D (mm)):** 1830 x 595 x 625
- **Energy consumption (Kwh/24h):** 2.30
- **Noise level (dB(A)):** 44

### MF 755 GG
- **Gross volume (l):** 753
- **Net volume (l):** 733
- **Gross volume (l):** 450
- **Gross volume (l):** 320
- **External dimensions (H x W x D (mm)):**
  - 1900 x 910 x 950
- **Energy consumption (Kwh/24h):** 5.10
- **Noise level (dB(A)):** 54

### FR range
FR models comply with the B Medical Systems Gold Safety Standard and even exceed official safety standards.

### FR 110 GG
- **Gross volume (l):** 106
- **Net volume (l):** 104
- **Storage capacity (plasma bags):**
  - 54 at 450 ml
  - 72 at 350 ml
- **External dimensions (H x W x D (mm)):** 820 x 560 x 580
- **Energy consumption (Kwh/24h):** 4.00
- **Noise level (dB(A)):** 47
- **Available as Internal II 3 G Ex nA II T6**

### FR 250 G
- **Gross volume (l):** 246
- **Net volume (l):** 167
- **Storage capacity (plasma bags):**
  - 120 at 450 ml
  - 160 at 350 ml
- **External dimensions (H x W x D (mm)):** 1395 x 850 x 785
- **Energy consumption (Kwh/24h):** 6.10
- **Noise level (dB(A)):** 58

### FR 410 G
- **Gross volume (l):** 408
- **Net volume (l):** 319
- **Storage capacity (plasma bags):**
  - 240 at 450 ml
  - 320 at 350 ml
- **External dimensions (H x W x D (mm)):** 1735 x 850 x 785
- **Energy consumption (Kwh/24h):** 7.40
- **Noise level (dB(A)):** 58

### FR 490 G
- **Gross volume (l):** 489
- **Net volume (l):** 395
- **Storage capacity (plasma bags):**
  - 300 at 450 ml
  - 400 at 350 ml
- **External dimensions (H x W x D (mm)):** 1950 x 850 x 785
- **Energy consumption (Kwh/24h):** 7.80
- **Noise level (dB(A)):** 58

### FR 750 G
- **Gross volume (l):** 738
- **Net volume (l):** 620
- **Storage capacity (plasma bags):**
  - 550 at 450 ml
  - 550 at 350 ml
- **External dimensions (H x W x D (mm)):** 1590 x 910 x 985
- **Energy consumption (Kwh/24h):** 7.10
- **Noise level (dB(A)):** 58

Subject to change without prior notice. Some of the accessories shown in the pictures are optional. The approximate figures are based on the number of bags that are really to be stored and on the different bag manufacturers’ specifications available on the market, or the actual bag sizes as well as on the individual user’s practice of loading.
Refrigerators for the storage of laboratory and pharmaceutical preparations being subject to cold chain and temperature sensitivity

> according to DIN 58345

The product range ML / MP offers volumes from 155 to 1430 litres including one combined refrigerator / freezer model.

MP models are equipped with glass door for quick check and pre-selection of the refrigerator’s content. ML models are equipped with solid door.

Being in conformity with the B Medical Systems Silver Safety Standard these models ensure a reliable and safe operation.

### ML range (solid door)

- **ML 155 SG**
- **ML 355 S**
- **ML 370 SG**
- **ML 380 CSG**
- **ML 670 SG**
- **ML 1430 SG**

### MP range (glass door)

- **ML / MP 155 SG**
- **ML / MP 355 S**
- **ML / MP 370 SG**
- **ML / MP 380 CSG**
- **ML / MP 670 SG**
- **ML / MP 1430 SG**

**ML / MP 380 CSG**

- Refrigerator & Deep Freezer Combined

**ML / MP 670 SG**

- Refrigerator & Deep Freezer Combined

**ML / MP 1430 SG**

- Refrigerator & Deep Freezer Combined

Subject to change without prior notice.

Some of the accessories shown in the pictures are optional.
Refrigerators for the storage of laboratory and pharmaceutical preparations being subject to cold chain and temperature sensitivity

The product range LR / PR offers volumes from 106 to 746 litres. PR models are equipped with glass door for quick check and pre-selection of the refrigerator’s content. LR models are equipped with solid door.

The transparent front panels of the ST-Drawers, which are part of the standard equipment of the PR models, minimize cold losses when the door is opened.

Being in conformity with the B Medical Systems Gold Safety Standard these models even exceed official safety standards.

Models LR and PR 250 - 750 G are available as 220 V (50/60 Hz) & 115 V (60 Hz) versions.

**LR range** (solid door)

**PR range** (glass door)
**Freezers for the low-temperature storage of temperature-sensitive products under optimum conditions**

B Medical Systems’s Biomedical Freezer range is the perfect solution for a safe storage and handling of temperature-sensitive preparations or samples in conformity with national and international norms and guidelines.

Models DFR 250 - 750 G are available as 220 V (50/60 Hz) version, model DMF 290 SG as 220 V (50/60 Hz) & 115 V (60 Hz) versions and model DMF 110 SG as 115 V (60Hz) version.

### DFR range

DFR models comply with the B Medical Systems Gold Safety Standard and even exceed official safety standards.

### DMF range

DFR models comply with the B Medical Systems Silver Safety Standard and even exceed official safety standards.

<table>
<thead>
<tr>
<th>Model</th>
<th>Gross Volume (l)</th>
<th>Net Volume (l)</th>
<th>External Dimensions H x W x D (mm)</th>
<th>Energy Consumption (Kwh/24h)</th>
<th>Noise Level (dB(A))</th>
<th>Available as Internal</th>
</tr>
</thead>
<tbody>
<tr>
<td>DFR 110 GG</td>
<td>110</td>
<td>106</td>
<td>900 x 595 x 630</td>
<td>1.70</td>
<td>41</td>
<td>G</td>
</tr>
<tr>
<td>DFR 250 G</td>
<td>250</td>
<td>246</td>
<td>1735 x 850 x 785</td>
<td>7.40</td>
<td>58</td>
<td>G</td>
</tr>
<tr>
<td>DFR 410 G</td>
<td>410</td>
<td>395</td>
<td>1950 x 850 x 785</td>
<td>7.80</td>
<td>58</td>
<td>G</td>
</tr>
<tr>
<td>DFR 750 G</td>
<td>750</td>
<td>395</td>
<td>1990 x 910 x 985</td>
<td>7.10</td>
<td>58</td>
<td>G</td>
</tr>
<tr>
<td>DFR 490 G</td>
<td>490</td>
<td>319</td>
<td>1630 x 850 x 785</td>
<td>7.40</td>
<td>58</td>
<td>G</td>
</tr>
</tbody>
</table>

### DMF range

DMF models comply with the B Medical Systems Silver Safety Standard and even exceed official safety standards.

<table>
<thead>
<tr>
<th>Model</th>
<th>Gross Volume (l)</th>
<th>Net Volume (l)</th>
<th>External Dimensions H x W x D (mm)</th>
<th>Energy Consumption (Kwh/24h)</th>
<th>Noise Level (dB(A))</th>
<th>Available as Internal</th>
</tr>
</thead>
<tbody>
<tr>
<td>DMF 110 SG</td>
<td>110</td>
<td>106</td>
<td>900 x 595 x 630</td>
<td>1.70</td>
<td>41</td>
<td>G</td>
</tr>
<tr>
<td>DMF 290 SG</td>
<td>290</td>
<td>265</td>
<td>1830 x 595 x 625</td>
<td>2.30</td>
<td>44</td>
<td>G</td>
</tr>
<tr>
<td>DMF 410 G</td>
<td>408</td>
<td>319</td>
<td>1735 x 850 x 785</td>
<td>7.40</td>
<td>58</td>
<td>G</td>
</tr>
<tr>
<td>DMF 490 G</td>
<td>489</td>
<td>395</td>
<td>1950 x 850 x 785</td>
<td>7.80</td>
<td>58</td>
<td>G</td>
</tr>
<tr>
<td>DMF 750 G</td>
<td>738</td>
<td>395</td>
<td>1990 x 910 x 985</td>
<td>7.10</td>
<td>58</td>
<td>G</td>
</tr>
</tbody>
</table>
Horizontal contact shock freezing technology for blood plasma, biological and pharmaceutical preparations

B Medical Systems’s High Performance Contact Shock Freezers are designed for the fast freezing of blood plasma, biological and pharmaceutical preparations to a core temperature of -30°C.
MBF models are built in compliance with directives for the preparation of blood plasma.

**Principle / Mode of operation**

- **Contact cover plate**
  - fixed, separately controlled

- **Contact operating plate**
  - adjustable, separately controlled

**MBF 21**
- 14 plasma bags at 1000 ml (content 850 ml)
- 21 plasma bags at 350 ml (content 225 ml)
- Freezing time to core temperature of -30°C: 14 units (1000 ml) ~ 25 min
- 21 units (350 ml) ~ 25 min
- Operating temperature (preset), reached within ~ 20 min (pre-cooling phase)
  - +45°C (upper & lower contact plate)
- External dimensions (H x W x D): 1590 x 910 x 950 mm
- Energy consumption (Kwh/24h): 17.50
- Noise level (dB(A)): 59

**MBF 42**
- 28 (2 x 14) plasma bags at 1000 ml (content 850 ml)
- 42 (2 x 21) plasma bags at 350 ml (content 225 ml)
- Freezing time to core temperature of -30°C: 42 units (1000 ml) ~ 25 min
- 28 units (1000 ml) ~ 55 min
- Operating temperature (preset), reached within ~ 20 min (pre-cooling phase)
  - +45°C (upper & lower contact plate)
- External dimensions (H x W x D): 1990 x 910 x 950 mm
- Energy consumption (Kwh/24h): 19.00
- Noise level (dB(A)): 59

**UF range**

**Ultra Deep models for freezing down to -86°C**

The models UF 455 G / GG & UF 755 G / GG reflect the highest and most uncompromising requirements in 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.

The UF 755 GG can definitely be denominated as the Ultra Deep Freezer with the lowest energy consumption on the whole market (compared with products with the same internal temperatures and volume).

**Evaporator Technology**

Innovative “Rollbond” evaporator technology of the highest grade (stainless steel) for constant temperatures and uniform temperature distribution.
Built-in & Sub-assembly Models

Built-in and sub-assembly laboratory / pharmaceutical refrigerators and deep freezers for preserving temperature-sensitive products

B Medical Systems offers seven models of refrigerators and freezers that can be built in or under laboratory furniture. The dimensions fit perfectly for these needs and the cooling/freezing appliance can be practically integrated in a space-saving way in your workplace.

Thanks to their advantageous dimensions and design the models BR 110 GG, DFR 110 GG, FR 110 GG, LR 110 GG and PR 110 GG are usable as either the stand-alone version or the built-in/sub-assembly version.

Subject to change without prior notice.
Some of the accessories shown in the pictures are optional.
Transport Systems for the safe transport of blood bags

The model range MT consists of four passive transport systems supplemented efficiently by a fast freezer for cooling elements and two active transport boxes, working with the Peltier system or with a compressor.

B Medical Systems transport systems are ideal for intensive use with many transport applications, even under difficult climatic conditions.

MT models are conform with the European agreement on the international transport of hazardous goods by Road (ADR), by Rail (RID), by sea (IMDG) and with the International agreement for air transport (ICAO-TI / IATA-DGR).

For all passive transport boxes eutectic cooling systems are available as an option (-30°C, +4°C, +22°C and +37°C).

The new B Medical Systems Electronic (operation and control panel) assures thanks to its password protected settings menu optimum protection for your stored preparations.

The menu structure of the modern and user-friendly graphic display offers a simple and intuitive utilization.

The new B Medical Systems Electronic also 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).
- 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.
- DMN (Data Monitoring Network) and the (optional) DCU (Data Communication Unit) allows illustration of texts on the product’s display.
The new B Medical Systems Touchscreen display offers a lot of individual configuration possibilities. According to your professional needs, data, events and activities can be displayed and analyzed in detail.

**High temperature alarm**
- The alarm messages are displayed in red characters in the main area, just below the temperature display.
- The acoustic alarm can be suppressed for a predefined time by pressing the „mute“ button.

**Trend display**
- Possibility to display actual and historical temperature values in graphic format, with legend of the charts.
- Temperature charts can be exported in csv-format to USB stick.

**DMN - Data Monitoring Network**
Universal software for collection, long-term recording and visualization of temperature data.
- Complete activity list (password protected).
- Integrated event and activity history of all appliance components.
- Graphical visualisation of all temperature curves.
- Connection to existing or third-party appliances via network technology (LAN, WLAN, WAN).
- Simultaneous data monitoring and recording.
- Possibility for specific and individually configurable alarm forwardings, e.g. via email, SMS (with optional GSM module) or via DECT.
- Simple and intuitive utilization.
- Essential price advantage compared to a traditional circular chart recorder and its spare parts.
- Free of charge for all Gold & Silver ranges.

**DCU - Data Communication Unit**
Hardware module that notes all operating conditions and passes them through to a central data base – via local network, on which devices are connected.
- Possibility of connection of several additional self-sufficient temperature sensors (up to 4 PT1000 & 2 PT100).
- One integrative system for collecting all temperature relevant appliances and ambients.
- Many different connection facilities allow flexible upgrades for individual projects.
B Medical Systems
Your global partner to save lives.

COLD CHAIN
Comprehensive range of storage and active / passive transport systems for the storage and distribution of vaccines and in general of all temperature-sensitive preparations under various climatic and technical conditions.

BLOOD CHAIN
Storage and active / passive transport systems dedicated to the military for the supply of blood, vaccines and medicines to the front line.

BIOMEDICAL REFRIGERATION
Special purpose refrigerators and deep freezers, storage and transport concepts for Laboratory, Medicine, Research, Biotechnology and Life Sciences.

BLOOD SAFETY
For a reliable cold chain within the scope of safety of blood transfusions.

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