medical systems

SAVING LIVES
THROUGH RELIABLE
AND INNOVATIVE
TECHNOLOGY

Vaccine Cold Chain

Vaccine Cold Chain

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

Saving lives through reliable and innovative technology

UNDERSTANDING THE NEEDS OF MEDICAL PROFESSIONALS REQUIRES A CONSTANT DIALOGUE.

The medical challenges our partners and clients face on the ground can be overwhelming. By continuously engaging with them and gathering insights through dialogue and exchange, we are able to understand their evolving needs. As a key global player in the sector of medical technology, B Medical Systems is committed to delivering highly specialized and cutting-edge devices that always exceed expectations.

DESIGNING RELIABLE MEDICAL DEVICES IS AT THE HEART OF OUR INNOVATION PROCESS.

We feel deeply connected to the international community of healthcare professionals and use optimized industrial processes to offer reliable products and services that help develop a relationship of trust. By managing the design, manufacturing, distribution and after-sales elements, we adopt a lifecycle approach and can ensure the Total Cost of Ownership of our products is as low as possible.

PUTTING PEOPLE FIRST STARTS WITHIN OUR ORGANIZATION.

We take a customer-oriented approach in everything we do, and are guided by our values and high standards. Our team of highly skilled professionals share our desire to excel and stay ahead of the game in the field of technological innovation. As an organization, our core aim is to save lives through reliable and innovative technology.

RELIABLE SOLUTIONS FOR SAFE VACCINATION AROUND THE WORLD.

B Medical Systems is a leading manufacturer of vaccine cold chain equipment for large-scale programmes in emerging markets. We work closely with public health agencies, national governments and multilateral organizations to support the success of their vaccination campaigns.

SUMMARY

A complete line for an efficient cold chain

Vaccine Cold Chain

Solar Direct Drive Refrigerators & Freezers

SDD RANGE

	Ultra 16 SDD	TCW 15 SDD / TCW 15R SDD		TCW 40 SDD / TCW 40R SDD		TFW 40 SDD	TCW 80 SDD	TCW 120 SDD	TCW 2000 SDD / TCW 2043 SDD		TCW 3000 SDD / TCW 3043 SDD		TCW 4000 SDD
Net vaccine storage capacity (l)	16	16	16	36	36	-	80.5	120	99	70	156	89	220
Ice-pack storage capacity	-	4 x 0.6 L	-	3.6 kg	-	11.24 kg	-	22 x 0.6 L	14.4 kg	10.5 kg	-	-	-

Ice-Lined Refrigerators & Freezers

AC RANGE

	TCW 40R AC	TCW 80 AC	TCW 120 AC	TFW 3000 AC	TCW 4000 AC
Net vaccine storage capacity (l)	36	81	120	-	240
Ice-pack storage capacity	-	-	22 x 0.6 L	162 x 0.6 L	-

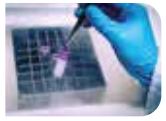
Vaccine Transport Boxes

PASSIVE RANGE

	RCW 1	RCW 2	RCW 4	RCW 8	RCW 12	RCW 25
Gross volume (l)	6.5	1.9	8	20	24	44
Vaccine storage capacity (l)	1.04	0.92	3	6	7	20

Ultra-Low Freezers

U RANGE



	U201	U401	U501	U701 & U701 V*2	U901
Gross / Net volume (l)	232 / 217	478 / 454	634 / 602	791 / 751	949 / 900
Vials storage capacity (at 2ml)	17000	34500	46000	57500	69000
*Cryoboxes storage capacity*1*	170 (model H50)	345 (model H50)	460 (model H50)	575 (model H50)	690 (model H50)

*1 For directional purpose only. *2 V stands for Variable Speed cooling technology.
Subject to change without prior notice. Some of the accessories shown in the pictures are optional.

Solar Direct Drive Refrigerators & Freezers

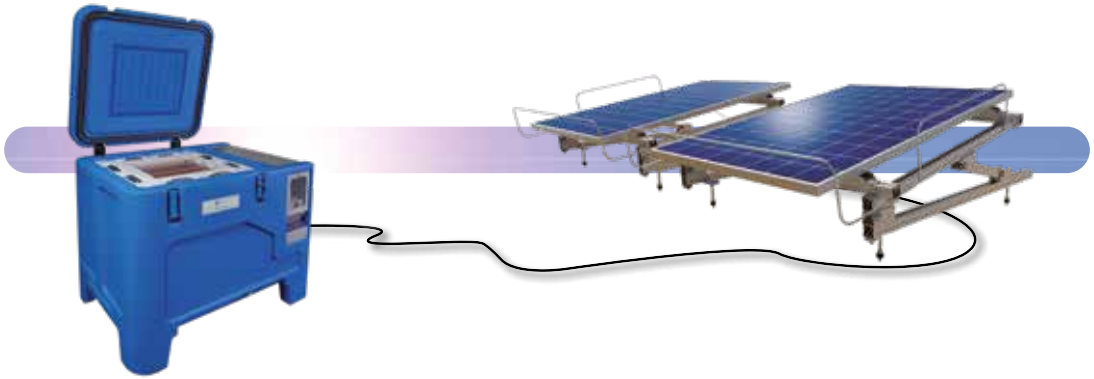
B Medical Systems | SDD Range

13 models • Vaccine storage capacity **16 > 220 L** • In compliance with **WHO Guidelines** I **PQS Certified**

For rapid deployment and reliable response to store vaccines or medicines under severe conditions anywhere in the world!

The Solar Direct Drive solution consists of several vaccine refrigerators and ice-pack freezers working straight from solar panels without batteries and regulators. This solution provides a reliable cold chain for vitally important vaccines even in the most remote areas. The Solar Direct Drive solution uses the only energy source that never runs dry: our sun!

B Medical Systems Solar Direct Drive (SDD) Vaccine Cold Chain refrigerators provide **enhanced performance** and **high reliability,** leading to a **sustainably lower Vaccine Wastage**.



Plug & Play
QUICK CONNECTOR
ONLY ONE WAY WORKS!

Remote Temperature Monitoring Device
INTEGRATED*

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

40+ YEARS EXPERIENCE

200 PARTNERS WORLDWIDE DISTRIBUTION

ANTI-CORROSION LIFE WARRANTY

REAL-TIME MONITORING

10 YEARS WARRANTY* FOR ALL PARTS AND LABOUR

PQS CERTIFIED

RTMD | Remote Temperature Monitoring Device (integrated*)

- Real time monitoring of temperature(s), 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 GSM network coverage is necessary to operate
- Google Maps positioning using integrated GPS module
- Alarms include temperature deviations and lid openings
- Alarms are sent by text messages or emails
- Works on both SDD and AC installations

Variations Solar Generator (optional)

G1 Solar panels
(roof installation)

2 solar panels (200W) on fixed roof installation. This solution is easy to install and ideal for high sunshine levels. G1 is equipped with an anti-theft. Installation to be made by B Medical Systems certified agents.

G2 Adjustable solar panels
(roof or ground installation)

2 adjustable solar panels (200W) for roof or ground installation. This solution optimizes the energy collection and enables the positioning anywhere. G2 is equipped with an anti-theft. Installation to be made by B Medical Systems certified agents.

BASIC TOOL KIT
(optional)

Contains different basic tools as wrenches, screwdrivers, pencil, tape measure and protractor

PREMIUM TOOL KIT
(optional)

Includes « Basic Tool Kit» and drilling equipment to fix solar generator on the roof, wall or pole

→ Also available as pole or wall mounted.

WHAT ARE THE REGULATIONS PUT IN PLACE?

WHO has put in place with its PQS a new performance and quality system for the vaccine cold chain equipment. PQS performance specification for:

- **Refrigerator or combined refrigerator & ice-pack freezer:** Compression cycle Solar Direct Drive without battery storage
- **Specification reference:** E003 / RF05.4
- **Product verification protocol:** E003 / RF05-VP.4

WHAT ARE THE MOST IMPORTANT CHARACTERISTICS FOR NEW PRODUCTS?

The development of a new, successful and SAFE product according to PQS requirements has to fulfill a number of defined parameters, the most important of those are:

- **Hold over time:** Time in hours during which all points in the vaccine compartment remain between +2°C and +8°C, at the maximum ambient temperature of the temperature zone for which the appliance is rated, after the power supply has been disconnected
- **Cold life:** Cold life is measured from the moment when the container lid is closed until the temperature of the warmest point in the vaccine storage compartment first reaches +10°C (after initially cooling to below +10°C during cooldown), at a constant ambient test temperature +43°C
- **Autonomy:** Time in days that a solar refrigerator, or combined refrigerator and ice-pack freezer, can maintain the vaccine load within the acceptable temperature range under low solar radiation conditions (e.g. rain)

* Conditions apply.

Vaccine Refrigerator

B Medical Systems | SDD Range

The Ultra 16 SDD is a 16 L vaccine refrigerator for extensive bad weather periods.

Highest insulation value

- Rotomoulded body construction: rust free and extremely robust
- Vacuum Insulated Panels and Polyurethane foam
- A newly design lid closing recess that avoids the loss of cold air
- Double silicon gaskets (replaceable) and lockable clasps ensure tight sealing
- Designed for tropical temperatures: +5°C to +43°C

Vaccine Refrigerator with extensive autonomy

- Vaccine storage capacity: 16 L
- Autonomy: 477 h 56 at +43°C
- Delivered with 2 storage wire baskets: facilitates the handling and storage management of the vaccines

Integrated electronics

- Electronics controller with integrated LED digital temperature monitoring and 2 USB-Chargers for mobile, tablet and others devices
- Simple and user-friendly “1 button” operation
- Temperature monitoring maintained in case of system failure
- Green technology: very low power consumption and environmentally friendly refrigerant (R600a)

Plug & Play installation

- Quick connector allows for “plug and play” installation, only one way works!
- Working straight from solar panels with no batteries and no regulator (length of cable: 25 meters each generator)
- Requests only one solar generator (2 x 200W / 25V panels)

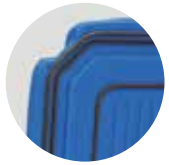
User-friendly device

Device equipped with lockable compartment and 2 storage places for mobile and others devices.

Vaccine Refrigerator & Ice-pack Freezer

B Medical Systems | SDD Range

The TCW 15 SDD is a combination of a solar direct drive vaccine & medicine refrigerator and ice-pack freezer.



Highest insulation value

- Rotomoulded body construction: rust free and extremely robust
- 100mm PU foam insulation guarantees highest possible hold over time
- Triple silicon gaskets (replaceable) and lockable clasps ensure tight sealing
- Designed for tropical temperatures: +5°C to +43°C

Vaccine Refrigerator with ice-packs holders

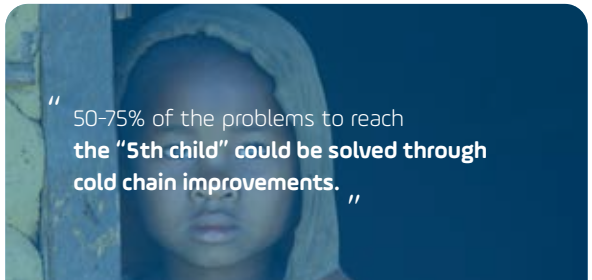
- Vaccine storage capacity: 16 L
- Autonomy: 84 h at +43°C
- Equipped with 4 ice-packs holders for quick storage of 4 ice-packs at 0.6 L
- Delivered with 2 storage wire baskets: facilitates the handling and storage management of the vaccines
- Automatic drain water evaporation

Integrated electronics

- Electronics controller, at easy access level, in the top of the lid, with integrated LED digital temperature monitoring
- Simple and user-friendly “1 button” operation
- Temperature monitoring maintained in case of system failure
- Green technology: very low power consumption and environmentally friendly refrigerant (R600a)

Plug & Play installation

- Quick connector allows for “plug and play” installation, only one way works!
- Working straight from solar panels with no batteries and no regulator (length of cable: 25 meters each generator)
- Requests only one solar generator (2 x 200W / 25V panels)



This device is also available as

TCW 15R SDD | Vaccine Refrigerator

- **Vaccine storage capacity: 16 L**
- **Autonomy: 81 h 52 at +43°C**
- **Hold over time: 87 h 48 at +43°C**

SAVING LIVES THROUGH RELIABLE AND INNOVATIVE TECHNOLOGY

Vaccine Refrigerator & Ice-pack Freezer

B Medical Systems | SDD Range

Solar Direct Drive SDD · 10 YEARS WARRANTY · PQS CERTIFIED E003/042 · CCEOP ELIGIBLE · FREEZE PROTECTION

The TCW 40 SDD is a combination of a solar direct drive vaccine & medicine refrigerator and ice-pack freezer.

Highest insulation value

- Rotomoulded body construction: rust free and extremely robust
- 100mm PU foam insulation guarantees highest possible hold over time
- Triple silicon gaskets (replaceable) and lockable clasps ensure tight sealing
- Designed for tropical temperatures: +5°C to +43°C

Vaccine Refrigerator with ice-packs holders

- Vaccine storage capacity: 36 L
- Autonomy: 81 h 54 at +43°C
- Hold over time: 93 h 24 at +43°C
- Equipped with 8 ice-packs holders for quick storage of 8 ice-packs at 0.6 L
- Delivered with 1 storage wire basket: facilitates the handling and storage management of the vaccines

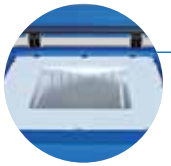
Integrated electronics

- Electronics controller with integrated LED digital temperature monitoring
- Simple and user-friendly “1 button” operation
- Temperature monitoring maintained in case of system failure
- Green technology: very low power consumption and environmentally friendly refrigerant (R600a)

Plug & Play installation

- Quick connector allows for “plug and play” installation, only one way works!
- Working straight from solar panels with no batteries and no regulator (length of cable: 25 meters each generator)
- Requests only one solar generator (2 x 200W / 25V panels)

This device is also available as



TCW 40R SDD | Vaccine Refrigerator

PQS CERTIFIED E003/068 · CCEOP ELIGIBLE

- **Vaccine storage capacity: 36 L**
- **Autonomy: 81 h 54 at +43°C**
- **Hold over time: 93 h 24 at +43°C**

TFW 40 SDD | Ice-pack Freezer

PQS CERTIFIED E003/073 · CCEOP ELIGIBLE

- **Ice-pack storage capacity: 11.24 kg (20 waterpacks)**
- **Ice-pack freezing capacity: 2.16 kg / 24 h at +43°C**
- **Autonomy: 120 h at +43°C**

Vaccine Refrigerator

B Medical Systems | SDD Range

The TCW 80 SDD is a solar direct drive vaccine & medicine refrigerator.

Highest insulation value

- Rotomoulded body construction: rust free and extremely robust
- 100mm PU foam insulation guarantees highest possible hold over time
- Double silicon gaskets (replaceable) and lockable clasps ensure tight sealing
- Designed for tropical temperatures: +5°C to +43°C

Vaccine Refrigerator

- Vaccine storage capacity: 80.5 L
- Autonomy: 72 h 21 at +43°C
- Delivered with 4 storage wire baskets: facilitates the handling and storage management of the vaccines

Integrated electronics

- Electronics controller with integrated LED digital temperature monitoring
- Simple and user-friendly “1 button” operation
- Temperature monitoring maintained in case of system failure
- Green technology: very low power consumption and environmentally friendly refrigerant (R600a)

Plug & Play installation

- Quick connector allows for “plug and play” installation, only one way works!
- Working straight from solar panels with no batteries and no regulator (length of cable: 25 meters each generator)
- Requests only one solar generator (2 x 200W / 25V panels)

SAVING LIVES THROUGH RELIABLE AND INNOVATIVE TECHNOLOGY

SOLAR DIRECT DRIVE REFRIGERATORS & FREEZERS
For rapid deployment and reliable response to store vaccines or medicines anywhere in the world

Vaccine Refrigerator & Ice-pack Freezer

B Medical Systems | SDD Range

The TCW 120 SDD is a combination of a solar direct drive vaccine & medicine refrigerator and ice-pack freezer.

Highest insulation value

- Rotomoulded body construction: rust free and extremely robust
- 100mm PU foam insulation guarantees highest possible hold over time
- Double silicon gaskets (replaceable) and lockable clasps ensure tight sealing
- Designed for tropical temperatures: +5°C to +43°C

Vaccine Refrigerator and Ice-pack Freezer

- Vaccine storage capacity: 120 L
- Ice-pack storage capacity: 22 x 0.6 L
- Ice-pack freezing capacity: >1.6 kg / 24 h at +43°C
- Autonomy: 82 h 05 at +43°C
- Hold over time: 82 h 05 at +43°C
- Delivered with 22 ice-packs at 0.6 L and 4 storage wire baskets: facilitates the handling and storage management of the vaccines

Integrated electronics

- Electronics controller with integrated LED digital temperature monitoring
- Simple and user-friendly “1 button” operation
- Temperature monitoring maintained in case of system failure
- Green technology: very low power consumption and environmentally friendly refrigerant (R600a)
- Works at a preset setpoint of +5°C (Refrigerator) and -20°C (Freezer) (cannot be changed by the user)

Plug & Play installation

- Quick connector allows for “plug and play” installation, only one way works!
- Working straight from solar panels with no batteries and no regulator (length of cable: 25 meters each generator)
- Requests two solar generators (4 x 200W / 25V panels)

Vaccine Refrigerator & Ice-pack Freezer

B Medical Systems | SDD Range

The TCW 2000 SDD is double compartment solar direct drive vaccine & medicine refrigerator and ice-pack freezer with two cooling systems.

Highest insulation value

- Rotomoulded body construction: rust free and extremely robust
- 100mm PU foam insulation guarantees highest possible hold over time
- Double silicon gaskets (replaceable) and lockable clasps ensure tight sealing

Vaccine Refrigerator and Ice-pack Freezer

- Vaccine storage capacity: 99 L
- Ice-pack storage capacity: 14.4 kg
- Ice-pack freezing capacity: 2.4 kg / 24 h at +32°C
- Autonomy: 85 h 24 at +32°C
- Hold over time: 100 h at +32°C
- Delivered with 16 ice-packs at 0.6 L and 4 storage wire baskets: facilitates the handling and storage management of the vaccines

Integrated electronics

- 2 electronics controllers with integrated digital temperature monitoring
- Temperature monitoring maintained in case of system failure
- Green technology: very low power consumption and environmentally friendly refrigerant (R600a)

Plug & Play installation

- Quick connector allows for “plug and play” installation, only one way works!
- Working straight from solar panels with no batteries and no regulator (length of cable: 25 meters each generator)
- Requests two solar generators (4 x 200W / 25V panels)

This device is also available for tropical temperatures: +5°C to +43°C

TCW 2043 SDD | Vaccine Refrigerator & Ice-pack Freezer

- **Vaccine storage capacity: 70 L**
- **Ice-pack storage capacity: 10.5 kg**
- **Ice-pack freezing capacity: 2.5 kg / 24 h at +43°C**
- **Autonomy: 73 h 54 at +43°C**
- **Hold over time: 79 h at +43°C**
- **Delivered with 2 wire baskets**

SOLAR DIRECT DRIVE REFRIGERATORS & FREEZERS
For rapid deployment and reliable response to store vaccines or medicines anywhere in the world

Vaccine Refrigerator

B Medical Systems | SDD Range

The TCW 3000 SDD is large capacity solar direct drive vaccine & medicine refrigerator.

Highest insulation value

- Rotomoulded body construction: rust free and extremely robust
- 100mm PU foam insulation guarantees highest possible hold over time
- Double silicon gaskets (replaceable) and lockable clasps ensure tight sealing

Vaccine Refrigerator

- Vaccine storage capacity: 156 L
- Autonomy: 86 h 56 at +32°C
- Hold over time: 94 h 05 at +32°C
- Delivered with 5 storage wire baskets: facilitates the handling and storage management of the vaccines

Integrated electronics

- Electronics controller with integrated digital temperature monitoring
- Temperature monitoring maintained in case of system failure
- Green technology: very low power consumption and environmentally friendly refrigerant (R600a)

Plug & Play installation

- Quick connector allows for “plug and play” installation, only one way works!
- Working straight from solar panels with no batteries and no regulator (length of cable: 25 meters each generator)
- Requests only one solar generator (2 x 200W / 25V panels)

This device is also available for tropical temperatures: +5°C to +43°C

TCW 3043 SDD | Vaccine Refrigerator

PQS CERTIFIED E003/045

- **Vaccine storage capacity: 89 L**
- **Autonomy: 116 h 41 at +43°C**
- **Hold over time: 124 h 48 at +43°C**
- **Delivered with 5 wire baskets: facilitates the handling and storage management of the vaccines**

Vaccine Refrigerator

B Medical Systems | SDD Range

The TCW 4000 SDD is the largest rotomoulded solar direct drive refrigerator in the world with a net vaccine storage capacity of 220 L.

Highest insulation value

- Rotomoulded body construction: rust free and extremely robust
- 100mm PU foam insulation guarantees highest possible hold over time
- Double silicon gaskets (replaceable) and lockable clasps ensure tight sealing
- Designed for tropical temperatures: +5°C to +43°C

Vaccine Refrigerator

- Vaccine storage capacity: 220 L
- Autonomy: 91 h 16 at +43°C
- Delivered with 6 storage wire baskets: facilitates the handling and storage management of the vaccines
- Equipped with the new automatic drain water evaporation

Integrated electronics

- Electronics controller with integrated LED digital temperature monitoring
- Simple and user-friendly “1 button” operation
- Temperature monitoring maintained in case of system failure
- Green technology: very low power consumption and environmentally friendly refrigerant (R600a)
- Works at a preset setpoint of +5°C (cannot be changed by the user)

Plug & Play installation

- Quick connector allows for “plug and play” installation, only one way works!
- Working straight from solar panels with no batteries and no regulator (length of cable: 25 meters each generator)
- Requests only one solar generator (2 x 200W / 25V panels)

SAVING LIVES THROUGH RELIABLE AND INNOVATIVE TECHNOLOGY

Energy Harvesting System

B Medical Systems | SDD Range

The Health Center Kit is the Energy Harvest Control system, which charges automatically a battery with the excess of available energy from our solar generators.

Plug & Play installation

Allows to link in between SDD models and solar generator by quick connectors "plug and play", only one way works!

Integrated electronics

- Electronic controller with automatic energy management enables to power essential devices operating on direct current
- Connection interfaces: 2 USB outputs (5W each) and 1 cigarette lighter socket (20W)
- Rechargeable 27Ah battery with a life cycle of 5 years

Designed for intensive use

- Independent unit made of rotomoulded polyethylene: extremely robust for an intensive and mobile use
- Wheels for easy moves
- Theft protection

User-friendly device

- Rechargeable LED lights (2 pcs) for mobile use
- Device equipped with lockable compartment and 2 storage places for mobile and others devices
- Mobile ceiling fan

The Health Center Kit is a device intended to **detect excess of energy produced by a solar generator**, switching its outputs to drive small devices by DC voltage. **An integrated battery** provides the possibility **to store energy and to load devices also during night time.**

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

SDD RANGE

Technical Data
Solar Direct Drive





		Ultra 16 SDD	TCW 15 SDD	TCW 15R SDD	TCW 40 SDD	TCW 40R SDD
Function		Vaccine Refrigerator	Vaccine Refrigerator & Ice-pack Freezer	Vaccine Refrigerator	Vaccine Refrigerator & Ice-pack Freezer	Vaccine Refrigerator
Climate zone		Hot zone (+43°C)				
Vaccine storage capacity (l)		16			36	
Ice-pack storage capacity		-	4 x 0.6 L (in ice-packs holders)	-	3.6 kg	-
Ice-pack freezing capacity		-	1.97 kg / 24 h	-	1.89 kg / 24 h	-
Autonomy time (WHO Standard)		477 h 56	84 h	81 h 52	81 h 54	81 h 54
Hold over time (+2°C to +10°C)		-	-	87 h 48	93 h 24	93 h 24
Cool down time		312 h	35 h	36 h	36 h	36 h
Dimensions H x W x D (mm)	*External*	1120 x 840 x 780	950 x 730 x 730		900 x 1030 x 780	
	Shipping	1260 x 940 x 878	1088 x 770 x 778		1060 x 1040 x 800	
Shipping weight (kg)		196	95	94	126	129
Number & type of solar panels		2 x 200 W / 25 V				
Energy consumption / 24 h	*Stable running*	0.34 KWh	0.49 KWh	0.43 KWh	0.57 KWh	0.57 KWh
	Cool down	0.38 KWh	0.50 KWh	0.43 KWh	0.67 KWh	0.67 KWh
	During freezing	-	0.69 KWh	-	0.69 KWh	-
PQS code		E003 / 090	E003 / 077	E003 / 067	E003 / 042	E003 / 068
CCEOP-eligible		-			Yes	
Freeze protection		Grade A				

All values were measured at +32°C or +43°C according to the climate zone of the concerned model (unless otherwise specified).
Subject to change without prior notice. Some of the accessories shown in the pictures are optional.

SDD RANGE

Technical Data
Solar Direct Drive





		TCW 80 SDD	TCW 120 SDD	TCW 2000 SDD	TCW 2043 SDD	TFW 40 SDD
Function		Vaccine Refrigerator	Vaccine Refrigerator & Ice-pack Freezer			Ice-pack Freezer
Climate zone		Hot zone (+43°C)		Temperate zone (+32°C)	Hot zone (+43°C)	
Vaccine storage capacity (l)		80.5	120	99	70	-
Ice-pack storage capacity		-	22 x 0.6 L	14.4 kg	10.5 kg	11.24 kg
Ice-pack freezing capacity		-	> 1.6 kg / 24 h	2.4 kg / 24 h	2.5 kg / 24 h	2.16 kg / 24 h
Autonomy time (WHO Standard)		72 h 21	82 h 05	85 h 24	73 h 54	120 h
Hold over time (+2°C to +10°C)		-	82 h 05	100 h	79 h	-
Cool down time		192 h	168 h	12 h	56 h	313 h
Dimensions H x W x D (mm)	*External*	890 x 1023 x 778	910 x 1620 x 790	910 x 1270 x 780		900 x 1030 x 780
	Shipping	1060 x 1040 x 800	1040 x 1660 x 805	1030 x 1300 x 800		1060 x 1040 x 800
Shipping weight (kg)		112	187	161	166	119
Number & type of solar panels		2 x 200 W / 25 V	4 x 200 W / 25 V			2 x 200 W / 25 V
Energy consumption / 24 h	*Stable running*	0.60 KWh	1.15 KWh	0.78 KWh	0.73 KWh	0.59 KWh
	Cool down	0.58 KWh	1.31 KWh	0.74 KWh	0.79 KWh	0.59 KWh
	During freezing	-	1.38 KWh	0.96 KWh	1.05 KWh	0.64 KWh
PQS code		E003 / 121	E003 / 124	E003 / 035	E003 / 043	E003 / 073
CCEOP-eligible		Yes		-	Yes	
Freeze protection		Grade A				-

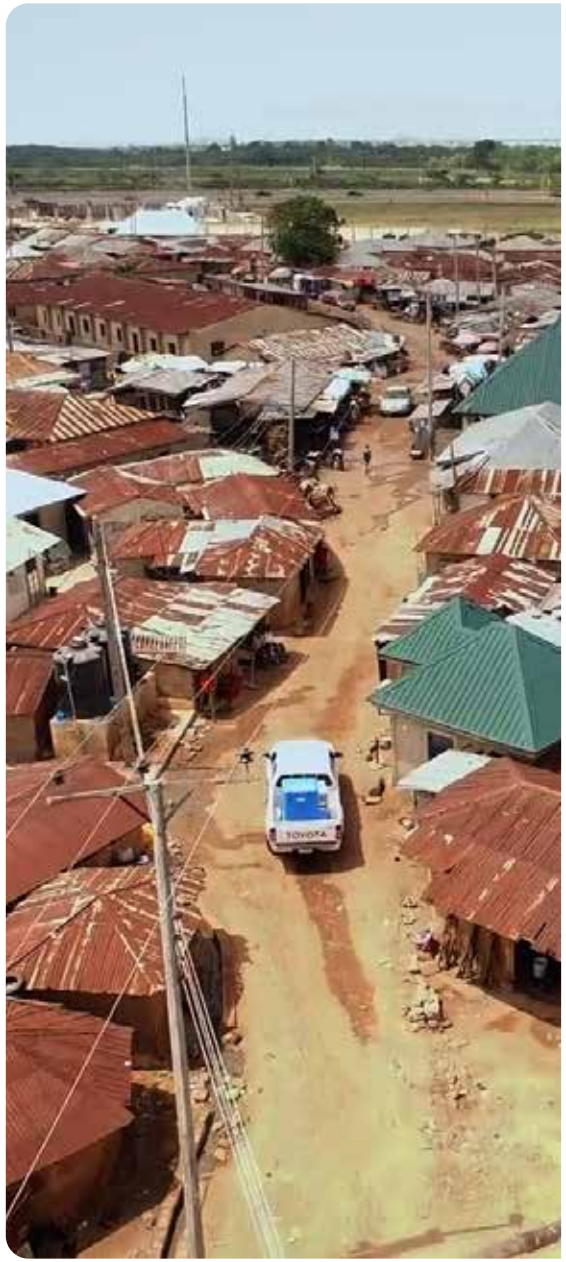
All values were measured at +32°C or +43°C according to the climate zone of the concerned model (unless otherwise specified).
Subject to change without prior notice. Some of the accessories shown in the pictures are optional.

SDD RANGE

Technical Data
Solar Direct Drive



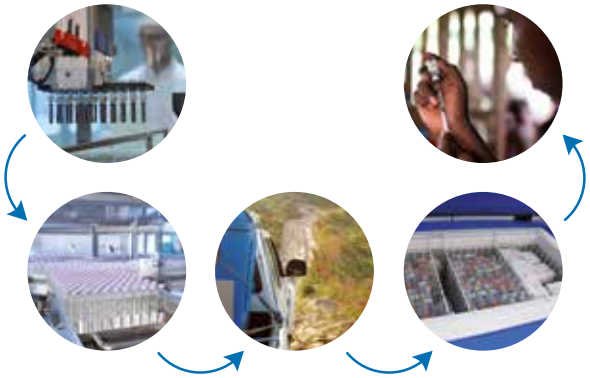
		TCW 3000 SDD	TCW 3043 SDD	TCW 4000 SDD
Function		Vaccine Refrigerator		
Climate zone		Temperate zone (+32°C)	Hot zone (+43°C)	
Vaccine storage capacity (l)		156	89	220
Autonomy time (WHO Standard)		86 h 56	116 h 41	91 h 16
Hold over time (+2°C to +10°C)		94 h 05	124 h 48	-
Cool down time		36 h	145 h	312 h
Dimensions H x W x D (mm)	*External*	910 x 1270 x 780		915 x 1625 x 780
	Shipping	1030 x 1300 x 800		1040 x 1660 x 805
Shipping weight (kg)		140	171	188
Number & type of solar panels		2 x 200 W / 25 V		
Energy consumption / 24 h	*Stable running*	0.25 KWh	0.68 KWh	0.83 KWh
	Cool down	0.34 KWh	0.68 KWh	0.84 KWh
PQS code		E003 / 030	E003 / 045	E003 / 093
CCEOP-eligible		-		Yes
Freeze protection		Grade A		



Ice-Lined Refrigerators & Freezers

B Medical Systems | AC Range

5 models • Vaccine storage capacity **36 > 240 L** • In compliance with **WHO Guidelines** I **PQS Certified**

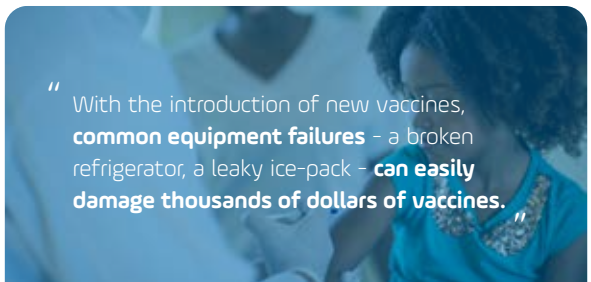


With Vaccine Cold Chain equipment from B Medical Systems, you benefit from dedicated devices that combine outstanding efficiency and low TCO. One results from the other – the access to life-saving vaccination depends on safe storage. This is why organizations all over the world rely on robust equipment from B Medical Systems for efficient vaccination campaigns for decades. These efforts from UNICEF, WHO, Gavi, Governments and others have resulted in saving millions of lives saved around the world.

For use in demanding conditions such as hot and humid environments.

This range consists of several ice-lined refrigerators and freezers for national and regional centres provided with a supply of electric power (minimum 8 h / day).

Made of rotomoulded polyethylene, these models are designed to deal with the demanding conditions found in hot and humid environments and offer the durability and robustness required for intensive use, as well as heavy-duty insulation and physical resilience.



Vaccine Refrigerator

B Medical Systems | AC Range

The TCW 80 AC is a vaccine refrigerator with integrated voltage stabilization and RTMD

> One single device worldwide for all voltages and frequencies

Highest insulation value

- Rotomoulded body construction: rust free and extremely robust
- 100mm PU foam insulation guarantees highest possible hold over time
- Double silicon gaskets (replaceable) and lockable clasps ensure tight sealing
- Designed for tropical temperatures: +5°C to +43°C

Vaccine Refrigerator

- Vaccine storage capacity: 81 L
- Hold over time: 72 h 09 at +43°C
- Delivered with 4 storage wire baskets: facilitates the handling and storage management of the vaccines

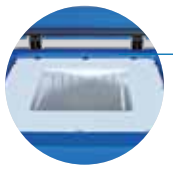
Integrated electronics

- Electronics controller with integrated LED digital temperature monitoring
- Simple and user-friendly “1 button” operation
- Temperature monitoring maintained in case of system failure
- Green technology: very low power consumption and environmentally friendly refrigerant (R600a)
- Works at a preset setpoint of +5°C (cannot be changed by the user)

Special features

- Integrated Remote Temperature Monitoring Device (RTMD), offering real-time worldwide remote monitoring, data access over WEB and GPS position
- Fully integrated automatic voltage stabilization solution (for any voltage in between 90-290 V) and a protective relay
- Equipped with innovative voltage stabilisers permitting the use of this model in areas of the world with unstable electricity supply
- 5 years international warranty for all parts and labour

Also available



TCW 40R AC | Vaccine Refrigerator

- **Vaccine storage capacity: 36 L**
- **Hold over time: 110 h at +43°C**
- **Delivered with 1 storage wire basket**

ICE-LINED REFRIGERATORS & FREEZERS
For use in demanding conditions such as hot and humid environments

Vaccine Refrigerator & Ice-pack Freezer

B Medical Systems | AC Range

5 YEARS WARRANTY | PQS CERTIFIED E003/123 | CCEOP ELIGIBLE | FREEZE PROTECTION

The TCW 120 AC is a vaccine refrigerator and ice-pack freezer with integrated voltage stabilization and RTMD > **One single device worldwide for all voltages and frequencies**

Highest insulation value

- Rotomoulded body construction: rust free and extremely robust
- 100mm PU foam insulation guarantees highest possible hold over time
- Double silicon gaskets (replaceable) and lockable clasps ensure tight sealing
- Designed for tropical temperatures: +5°C to +43°C

Vaccine Refrigerator and Ice-pack Freezer

- Vaccine storage capacity: 120 L
- Ice-pack storage capacity: 22 x 0.6 L
- Ice-pack freezing capacity: >1.6 kg / 24 h at +43°C
- Hold over time: 73 h 54 at +43°C
- Delivered with 22 ice-packs at 0.6 L and 4 storage wire baskets: facilitates the handling and storage management of the vaccines

Integrated electronics

- Electronics controller with integrated LED digital temperature monitoring
- Simple and user-friendly “1 button” operation
- Temperature monitoring maintained in case of system failure
- Green technology: very low power consumption and environmentally friendly refrigerant (R600a)
- Works at a preset setpoint of +5°C (Refrigerator) and -20°C (Freezer) (cannot be changed by the user)

Special features

- Integrated Remote Temperature Monitoring Device (RTMD), offering real-time worldwide remote monitoring, data access over WEB and GPS position
- Fully integrated automatic voltage stabilization solution (for any voltage in between 90-290 V) and a protective relay
- Equipped with innovative voltage stabilisers permitting the use of this model in areas of the world with unstable electricity supply
- 5 years international warranty for all parts and labour

Ice-pack Freezer

B Medical Systems | AC Range

The TFW 3000 AC is the first large rotomoulded ice-pack freezer, designed for freezing and storing ice-packs in tropical temperature zones **> Very low energy consumption**

Highest insulation value

- Rotomoulded body construction: rust free and extremely robust
- 100mm PU foam insulation guarantees highest possible hold over time
- Double silicon gaskets (replaceable) and lockable clasps ensure tight sealing
- Designed for tropical temperatures: +5°C to +43°C

Ice-pack Freezer

- Ice-pack storage capacity: 162 x 0.6 L
- Ice-pack freezing capacity: 32.4 kg / 24 h at +43°C
- Delivered with 54 ice-packs at 0.6 L and 6 storage wire baskets

Integrated electronics

- Electronics controller with integrated digital temperature monitoring
- Temperature monitoring maintained in case of system failure
- Green technology: very low power consumption and environmentally friendly refrigerant (R290)
- Works at a preset setpoint of -16°C (cannot be changed by the user)

Vaccine Refrigerator

B Medical Systems | AC Range

The TCW 4000 AC is the largest rotomoulded ice lined refrigerator in the world with a net vaccine storage capacity of 240 L > **Very low energy consumption**

Highest insulation value

- Rotomoulded body construction: rust free and extremely robust
- 100mm PU foam insulation guarantees highest possible hold over time
- Double silicon gaskets (replaceable) and lockable clasps ensure tight sealing
- Designed for tropical temperatures: +5°C to +43°C

Vaccine Refrigerator

- Vaccine storage capacity: 240 L
- Hold over time: 77 h 18 at +43°C
- Delivered with 6 storage wire baskets: facilitates the handling and storage management of the vaccines
- Equipped with the new automatic drain water evaporation

Integrated electronics

- Electronics controller with integrated LED digital temperature monitoring
- Simple and user-friendly “1 button” operation
- Temperature monitoring maintained in case of system failure
- Green technology: very low power consumption and environmentally friendly refrigerant (R600a)
- Works at a preset setpoint of +5°C (cannot be changed by the user)

Special features

Can be purchased with Remote Temperature Monitoring Device (RTMD), offering real-time worldwide remote monitoring, data access over WEB and GPS position.

AC RANGE

Technical Data
Iceliners





		TCW 40R AC	TCW 80 AC	TCW 120 AC	TFW 3000 AC	TCW 4000 AC
Function		Vaccine Refrigerator		Vaccine Refrigerator & Ice-pack Freezer	Ice-pack Freezer	Vaccine Refrigerator
Climate zone		Hot zone (+43°C)				
Vaccine storage capacity (l)		36	81	120	-	240
Ice-pack storage capacity		-	-	22 x 0.6 L	162 x 0.6 L	-
Ice-pack freezing capacity		-	-	> 1.6 Kg / 24 h	32.4 kg / 24 h	-
Hold over time (+2°C to +10°C)		110 h	72 h 09	73 h 54	-	77 h 18
Dimensions H x W x D (mm)	*External*	888 x 1022 x 778	892 x 1020 x 783	910 x 1620 x 790	910 x 1270 x 780	915 x 1625 x 780
	Shipping	1040 x 1060 x 800		1040 x 1660 x 805	1030 x 1300 x 800	1040 x 1660 x 805
Shipping weight (kg)		126	111	188	126	183
Operating voltage range		110-240 V - 50/60 Hz			220-240V 50/60Hz or 110-127V 60Hz	220-240V 50/60Hz or 110-120V 60Hz
Energy consumption / 24 h	*Stable running*	0.51 KWh	0.47 KWh	1.55 KWh	2.15 KWh	0.85 KWh
	Cool down	0.76 KWh	0.60 KWh	1.07 KWh	2.20 KWh	1.24 KWh
	During freezing	-	-	1.41 KWh	-	-
PQS code		E003 / 100	E003 / 101	E003 / 123	E003 / 071	E003 / 066
CCEOP-eligible		Yes				
Freeze protection		Grade A				

ICE-LINED REFRIGERATORS & FREEZERS
For use in demanding conditions such as hot and humid environments

All values were measured at +32°C or +43°C according to the climate zone of the concerned model (unless otherwise specified).
Subject to change without prior notice. Some of the accessories shown in the pictures are optional.

Vaccine Transport Boxes

B Medical Systems | Passive Range

6 models • Volume **1.9 > 44 L** • According to **ADR** I **RID** I **IMDG** I **ICAO-TI** I **IATA-DGR** • In compliance with **WHO Guidelines** I **PQS Certified***

For the safe transport of vaccines or medicines from different storage centres to vaccination sites.

Designed for transporting vaccines from different storage centres to the various vaccination sites (regional centres, health centres or as part of vaccination campaigns), these passive transport containers ensure an unbroken cold chain for transport periods between 24 hours and 8 days.

This range consists of six passive transport systems and are ideal for intensive use with many transport applications, even under difficult climatic conditions. These passive models 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).

DECLARATION OF CONFORMITY (ADR / RID /IMDG / ICAO-TI / IATA-DGR)

- European agreement concerning the international carriage of dangerous goods by road (ADR) and by railway (RID), directive 2008 / 68 / CE
- European agreement concerning the international carriage of dangerous goods by sea transport (IMDG), directive 2002 / 84 / CE
- International agreement for air transport (ICAO-TI / IATA-DGR)

RCW 2 / 4 / 12 may contain goods of packing groups I, II and III.

RCW 8 / 25 may contain goods of packing groups II and III.

*** Excepted model RCW 2**
Subject to change without prior notice. Some of the accessories shown in the pictures are optional.

Designed for intensive use

- The special transport boxes, made from rotationally moulded polyethylene (a literally indestructible synthetic), feature an extraordinarily sturdy casing that is almost impervious to external forces, e.g. caused by bumps and falls, whose sturdiness has been proven in drop tests
- The corrosion free material offers easier and safer handling and is light weight. All transport systems can easily and thoroughly be cleaned and disinfected with conventional disinfectants. There are no inaccessible corners or areas inside the transport systems
- The clasps can be sealed or equipped with locks and are therefore protected against unauthorised access during transport
- RCW 1 / 2 / 4 / 8 are very easy to handle thanks to their adjustable shoulder strap and their light weight
- Designed for tropical temperatures: +5°C to +43°C

Special features I RCW 25

PCM packs - heat accumulation elements, containing a so-called phase change material (PCM at +5°C and -30°C) and Dry Ice (at -80°C) are available for long-term, temperature controlled transport. The stored product will therefore remain at a near constant temperature for a specific period of time, without requiring active temperature control.

PQS* CERTIFIED

* Excepted model RCW 2

Highest insulation value

- The polyurethane foam injected into the double walls of these transport systems is free of CFC and HCFC and ensure optimum insulation and protection of quality of the transported goods, especially with longer transport times
- Due to the outer casing's self-insulation against the environment, the B Medical Systems transport systems maintain a stable temperature even at higher ambient temperatures

Special features I RCW 1

- The RCW 1 is the first long range vaccine carrier which complies to current WHO draft freeze protection specifications, and is perfectly suited for the transport of precooled vaccines and vials. It is easy to handle and can be comfortably carried thanks to its shoulder trap and optional back-pack for longer walks or motorbike rides. A standard electronic thermometer with integrated digital display informs always about vaccine temperature
- Its internal vaccine storage compartment and its vaccine vial holder with indentations (to hold open vaccine vials), protect the temperature-sensitive materials against freezing and ensure optimal temperature conditions

SAVING LIVES THROUGH RELIABLE AND INNOVATIVE TECHNOLOGY

PASSIVE
RANGE

Technical Data
Passive System






		RCW 1	RCW 2	RCW 4	RCW 8	RCW 12	RCW 25
Cooling system		Passive					
Climate zone		Hot zone (+43°C)					
Gross volume (l)		6.5	1.9	8	20	24	44
Vaccine storage capacity (l)		1.04	0.92	3	6	7	20
Required Ice-pack (for vaccine)		3 x 0.6 L	2 x 0.3 L	1 x 0.6 L + 6 x 0.3 L	10 x 0.6 L + 2 x 0.3 L	14 x 0.6 L	24 x 0.6 L
Cold life (up to +10°C) at +43°C		32.1 h	-	30.3 h	57.9 h	114.9 h	134.6 h
Cool life (up to +20°C) at +43°C		-	-	6.7 h	12 h	26.4 h	34.4 h
Warm life (down to 0°C) at -20°C		-	-	12.9 h	21.6 h	40.9 h	49.5 h
Dimensions H x W x D (mm)	*External*	430 x 347 x 281	210 x 250 x 150	299 x 362 x 283	437 x 588 x 288	499 x 550 x 475	499 x 710 x 550
	Inner	208 x 223 x 139	125 x 190 x 80	186 x 260 x 156	245 x 460 x 180	270 x 340 x 260	264 x 496 x 334
	Shipping	460 x 356 x 295	230 x 285 x 160	380 x 320 x 300	470 x 610 x 310	530 x 570 x 490	530 x 730 x 570
Weight (kg)	*Net - empty*	4.8	1.2	3.1	6.8	11.7	15.9
	Shipping	7	2	4	10	17	23
Insulation thickness (polyurethane)		51-116 mm	30 mm	23-27 mm	50-60 mm	90-105 mm	90-105 mm
PQS code		E004 / 059	-	E004 / 002	E004 / 003	E004 / 004	E004 / 005

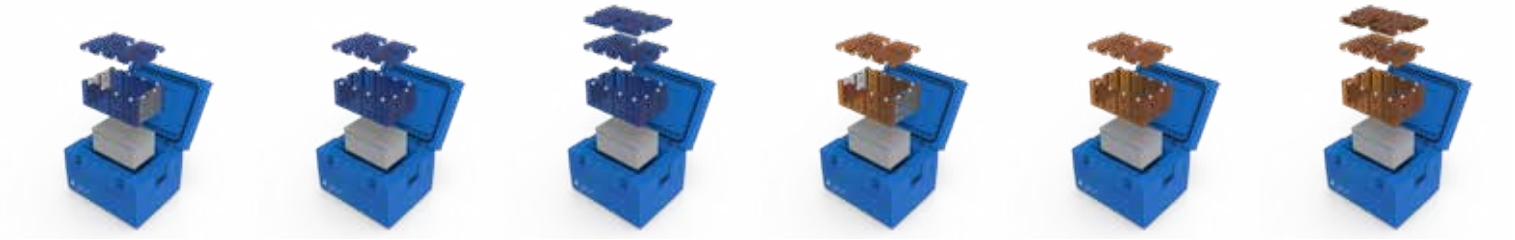
All values were measured at +32°C or +43°C according to the climate zone of the concerned model (unless otherwise specified).
Subject to change without prior notice. Some of the accessories shown in the pictures are optional.

For long-term, temperature controlled transport

B Medical Systems RCW 25 | PCM & Dry-Ice

B Medical Systems PCM are heat accumulation elements, containing a so-called phase change material (PCM). The PCM stores latent heat at the required temperature at phase change (liquid / solid). The stored product will therefore remain at a near constant temperature for a specific period of time, without requiring active temperature control. The Eutectic Cooling Elements are available in 2 types, PCM+5 and PCM-30, and must be charged for the specified temperature prior to each use.

	PCM +5°C			PCM -30°C		
Load Volume	20 L			20 L		
PCM Type	+5°C			-30°C		
PCM Color	Blue			Orange		
Number of PCM elements	14	18	24	14	18	24
Cold Life at +20°C (ambient temperature)	88.3 h (at +2°C to +8°C)	108.4 h (at +2°C to +8°C)	160.2 h (at +2°C to +8°C)	50 h (below -20°C)	67 h (below -20°C)	92.5 h (below -20°C)
Cold Life at +43°C (ambient temperature)	10 h (at +2°C to +8°C)	24.3 h (at +2°C to +8°C)	40.7 h (at +2°C to +8°C)	26.5 h (below -20°C)	40.2 h (below -20°C)	57.8 h (below -20°C)



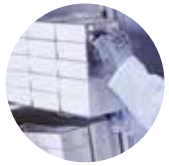
Performance data for RCW 25 using dry ice as cooling element

Active material	Dry ice - 9mm pellets	
Number of Pfizer boxes	2	4
Average amount of dry ice (kg)	23	21
Cold Life at +20°C (ambient temperature)	218 h (below -60°C)	191 h (below -60°C)
Cold Life at +43°C (ambient temperature)	193 h (below -60°C)	140 h (below -60°C)

Ultra-Low Freezers

B Medical Systems | U Range

6 models • Volume **232 > 949 L** • Set temperature **-82°C** • Climate class **SN/T** • Compliant to **DIN 13277** I **MDR (EU) 2017/745, Class IIa**



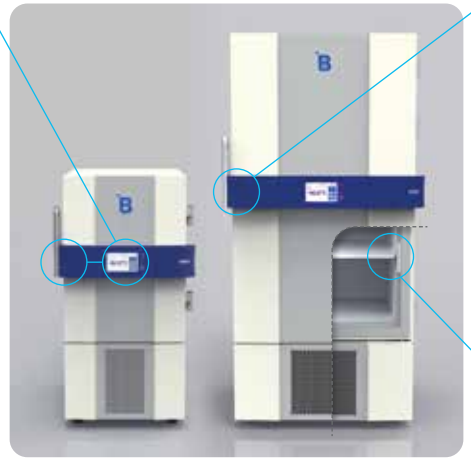
Exclusive integrated electronics handle bar

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

Versatile modularity

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



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

High quality materials

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

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 -86°C to -20°C.

U
RANGE

Technical Data
Ultra-Low Freezers






		U201	U401	U501	U701	U701 V*2	U901
Gross / Net volume (l)		232 / 217	478 / 454	634 / 602	791 / 751	791 / 751	949 / 900
*Storage capacity*1*	*Vials*	17000 (2ml)	34500 (2ml)	46000 (2ml)	57500 (2ml)	57500 (2ml)	69000 (2ml)
	Cryoboxes	170 (model H50)	345 (model H50)	460 (model H50)	575 (model H50)	575 (model H50)	690 (model H50)
	Plasma bags	150 (350ml)	300 (350ml)	400 (350ml)	500 (350ml)	500 (350ml)	600 (350ml)
Set temperature (preset)		-82°C				-80°C	-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					
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 992 x 1039	1988 x 1139 x 1039
Inner dimensions H x W x D (mm)		657 x 447 x 738	1375 x 447 x 738	1375 x 593 x 738	1375 x 740 x 738	1375 x 740 x 738	1375 x 887 x 738
Net weight with standard equipment (kg)		195	250	276	297	298	320

Energy Saver	*Supply voltage (V)*	230	220	230	220	230	220	230	220	115	220-240	230	220
	Frequency (Hz)	50	60	50	60	50	60	50	60	60	50-60	50	60
	Power (W)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
	Energy consumption (kWh/24h)	13.5	13.5	11.0	12.5	11.3	12.5	11.9	13.5	10.6	7.5 (-80°C) / 6.3 (-70°C)	12.4	15.5
	Heat emission (Kcal/h): air / water cooled	209 / 115	338 / 125	326 / 121	405 / 150	404 / 149	433 / 160	426 / 158	511 / 189	645 / -	309.54 / -	444 / 164	567 / 210
	Compressor running time (%)	48	48	46	44	51	47	50	55	57	-	59	61
	Noise level (dB(A)) *(at 1m height & 1m distance)*	49	50	49	50	52	53	48	49	47	46	51	52
	Hold over time (-80°C to -60°C)	1.8 h	1.8 h	2.1 h	2.1 h	2.7 h	2.7 h	2.5 h	2.5 h	2.5 h	2.2 h	2.3 h	2.3 h

*1 For directional purpose only. *2 V stands for variable speed cooling technology.

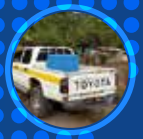










Our products are used across the world for storing vaccines and other temperature-sensitive products.

- 500K+ products installed
- Presence in 170+ Countries
- 100+ Patents
- 100+ Certified Medical Devices

SAVING LIVES THROUGH RELIABLE AND INNOVATIVE TECHNOLOGY

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.

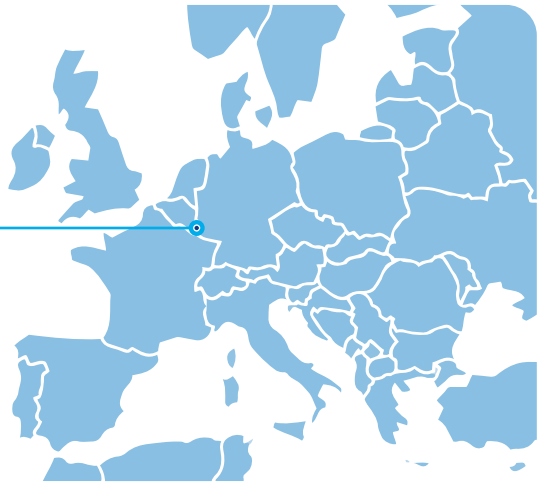
medical systems

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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