MT
RANGE

Transport Systems

B Medical Systems | MT Range

Transport Systems are devices intended for
the safe transport of blood or other blood components.

Compliant to ADR | RID | IMDG | ICAO-TI | IATA-DGR |
Medical Device according to MDR (EU) 2017/745, Class IIa

6
MODELS

2.2 L > 90 L
VOLUME

1 > 48
BAGS
(450ml)

medical
systems

SAVING LIVES
THROUGH RELIABLE
AND INNOVATIVE
TECHNOLOGY

Blood Management Solutions

Transport Systems

B Medical Systems | MT Range

6 models • Volume **2.2 > 90 L** • Compliant to **ADR | RID | IMDG | ICAO-TI | IATA-DGR | MDR (EU) 2017/745, Class IIa**

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

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

Highest insulation value

- The polyurethane foam injected into the double walls of these transport systems is free of CFC and HCFC and ensures 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

Transport Systems are devices intended for the safe transport of blood or other blood components. The model range MT consists of five passive transport systems and one active transport refrigerator, working with a compressor. B Medical Systems transport systems are ideal for intensive use with many transport applications, even under difficult climatic conditions. MT models conform with the European agreement on the international transport of hazardous goods by Road (ADR), by Rail (RID), by sea (IMDG) and with International regulations for air transport (ICAO-TI / IATA-DGR).

The MT boxes can also be used for a broader range of temperatures (-32°C, +4°C, +22°C and +37°C) with our MT-ET range*.

*** MT2 is not validated with PCMs. MT12 is not validated for the PCM +22°C and PCM +37°C. MT 25 is not validated for the PCM +37°C.**
Subject to change without prior notice. Some of the accessories shown in the pictures are optional.

External validation of the passive systems MT4, MT8, MT12 and MT25 incl. Standard Operating Procedures (SOPs)

AVAILABLE SOPS:

- Process description and standards operating procedures for the transport of blood preparations using the transport systems mentioned above
- Conditioning of cooling elements
- Visual inspection
- Technical inspection
- Charging with cooling elements

Externally validated ambient temperature ranges: +10°C and +32°C (over 24 hours)

As minimum or maximum limits, these temperature ranges cover more than 90% of the transport scenarios imaginable. The lower limits of the typical number of blood bags for the respective container sizes were chosen as charges. These low charge levels are more unstable and the resulting test readings are significantly more telling with respect to critical temperature ranges. With increasing charges, the preparation's temperatures in the secondary (inner) container become increasingly stable.

**External validation of "Maximum Cold Life"
for the ambient temperature ranges of +32°C and +43°C**

These ambient temperature ranges were chosen according to the validation parameters set by the WHO. As maximum limits including a safety margin, these temperature ranges cover all imaginable transport scenarios. Because it is the objective of the validation to determine the maximum operating time, so the upper limits of the typical number of blood bags for the respective container sizes were chosen as charges. With decreasing charges, the reliable operating time slowly decreases.

DECLARATION OF CONFORMITY (IN ACCORDANCE WITH 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/EC
- European agreement concerning the international carriage of dangerous goods by sea transport (IMDG), directive 2002/84/EC
- International agreement for air transport (ICAO-TI / IATA-DGR)

MT2 / 4 / 12 may contain goods of packing groups I, II and III.
MT8 / 25 may contain goods of packing groups II and III.

Basis:

- MT2: Certificate N° 150151
- MT4: Certificate N° 150153
- MT8: Certificate N° 150152
- MT12: Certificate N° 150154
- MT25: Certificate N° 150155

Test reports of the accredited test laboratory IBE-BVI, Belgium.

MT RANGE

Technical Data
General features






		MT2	MT4	MT8	MT12	MT25	MT100
Cooling system		Passive					Active (Compressor)
Gross volume (l)		2.2	8	20	24	44	90
Storage capacity (bags)		1 (450ml) / 2 (270ml)	4 (450ml) / 6 (270ml)	8 (450ml) / 14 (270ml)	15 (450ml) / 25 (270ml)	26 (450ml) / 40 (270ml)	48 (450ml)
Cold Life	*at +32°C*	up to 13.5 h	up to 46 h	up to 57 h	up to 96.14 h	up to 109.08 h	-
	at +43°C	-	up to 32.5 h	up to 16.39 h	up to 56.5 h	up to 74 h	-
Dimensions H x W x D (mm)	*External*	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	1000 x 520 x 800
	Inner	130 x 190 x 90	186 x 260 x 156	245 x 460 x 180	270 x 340 x 260	264 x 496 x 334	450 x 306 x 545
Net weight - empty (kg)		1.3	3.1	7	11.7	17	52
Gross weight - fully stocked (kg)		2.2	7.6	14.2	25	40	-
Insulation thickness (polyurethane)		30 mm	23-27 mm	50-60 mm	90-105 mm	90-105 mm	38 mm (door) / 50 mm (cabinet)
Material	*Outer / Interior*	Polyethylene					
	Interior container	-	Polystyrene		Stainless steel		-
European Medical Device Regulation		MDR (EU) 2017/745, Class IIa					

Operating temperature		+4°C or +22°C
Application range (ambient temperature)		-2°C to +43°C
Voltage	*AC (mains)*	220-240 V - 50/60 Hz or 100-130 V - 60 Hz
	DC (battery)	13.7 / 27.4 V
EMC directive		2014 / 30 / EU
Low voltage directive		2014 / 35 / EU

MT RANGE

CONTAINER
POLYSTYRENE
(fig. model MT8)

CONTAINER
STAINLESS STEEL
(fig. model MT12)

SECURING
PLASTIC
FRAME
(fig. model MT25)

BASKET
STAINLESS STEEL
(fig. model MT100)

Equipment
Standard & optional

		MT2	MT4	MT8	MT12	MT25	MT100
Cooling element	*at 0.3 L*	● 2 | ○	● 3 | ○	-	-	-	-
	at 0.6 L	-	● 2 | ○	● 4 | ○	● 6 | ○	● 12 | ○	-
Interior container	*Polystyrene*	-	● 1	● 1 (with lid)	-	-	-
	Stainless steel	-	-	-	● 1 (with lid)	● 1 (with lid)	● 4 (baskets)
Securing plastic frame *for interior container*		-	-	-	-	● 1	-
Carrying strap (adjustable)		● 1	● 1	● 1	-	-	-
Document compartment	*Front*	-	● 2	-	-	-	-
	Back	-	● 1	-	-	-	-
*PCM cooling systems**		-	○ PCM -32/+4/+22/+37	○ PCM -32/+4/+22/+37	○ PCM -32/+4	○ PCM -32/+4/+22	-
Temperature Data Logger LogTag / Testo		○	○	○	○	○	○

PCM
COOLING
SYSTEMS
Available with
MT-ET Range only

DATA
LOGGER
(fig. model LogTag
TRED30-16CP)

Smooth castors	●
Digital temperature display (0.1 digit)	●
Automatic AC/DC power supply selection	●
Automatic cooling / heating operation	●
Temperature / power failure alarm	●
Contact remote alarm temperature	●
Car fixation kit (belts)	●

● Standard ○ Optional - Not available

Subject to change without prior notice. Some of the accessories shown in the pictures are optional.
*Available with MT-ET Range only

For long-term, temperature controlled transport

B Medical Systems | PCM Cooling Systems (Used only with MT-ET Transport Boxes)

B Medical Systems MT-ET Range can be used with PCM Cooling Elements. These 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 PCM Cooling Elements must be charged for the specified temperature prior to each use, and are available in 2 sizes: 0.3 L & 0.6 L.

THE PHASE CHANGE MATERIAL (PCM) ALLOWS FOR SAFE TRANSPORT DURING ALL SEASONS. FROM WINTER TO SUMMER, THE PCM HAVE THE SAME "MELTING POINT".

Tested according to specifications of the European Commission/ "Guide to the preparation, use and quality assurance of blood components".

PCM Cooling Elements			PCM -32	PCM +4	PCM +22	PCM +37
Colour			Orange	Blue	Green	Yellow
Nominal			-32°C	+4°C	+22°C	+37°C
Application			< -30°C FFP: Fresh frozen plasma (filling volume: 250ml)	+2°C > +8°C EC: Erythrocyte concentrate (filling volume: 280ml)	+15°C > +25°C TC: Thrombocyte concentrate (filling volume: 270ml)	> +35°C EDTA: Blood samples (filling volume: 9ml)
Preconditioning temperature			≤ -40°C	≤ -3°C / > 11°C	≤ 15°C / > 29°C	≤ 30°C / > 44°C
Preconditioning time			> 72h	> 72h	> 72h	> 72h
Cold life of B Medical Systems Transport Boxes with PCM Cooling Systems						
MT4 - ET *fully equipped with PCM Cooling System 4 x 0.3 L and 1 x 0.6 L*	*Number of charged units*		2 FFP	8 EC	2 TC	10 EDTA
	Ambient temperature	*-10°C*	> 24h	11 h 18	2 h 33	2 h 08
		+22°C	12 h 33	18 h 36	-	15 h 02
		+43°C	5 h 30	7 h 33	4 h 09	0 h 46
MT8 - ET *fully equipped with PCM Cooling System 12 x 0.6 L*	*Number of charged units*		6 FFP	8 EC	2 TC	20 EDTA
	Ambient temperature	*-10°C*	> 24h	21 h 45	2 h 05	5 h 43
		+22°C	> 24h	> 24h	-	> 24h
		+43°C	> 24h	13 h 34	5 h 03	5 h 58
MT12 - ET *fully equipped with PCM Cooling System 14 x 0.6 L*	*Number of charged units*		10 FFP	15 EC	-	-
	Ambient temperature	*-10°C*	> 24h	> 24h	-	-
		+22°C	> 24h	> 24h	-	-
		+43°C	> 24h	> 24h	-	-
MT25 - ET *fully equipped with PCM Cooling System 18 x 0.6 L*	*Number of charged units*		27 FFP	40 EC	30 TC	-
	Ambient temperature	*-10°C*	> 24h	> 24h	7 h 42	-
		+22°C	> 24h	> 24h	-	-
		+43°C	> 24h	> 24h	14 h 03	-

For perfect temperature control

B Medical Systems | Temperature Data Logger

testo

Testo 174 T | 1-channel mini temperature data logger

- Incl. wall bracket, battery (2 x CR2032 lithium) and calibration protocol
- High data integrity, even with empty battery
- Large data memory
- Watertight in accordance with IP65
- Temperature range -30°C to +70°C
- Starter set including logger, interface and software also available

Testo 176 T2 | 2-channel temperature data logger

- With connections for highly accurate external sensor (PT100) incl. wall holder, lock, battery and calibration protocol
- Large memory for 2 million measurement values - large, easily legible display up to 8 years battery life
- Standard battery (AA) replaceable by user
- SD card slot
- Temperature range -50°C to +400°C

LogTag

LogTag TRED30-16CP | Temperature data logger

- For continious, tamper-proof temperature recording
- New, easy to read LCD display with 30 days summary
- Interchangeable external probe with high quality gold plated connector and built-in audible alarm
- Temperature range -40°C to +99°C (measurement range from an external probe)
- Standard battery (3V CR2032) replaceable by user

LogTag TRID30-7R | Temperature data logger

- For continious, tamper-proof temperature recording
- With 30 days statistic display
- Temperature range -30°C to +60°C

LogTag USB interface cradle

- For reading out the data recordings via PC

LogTag Remote probe

- 1.5 m cable, 140 mm tipped sensor

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.

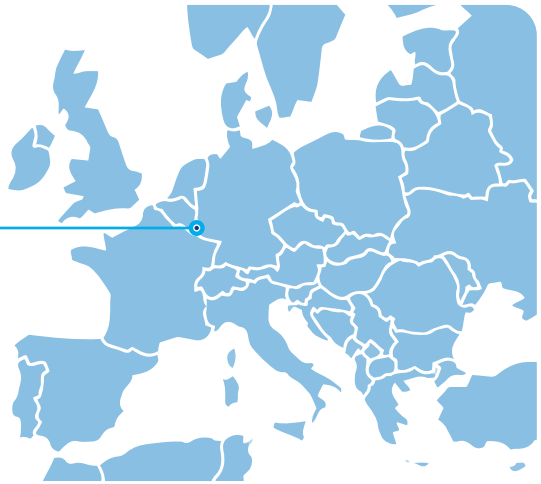
medical systems

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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