



medical
systems



SAVING LIVES THROUGH RELIABLE AND INNOVATIVE TECHNOLOGY



Vaccine Cold Chain

Innovative storage and transport solutions
for safe vaccination campaigns around the world.





Vaccine Cold Chain

Innovative storage and transport solutions for safe vaccination campaigns around the world.

As the leading manufacturer of Vaccine Cold Chain, B Medical Systems offers the most innovative and reliable solutions to ensure the success of your immunization programs.

We offer reliable and efficient solutions designed to protect the vaccine's potency until the last mile, even in the most hostile environments.

Our portfolio includes:

- **Solar Direct Drive Refrigerators & Freezers** for rapid deployment and reliable storage of vaccines under severe environmental conditions anywhere in the world
- **Ice-Lined Refrigerators & Freezers** for use in demanding conditions such as humid environments and regions with frequent voltage fluctuations
- **Vaccine Transport Boxes** for the safe transport of vaccines from health centers to vaccination sites
- **Ultra-Low Freezers** for the safe storage of vaccines and other bio-specimens at ultra low temperature down to -86°C
- **Refrigerated Vaccine Transport Vehicle** for the safe transport of vaccines, pharmaceuticals or any other specimens at temperatures between $2-8^{\circ}\text{C}$
- **Health Center Kit Neo** is an energy harvesting system which automatically charges a battery with the excess energy available obtained by our solar generators



SDD | Solar Direct Drive Vaccine Refrigerators & Water-pack Freezers

⊕ Health Center Kit Neo (Energy Harvesting System)



ILR | Ice-Lined Vaccine Refrigerators, Water-pack & Vaccine Freezers



U Range Ultra-Low Freezers



RCW Range Vaccine Transport Boxes



RVTV Refrigerated Vaccine Transport Vehicle





Solar Direct Drive | SDD

Vaccine Refrigerators & Water-pack Freezers

⊕ Health Center Kit Neo (Energy Harvesting System)




Vaccine
Up to 240 L


Solar
Energy


Green
Refrigerants

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

The Solar Direct Drive solution consists of several vaccine refrigerators, combined refrigerators & freezers and water-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!

- ✓ **Reliability**
Integrated electronics and alarms ensure the best 24/7 vaccine safety
- ✓ **Innovation**
Robust, rust-free and innovative designs and technologies ensure a long product life even in harsh environments



“ Studies have shown that cold chains in many countries are unreliable, and that **vaccines are at risk of exposure to damaging temperatures.** ”

 **40⁺** YEARS
EXPERIENCE

 **200** PARTNERS
WORLDWIDE
DISTRIBUTION

 **ANTI-CORROSION**
LIFE WARRANTY



Strong Insulation & Robust Construction

- Rotomolded body construction and CFC & HFC - Free foam insulation
- Corrosion resistant and easy to clean
- Designed to operate in hot ambient temperature ranging from +5°C to +43°C
- Lids equipped with clamps and key locks
- Robust hinges (>10 years lifetime) built to operate in extreme conditions
- Easily replaceable 2 layers gasket
- Integrated LED lighting for clear visibility inside the device
- Document holder
- Engineered to perform reliably at extreme altitudes: up to 5,000 meters



Superior electronics

- 64 x 36mm (3 inches) data display screen with adaptive backlighting
- Replaceable battery with an autonomy of 10+ days and 10 year lifetime
- Multi-language user interface (English, French, Spanish, Arabic, Russian, Chinese)
- Password-protected controller
- USB C port and a power output port (USB A)
- Visual and audible alarms
- Software-generated alerts pushed directly to the devices
- SIM card port for local data plans or backup
- Integrated autonomy meter
- IP64 and gasketed enclosure protecting all electronic components from humidity, water and dust



Green Operations

- Powerful cooling system using environmentally friendly refrigerant R600a
- Easy plug & play installation
- Working straight from solar panels: Roof or ground adjustable angles Pole mounted (Optional)



Reliable Equipment Monitoring System (EMS)

- ✓ Temperature
- ✓ Power availability
- ✓ Door openings
- ✓ Compressor runtime
- ✓ Autonomy
- ✓ Equipment identification
- ✓ Error codes
- ✓ Relative humidity
- ✓ Equipment uptime
- ✓ + and more

Offers Level 2 EMS functionality (according to WHO PQS guidelines) as a standard feature
Enables standardized, interoperable collection of cold chain equipment (CCE) performance and system monitoring data

Integrated basic local data logging capabilities via USB - in both a standardized raw format and as a portable document format (PDF)
Over-the-air or USB software update

Level 3 EMS functionality can be activated remotely

Users can send short messages (via Vaclog, up to 64 characters) that will appear instantly on the device display



Vaccine Refrigerators

Designed for the safe storage of vaccines at temperature between +2°C to +8°C

TCW 50R SDD | TCW 110R SDD | TCW 240R SDD



Combined Refrigerators & Freezers

Combination of refrigerator with freezer that can be used to store vaccines and freeze/store water-packs

TCW 40C SDD | TCW 120C SDD



Water-pack Freezers

Designed for the freezing and storage of water-packs

TCW 40F SDD



SDD | Technical Data

		Vaccine Refrigerators			Combined Refrigerators & Freezers		Water-pack Freezers
		TCW 50R SDD	TCW 110R SDD	TCW 240R SDD	TCW 40C SDD	TCW 120C SDD	TCW 40F SDD
Vaccine storage capacity (l)		56	114	240	36	120	-
Water-pack	Max. storage capacity (kg)		-		4.8	13.2	39.6
	Freezing capacity (kg/24h)		-		1.8	3	3.6
Application temperature			+2°C to +8°C		+2°C to +8°C	R: +2°C to +8°C / F: -5°C	-5°C
Gross volume Refrigerator / Freezer (l)		60.4	142.5	267.9	R: 46.6 / F: 4.8	R: 165.9 / F: 13.2	64
Refrigerant type			R600a			R600a	R600a
Climate zone			Hot			Hot	Hot
Freeze protection			Grade A			Grade A	-
PQS code		E003/164	E003/156	E003/161	E003/153	E003/154	E003/169
Nominal dimensions H x W x D (mm)	External	910 x 1055 x 780	910 x 1320 x 780	910 x 1665 x 780	910 x 1055 x 780	910 x 1665 x 780	910 x 1055 x 780
	Shipping	1030 x 1095 x 805	1030 x 1360 x 805	1030 x 1700 x 805	1030 x 1095 x 805	1030 x 1700 x 805	1030 x 1095 x 805
Nominal net weight (kg)		105	138	168	113	177	105
External / Internal material			Polyethylene			Polyethylene	Polyethylene
Insulation material			Polyurethane foam			Polyurethane foam	Polyurethane foam
Solar generator			SG 490 RGA		SG 490 RGA	SG 980 RGA	SG 490 RGA
Energy consumption (kWh/24h)	Stable (at +43°C)	0.519	0.58	0.644	0.68	0.91	0.60
	Cool down (at +43°C)	0.848	0.848	0.841	0.71	0.88	0.625
Autonomy		94 h 15	102 h 24	118 h 30	104 h	104 h	12 h

Health Center Kit Neo | SDD

Energy harvesting system



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

The Health Center Kit Neo 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 power devices also during night time.



Integrated electronics

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



Plug & Play installation

Allows to link in between SDD models and solar generator by quick connectors "plug and play".



Designed for intensive use

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

2 mobile rechargeable LED lights



User-friendly device

- 2 storage places for mobile and others devices
- Lockable compartment
- Mobile ceiling fan





Ice-Lined | ILR

Vaccine Refrigerators, Water-pack & Vaccine Freezers




Vaccine
Up to 240 L


Water-pack
Up to 14.4 Kg


Green
Refrigerants



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. Made of rotomoulded polyethylene, these models are designed for use in demanding conditions such as humid environments and regions with frequent voltage fluctuations and offer the durability and robustness required for intensive use, as well as heavy-duty insulation and physical resilience.

 **40⁺** YEARS
EXPERIENCE

 **200** PARTNERS
WORLDWIDE
DISTRIBUTION

 **ANTI-CORROSION**
LIFE WARRANTY

✓ **Reliability**

Integrated electronics and alarms ensure the best 24/7 vaccine safety

✓ **Innovation**

Robust, rust-free and innovative designs and technologies ensure a long product life even in harsh environments



“ With the introduction of new vaccines, **common equipment failures** such as broken refrigerator, a leaky water-pack **can easily damage thousands of dollars of vaccines.** ”



Strong Insulation & Robust Construction

- Rotomolded body construction and CFC & HFC - Free foam insulation
- Corrosion resistant and easy to clean
- Designed to operate in hot ambient temperature ranging from +5°C to +43°C
- Lids equipped with clamps and key locks
- Robust hinges (>10 years lifetime) built to operate in extreme conditions
- Easily replaceable 2 layers gasket
- Integrated LED lighting for clear visibility inside the device
- Document holder
- Engineered to perform reliably at extreme altitudes: up to 5,000 meters*

Green Operations

- Powerful cooling system using environmentally friendly refrigerant R600a or R290
- Easy plug & play installation
- Integrated voltage stabilizer. Vaccine Freezers are equipped with a new generation of voltage stabilizer (enhanced overload protection)

Superior electronics

- 64 x 36mm (3 inches) data display screen with adaptive backlighting
- Replaceable battery with an autonomy of 10+ days and 10 year lifetime
- Multi-language user interface (English, French, Spanish, Arabic, Russian, Chinese)
- Password-protected controller
- USB C port and a power output port (USB A)
- Visual and audible alarms
- Software-generated alerts pushed directly to the devices
- SIM card port for local data plans or backup
- Integrated autonomy meter
- IP64 and gasketed enclosure protecting all electronic components from humidity, water and dust

Reliable Equipment Monitoring System (EMS)

- ✓ Temperature
- ✓ Power availability
- ✓ Door openings
- ✓ Compressor runtime
- ✓ Autonomy
- ✓ Equipment identification
- ✓ Error codes
- ✓ Relative humidity
- ✓ Equipment uptime
- ✓ + and more

Offers Level 2 EMS functionality (according to WHO PQS guidelines) as a standard feature
Enables standardized, interoperable collection of cold chain equipment (CCE) performance and system monitoring data

Integrated basic local data logging capabilities via USB - in both a standardized raw format and as a portable document format (PDF)
Over-the-air or USB software update

Level 3 EMS functionality can be activated remotely

Users can send short messages (via Vaclog, up to 64 characters) that will appear instantly on the device display

Vaccine Refrigerators

Designed for the safe storage of vaccines at temperature between +2°C to +8°C

TCW 50R AC | TCW 110R AC | TCW 240R AC

Combined Refrigerators & Freezers

Combination of refrigerator with freezer that can be used to store vaccines and freeze/store water-packs

TCW 40C AC | TCW 120C AC

Vaccine Freezers

Designed for the storage of frozen vaccines at temperature between -25°C to -15°C

TCW 110VF AC | TCW 240VF AC

* Not applicable for Vaccine Freezers.



ILR | Technical Data

		Vaccine Refrigerators			Combined Refrigerators & Freezers	
		TCW 50R AC	TCW 110R AC	TCW 240R AC	TCW 40C AC	TCW 120C AC
Vaccine storage capacity (l)		56	114	240	36	120
Water-pack	Max. storage capacity (kg)		-		4.8	14.4
	Freezing capacity (kg/24h)		-		4.8	4.8
Application temperature		+2°C to +8°C			+2°C to +8°C	R: +2°C to +8°C / F: -5°C
Gross volume Refrigerator / Freezer (l)		60.4	142.5	267.9	R: 46.6 / F: 4.8	R: 165.9 / F: 14.4
Refrigerant type		R600a			R600a	
Climate zone		Hot			Hot	
Freeze protection		Grade A			Grade A	
PQS code		E003/150	E003/155	E003/151	E003/170	E003/152
Nominal dimensions H x W x D (mm)	External	910 x 1055 x 780	910 x 1320 x 780	910 x 1665 x 780	910 x 1055 x 780	910 x 1665 x 780
	Shipping	1030 x 1095 x 805	1030 x 1360 x 805	1030 x 1700 x 805	1030 x 1095 x 805	1030 x 1700 x 805
Nominal net weight (kg)		106	139	168	113	177
External / Internal material		Polyethylene			Polyethylene	
Insulation material		Polyurethane foam			Polyurethane foam	
Operating voltage range		100-240V 50-60Hz			100-240V 50-60Hz	
Energy consumption (kWh/24h)	Stable (at +43°C)	0.81	1.127	1.15	1.16	1.38
	Cool down (at +43°C)	0.59	0.734	0.85	0.99	1.25
Hold over time (at +43°C)		101 h 33	99 h 51	115 h 19	98 h	127 h 55

			
ILR Technical Data		Vaccine Freezers	
		TCW 110VF AC	TCW 240VF AC
Vaccine storage capacity (l)		114	240
Water-pack	<i>Max. storage capacity (kg)</i>		-
	<i>Freezing capacity (kg/24h)</i>		-
Application temperature		-25°C to -15°C	
Gross volume Refrigerator / Freezer (l)		142.5	267.9
Refrigerant type		R290	
Climate zone		Hot	
Freeze protection		-	
PQS code		E003/166	E003/167
Nominal dimensions H x W x D (mm)	<i>External</i>	910 x 1320 x 780	910 x 1665 x 780
	<i>Shipping</i>	1030 x 1360 x 805	1030 x 1700 x 805
Nominal net weight (kg)		146	174
External / Internal material		Polyethylene	
Insulation material		Polyurethane foam	
Operating voltage range		220-240V 50-60Hz	
Energy consumption (kWh/24h)	<i>Stable (at +43°C)</i>	2.318	2.797
	<i>Cool down (at +43°C)</i>	2.319	2.814
Hold over time (at +43°C)		16 h 07	17 h 13





U Range Ultra-Low Freezers

Variable
speed models
are also available.




Temperature
-86°C to -20°C


Gross Volume
Up to 949 L


**Green
Refrigerants**

Ultra-low freezers are devices intended for the storage of live virus vaccines, blood components and blood plasma, human cells, tissues, and other laboratory samples at ultra-low temperatures down to -86°C.

U models reflect the highest and most uncompromising requirements with state-of-the-art technology and economy. The devices include an integrated alarm system that warns against unexpected temperature excursions and power failures. The cooling system is optimally designed with respect to energy consumption as well as to the development of waste heat and noise. Temperature is adjustable from -86°C to -20°C.

*Ultra-Low Freezers are certified medical devices according to **MDR (EU) 2017/745** or **US FDA regulations**.*

- ✓ **Reliability**
Optimal sample safety and 24/7 protection
- ✓ **Efficiency**
High-performing compressors running on green refrigerants
- ✓ **Convenience**
User-friendly and modular solutions for any cooling need





Advanced Insulation Technology

- Innovative vacuum valves in the door permit faster openings
- Improved long-lasting VIP panels reduce temperature fluctuations
- Magnetic gasketed inner doors provide superior cabinet insulation

Durable Design

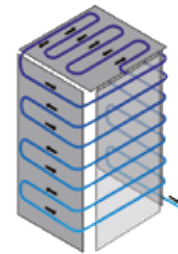
- Stainless steel construction with an external antibacterial coating that ensures durability and hygiene
- Ergonomic door handle for seamless operations and durability
- Sturdy door hinges ensure a secure seal, preventing frost buildup
- Designed for tropical climates with ambient temperatures reaching as high as +43°C

Innovative Electronics

- 7" full touchscreen display with digital control and functionalities
- Access control using NFC card and password protection
- Advanced alarm system with audio and visual alarms
- Easy data export using a USB/SD card
- Bi-frequency operation (50/60 Hz)*³

Reliable & Green Refrigeration System

- Bottom-mounted refrigeration system offers easy access and an optimised storage space
- Uses green refrigerants with zero Ozone Depletion Potential (ODP)
- Unique evaporator technology ensures an even cold air distribution and eliminates oil clogging



Excellent storage capacity & flexibility



U201



U401 | U401V*2



U501 | U501V*2



U701 | U701V*2



U901





U | Technical Data

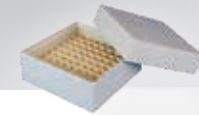
U Technical Data		Ultra-Low Freezers													
		U201		U401 U401V*2			U501 U501V*2			U701 U701V*2				U901	
Gross / Net volume (l)		232 / 217		478 / 454 V*2 = 477 / 454			634 / 602 V*2 = 633 / 602			791 / 751 V*2 = 790 / 751				949 / 900	
Storage capacity*1	Vials (2ml)	17000		34500			46000			57500				69000	
	Cryoboxes (model H50)	170		345			460			575				690	
	Plasma bags (350ml)	150		300			400			500				600	
Set temperature (preset)		-82°C		-82°C -80°C			-82°C -80°C			-82°C -80°C				-82°C	
Set temperature (setting range) can be adjusted in steps of 0.1°C															
Refrigerant type		R290 / R170													
Climate class (ambient temperature range)		SN / T (+10°C to +43°C)													
Defrosting technique		Manual													
Preset cold / warm alarm limit		-87°C / -77°C		-87°C / -77°C -85°C / -75°C			-87°C / -77°C -85°C / -75°C			-87°C / -77°C -85°C / -75°C				-87°C / -77°C	
Dimensions H x W x D (mm)	External	1293 x 699 x 1039		1988 x 699 x 1039			1988 x 845 x 1039			1988 x 992 x 1039				1988 x 1139 x 1039	
	Internal	657 x 447 x 738		1375 x 447 x 738			1375 x 593 x 738			1375 x 740 x 738				1375 x 887 x 738	
Net weight with standard equipment (kg)		195		250 262			276 285			297 305				320	
Energy Saver	Supply voltage (V)	230	220	230	220	220-240	230	220	220-240	230	220	115	220-240	230	220
	Frequency (Hz)	50	60	50	60	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	2000	2000
	Energy consumption (kWh/24h)	13.5	13.5	11.0	12.5	6.7	11.3	12.5	7.1	11.9	13.5	10.6	7.5	12.4	15.5
	Heat emission (Kcal/h): air / water cooled	209 / 115	338 / 125	326 / 121	405 / 150	291.6 / -	404 / 149	433 / 160	297.7 / -	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	46	52	53	46	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	1.82 h	2.7 h	2.7 h	1.37 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. *3 Only on variable speed models.
All values were measured at +25°C ambient temperature, -82°C Setpoint (-80°C at +20°C for variable speed models) and without load.
Subject to change without prior notice. Some of the accessories shown in the pictures are optional



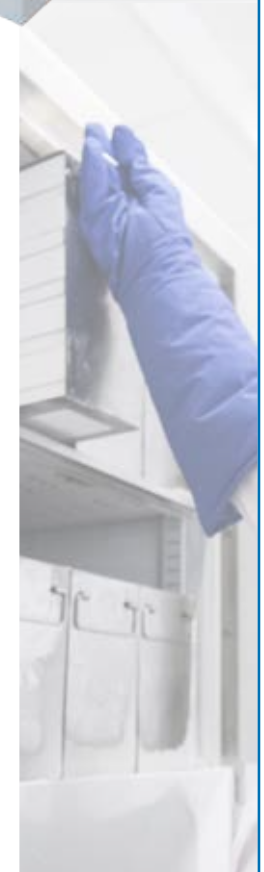
U Range

Accessories | Cryo-Rack / D-Rack / Cryoboxes



Ultra-Low Freezers

	U201	U401 U401V*2	U501 U501V*2	U701 U701V*2	U901
Large Cryo-Rack H50					
Max. items per unit	-	9	12	15	18
Cryoboxes storage capacity per Cryo-Rack			30 x H50		
External dimensions H x W x D (mm)			330 x 140 x 698		
Material			Stainless Steel		
Cryo-Rack H50 / H75 / H100					
Max. items per unit	6	12	16	20	24
Cryoboxes storage capacity per Cryo-Rack			25 x H50 / 15 x H75 / 10 x H100		
External dimensions H x W x D (mm)			H50 = 276 x 142 x 698 / H75 = 241 x 140 x 698 / H100 = 221 x 140 x 699		
Material			Stainless Steel		
D-Rack H50 / H75 / H100 / Microtiter H22					
Max. items per unit	6	12	16	20	24
Cryoboxes storage capacity per D-Rack			20 x H50 / 15 x H75 / 10 x H100		
External dimensions H x W x D (mm)			H50 = 231 x 140 x 700 / H75 = 241 x 140 x 700 / H100 = 211 x 140 x 700 / H22 = 270 x 136 x 700		
Material			Stainless Steel		





RCW Range

Vaccine Transport Boxes



Temperature*
-80°C to +8°C



Gross Volume
1.9 L to 44 L



Vaccine
Up to 20 L



Excepted model RCW2

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).



According to ADR | RID | IMDG | ICAO-TI | IATA-DGR

European agreement concerning the international carriage of dangerous goods:

- by road (ADR), by railway (RID), directive 2008 / 68 / CE

- by sea transport (IMDG), directive 2002 / 84 / CE

International agreement for air transport (ICAO-TI / IATA-DGR)



Innovation

Robust, rust-free and innovative designs and technologies ensure a long product life even in harsh environments





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 clamps can be sealed or equipped with locks and are therefore protected against unauthorised access during transport
- RCW1, RCW2, RCW4 & RCW8 are very easy to handle thanks to their adjustable shoulder strap and their light weight
- Designed for tropical temperatures: +5°C to +43°C

Phase-Change Material

PCM (Phase Changing Material) packs are available for storage at +5°C and -30°C. Dry-Ice can be used to maintain temperature at -80°C.

Highest insulation value

- The polyurethane foam injected into the double walls of these transport systems is free of CFC and HFC 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 RCW1 & RCW25 FF

- RCW1 & RCW25 FF offer freeze free protection and are perfectly suited for the transport of pre-cooled vaccines and vials. The internal vaccine storage compartment protects the temperature-sensitive materials against freezing and ensure optimal temperature conditions
- RCW1 has a vaccine vial holder with indentations to hold open vaccine vials
- RCW1 is easy to handle and can be comfortably carried thanks to its shoulder strap and optional back-pack for longer walks or motorbike rides. A standard electronic thermometer with integrated digital display informs always about vaccine temperature



Real-time
Monitoring



Shock
resistant



Anti-corrosion
life warranty



Antibacterial



Anti-theft



RCW | Technical Data

Vaccine Transport Boxes							
	RCW1	RCW2	RCW4	RCW8	RCW12	RCW25	RCW25 FF
Gross volume (l)	6.5	1.9	8	20	24	44	44
Vaccine storage capacity (l)	1.04	0.92	3	6	7	20	10
Required Water-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	18 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	110 h 37
Cool life (up to +20°C) at +43°C	-	-	6.7 h	12 h	26.4 h	34.4 h	4 h 43
Warm life (down to 0°C) at -20°C	-	-	12.9 h	21.6 h	40.9 h	49.5 h	-
Cooling system	Passive						
PQS code	E004 / 059	-	E004 / 002	E004 / 003	E004 / 004	E004 / 005	E004 / 090
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
	Internal	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
Net weight (kg)	4.8	1.2	3.1	6.8	11.7	15.9	27.1
External / Internal material	Polyethylene						
Insulation thickness (polyurethane)	51-116 mm	30 mm	23-27 mm	50-60 mm	90-105 mm	90-105 mm	90-105 mm



**Stable
temperatures
over long
transportation**





For long-term, temperature controlled transport.

B Medical Systems PCM are heat accumulation elements, containing a 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	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 (+2°C to +8°C)	108.4 h (+2°C to +8°C)	160.2 h (+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 (+2°C to +8°C)	24.3 h (+2°C to +8°C)	40.7 h (+2°C to +8°C)	26.5 h (below -20°C)	40.2 h (below -20°C)	57.8 h (below -20°C)

Dry-Ice	Performance data for RCW 25	
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)

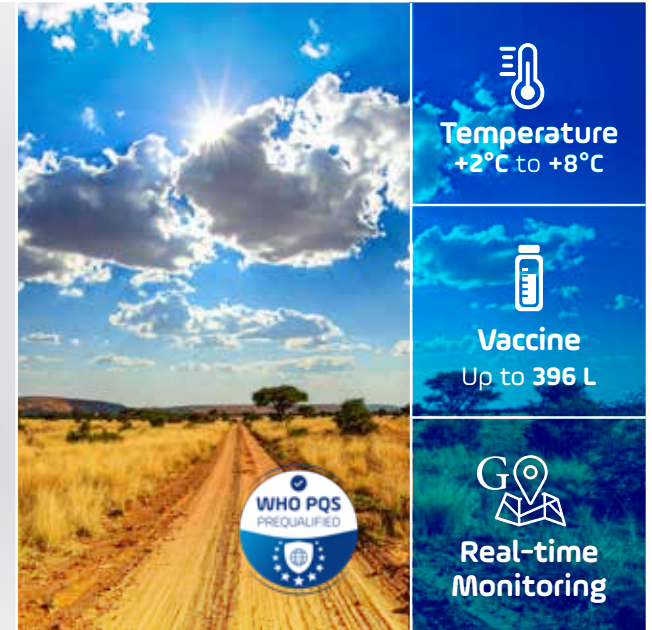


RVTV

Refrigerated Vaccine Transport Vehicle



Toyota Land Cruiser 78 4WD




Temperature
+2°C to +8°C


Vaccine
Up to 396 L


Real-time Monitoring

The Refrigerated Vaccine Transport Vehicle (RVTV) is a Toyota Land Cruiser 78 4WD (Four Wheel Drive) and includes a refrigerator fixed into the vehicle. The RVTV is used for the safe transport of vaccines, pharmaceuticals or any other specimens at 2-8°C temperature.



Refrigerator CF850

The refrigerator has two integrated rechargeable batteries (offering 16 hours of autonomy) and can work using the DC power of the vehicle as well as via an external AC mains supply. The RVTV is also designed with shelves to provide for the safe storage of vaccines. The refrigerator maintains temperature in the range of 2-8°C during transport and can act as a moving cold room.

The RVTV can also transport non-vaccine items (like syringes) and dry supplies. The dry supplies of high value can be placed inside the vehicle behind the driver and passenger seats to avoid theft. The supplies can also be placed on the rooftop of the vehicle.

Due to its ability to travel through hostile and narrow road networks, the RVTV will be able to maintain the cold chain until the last point of the national cold chain – the Health Post. The shelving in the RVTV will also provide a safe, vial breakage free transportation option for the vaccines.



Integrated control panel

- Electronics controller with integrated digital temperature display
- Independent control and display sensor
- Visual and acoustical temperature alarm
- Operates on 12 V vehicle battery or 220-240 V mains supply
- Independent operation for up to 16 hours with 2 integrated 12 V gel battery
- Simultaneous cargo cooling and battery charging
- Low energy consumption thanks to superior insulation



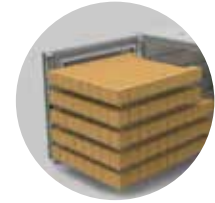
Highest insulation value

- Rotomoulded body construction: rust free and extremely robust
- Polyurethane foam insulation guarantees highest possible hold over time
- Double magnetic gasket system and transport-proof closing system ensures tight sealing



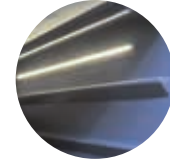
High storage capacity

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

- Fast and secure fastening with lashing strap set supplied as standard
- Fitting and dismantling in a very short time without any tool
- Collecting bottle for condensation water (outside the box)
- Excellent temperature distribution with air circulation system
- High-performance multi-LED interior light
- Integrated Remote Temperature Monitoring Device (RTMD) with free communication, offering real-time worldwide remote monitoring, data access over WEB and GPS position



Key Features

- Rotational molded cabinet and adjustable shelves
- 230V AC & 12V DC connection – providing flexible operation alternatives
- Integrated 2 x 12V DC battery & charger
- Battery guard- Preserves refrigerator battery from complete discharge
- Digital temperature control for accurate temperature setting
- Forced air ventilation
- Door contacts (to cut off evaporator fan), to limit the cold exchange when door is opened
- Automatic defrosting
- Visual and audible alarms
- Contact for remote alarm
- Removable and magnetic gaskets
- Crash tested according to ECE R80 74/408/EWG
- Integrated heating function, for operations during winter conditions and cold countries
- Integrated Remote Temperature Monitoring Device (RTMD) with free communication



RVTV | Technical Data

Fuel Type	Diesel	Gasoline
Displacement (cc)	4164	3956
Max. Output (kW/rpm)	96 / 3800	170 / 5200
Max. Torque (Nm/rpm)	285 / 2200	360 / 3800
Transmission	Manual, 5 Speed	
Tank capacity (l)	180	
External dimensions H x W x D (mm)	2115 x 1770 x 4990	2125 x 1770 x 4990
Gross weight (kg)	3200	
Wheelbase (mm)	2980	
Ground clearance (mm)	235	
Tyre	7.50R16-8 Sahara 5.50F	
Suspension Front / Rear	Coil, Rigid / Leaf, Rigid	
Brake Front / Rear	Ventilated Disc / Leading trailing Drum	
Outlet for external power supply	● 1	
Roof rack	● 1	
Spare Wheel	● 1 on the roof	

The vehicle is specially designed for rough terrain including steep slopes, water-covered terrain, or unpaved roads.



Vehicle

Toyota Land Cruiser 78 4WD



Refrigerator

CF850

Vaccine storage capacity (l)	396	
Set temperature (preset)	+5°C	
Cooling system	Active (Compressor)	
Refrigerant type	R134a	
Climate zone	Hot (0°C to +50°C)	
Defrosting technique	Automatic	
Dimensions H x W x D (mm)	External	1000 x 1100 x 1400
	Internal	830 x 888 x 1228
Net weight (kg)	169	
Operating voltage range	DC 12 V	AC 220-240 V - 50/60 Hz
Power (W)	150	220 360 (during battery charging)
Energy consumption (kWh/24h)	6.5	
Accessories		
Stainless Steel Wire Shelf	Large	● 1 ○ ≤ 3
	Small (at top)	○ 1
Lashing strap set	●	
12 V gel battery	● 1 ○ ≤ 2	
Universal 12 V connection set	○	
Remote Temperature Monitoring Device (RTMD)	● Integrated	

● Standard ○ Optional - Not available



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**



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.



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.

B Medical Systems S.à r.l.

17, op der Hei
L - 9809 Hosingen, Luxembourg

Tel.: (+352) 92 07 31-1
info@bmedicalsyste.ms.com



www.bmedicalsyste.ms.com

WE SUPPORT



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.

Luxembourg, in the heart of Europe

