Blood Bank Refrigerators

TERUMO
BLOOD AND CELL TECHNOLOGIES

Storage Solutions to Safeguard Blood Components

A blood bank refrigerator plays a critical role in safeguarding collected blood components. All Terumo Blood and Cell Technologies blood bank refrigerators are built with reliable and consistent performance in mind.

Reliable Temperature Control

Blood banks often need to open and close refrigerators many times throughout the day. This could expose the refrigerated blood components to temperatures outside the nominal range of +2 °C to +6 °C, leading to a break in storage compliance. Our blood bank refrigerators are able to maintain this temperature range because of features including:

- Thick polyurethane (PU) insulation in exterior walls to help maintain the proper temperature
- Triple-pane heated glass door with rubber gaskets to insulate and seal the door, keeping cold air in and high temperatures and humidity out
- Forced-air circulation to help ensure uniform temperature throughout the chamber and quick recovery of temperature after door openings
- Perforated inner trays that allow for better air circulation around bags and built-in acrylic sheets that act as a secondary door to minimize cold air loss
- Heating around cabinet front edges to prevent condensation
- Audible alarms to alert you if the temperature is too high or too low, the door is open, or there is a sensor or power failure
- Equipped with negative temperature protection system to protect the inner chamber from low temperatures which can cause hemolysis to stored components
- Eye-level temperature recording and control unit with backup battery for uninterrupted temperature monitoring

Energy-Efficient Operation

Each Terumo Blood and Cell Technologies blood bank refrigerator is developed based on rigorous research using high-quality components to stay within temperatures of +4 °C ± 2 °C while operating efficiently and consistently.

- The internal fan includes an automatic shut-off when the door is open to help reduce cold air loss
- The compressor is placed on top of the cabinet to help prevent dust accumulation that can affect its performance and lifespan
- Chlorofluorocarbon (CFC)-free refrigerants reduce harm to the environment

Solid Construction

Terumo Blood and Cell Technologies blood bank refrigerators are designed to last.
The heavy-gauge steel exterior is powder-coated to avoid corrosion and cosmetic wear and tear, while the interior is stainless steel to reduce bacterial contamination and to simplify cleaning. The stainless steel interior trays slide out to make storing and accessing blood bags easy. In addition, both the BR and CR series of refrigerators come with a variety of blood bag storage capacities to meet your needs. An internal voltage stabilizer gives a constant output to the compressor to protect against short circuits and high temperatures.

The user-friendly touch-screen interface makes it easy to set up security and data logging controls to manage and monitor temperature.

Built in Datalogger (BR Series Only)

At intervals programmed by the user, the datalogger captures temperature and alarm data, including time stamp. The datalogger can also be removed to connect directly to a computer for data transfer.

Smart Digital Interface (CR Series Only)

The touch-screen interface of the temperature recording and control unit includes smart features like SMS alerts (GSM only subject to operator/ frequency compatibility) for up to three mobile numbers, password-protected settings, data logging and backup, and the ability to interface with a PC via USB, LAN or RS-232 port.

Ordering Details — BR Series

Model Number	BR064	BR128	BR160	BR360
Ordering Code	BR064HM0B0	BR128HM0B0	BR160HM0B0	BR360HM0B0

Ordering Details — CR Series

Model Number	CR064	CR128	CR160	CR360
Ordering Code	CR064HM0A0	CR128HM0A0	CR160HM0A0	CR360HM0A0

CR Series Blood Bank Refrigerators

Specification Type	CR064	CR128	CR160	CR360
Type	Vertical	Vertical	Vertical	Vertical
Total storage capacity	64 bags (450 mL) or 80 bags (350 mL)	128 bags (450 mL) or 160 bags (350 mL)	160 bags (450 mL) or 200 bags (350 mL)	360 bags (450 mL) or 510 bags (350 mL)
Storage capacity per tray	32 bags (450 mL) or 40 bags (350 mL)	32 bags (450 mL) or 40 bags (350 mL)	32 bags (450 mL) or 40 bags (350 mL)	72 bags (450 mL) or 102 bags (350 mL)
Trays	2 stainless steel slide-out trays fitted with acrylic panels	4 stainless steel slide-out trays fitted with acrylic panels	5 stainless steel slide-out trays fitted with acrylic panels	5 stainless steel slide-out trays fitted with acrylic panels
Voltage	230 V ± 10%, 50 Hz, single-phase AC			
Power consumption	550 W maximum	550 W maximum	550 W maximum	700 W maximum
Voltage stabilizer	1 kVA built-in			
External dimensions (W × D × H)	670 × 678 × 1181 mm with casters	670 × 678 × 1471 mm with casters	670 × 678 × 1791 mm with casters	870 × 958 × 1867 mm with casters
Internal dimensions (W × D × H)	510 × 490 × 610 mm	510 × 490 × 900 mm	510 × 490 × 1220 mm	710 × 770 × 1210 mm
Weight	140 kg	170 kg	190 kg	270 kg
Door	Polyurethane (PU) foam insulation, triple-pane glass			
Outer cabinet	Powder-coated steel			
Insulation	80 mm PU			
Inner chamber	Stainless steel			
Chamber temperature range	+4 °C ± 2 °C			
Air circulation inside chamber	Continuously operating forced-air circulation using the evaporator fan			
Lamp	CFL/LED model			
Compressor	Hermetically sealed			
Refrigerant	R134a (CFC-free)			
Portability	2 lockable casters in the front 2 non-lockable casters in the rear			
Temperature sensing method	Encapsulated digital sensor dipped in 0.25% glycerin solution and kept in a plastic bottle			
Temperature sensor accuracy	± 0.1 °C			
Interface	240 × 320 px graphical display with a resistive touch screen			
Temperature display interval	0.1 °C			
Alarms and indicators Compressor on Temperature high/low Door open Battery low Power failure Sensor failure Chart change USB not connected Condenser clogged Memory low	 Visible Audible/visible Audible/visible Audible/visible Audible/visible Audible/visible Visible Visible Visible Visible			
PC interface	USB, RS-232, LAN			
Data logging	USB drive			
Communication	SMS alerts (GSM only subject to operator/frequency compatibility; SIM and associated costs to be borne by the customer) for up to three mobile numbers			
Memory backup	Data for 1 hour (assuming 1 set of data per minute)			
Battery	7 A·h lead acid battery (3-hour battery backup for controller and recorder)			
Security	Key lock for touch screen, key lock for door, password protection for controller setting			
Chart accuracy	± 1 °C			
Chart duration	7 days			
Recorder resolution	1 °C			
Temperature recording	Ink pen on paper chart			
Quality standards	ISO 9001:2015; EN ISO 13485:2012			
Medical device classification	Class IIa			

Available in select markets.

BR Series Blood Bank Refrigerators

Specification Type	BR064	BR128	BR160	BR360
Type	Vertical	Vertical	Vertical	Vertical
Total storage capacity	64 bags (450 mL) or 80 bags (350 mL)	128 bags (450 mL) or 160 bags (350 mL)	160 bags (450 mL) or 200 bags (350 mL)	360 bags (450 mL) or 510 bags (350 mL)
Storage capacity per tray	32 bags (450 mL) or 40 bags (350 mL)	32 bags (450 mL) or 40 bags (350 mL)	32 bags (450 mL) or 40 bags (350 mL)	72 bags (450 mL) or 102 bags (350 mL)
Trays	2 stainless steel slide-out trays fitted with acrylic panels	4 stainless steel slide-out trays fitted with acrylic panels	5 stainless steel slide-out trays fitted with acrylic panels	5 stainless steel slide-out trays fitted with acrylic panels
Voltage	230 V ± 10%, 50 Hz, single-phase AC			
Voltage stabilizer	1 kVA built-in			
Power consumption	550 W maximum	550 W maximum	550 W maximum	700 W maximum
External dimensions (W × D × H)	670 × 678 × 1181 mm with casters	670 × 678 × 1471 mm with casters	670 × 678 × 1791 mm with casters	870 × 958 × 1867 mm with casters
Internal dimensions	510 × 490 × 610 mm	510 × 490 × 900 mm	510 × 490 × 1220 mm	710 × 770 × 1210 mm
Weight	140 kg	170 kg	190 kg	270 kg
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Outer cabinet	Powder-coated steel			
Insulation	80 mm PU			
Inner chamber	Stainless steel			
Chamber temperature range	+4 °C ± 2 °C			
Air circulation inside chamber	Continuously operating forced-air circulation using the evaporator fan			
Lamp	CFL/LED model			
Compressor	Hermetically sealed			
Refrigerant	R134a (CFC-free)			
Portability	2 lockable casters in the front 2 non-lockable casters in the rear			
Temperature sensing method	Encapsulated digital sensor dipped in 0.25% glycerin solution and kept in a plastic bottle			
Temperature sensor accuracy	± 0.5 °C			
Interface	4-digit, 7-segment red LED			
Temperature display interval	0.5 °C			
Alarms and indicators Line in Power Compressor on Heater on Temperature high/low Door open System OK Battery low Power failure Sensor failure Chart change	 Visible Visible Visible Visible Audible/visible Audible/visible Visible Visible Audible/visible Audible/visible Visible			
Chart accuracy	± 1 °C			
Chart duration	7 days			
Recorder resolution	1 °C			
Temperature recording	Ink pen on paper chart			
Quality standards	ISO 9001:2015; EN ISO 13485:2012			
Medical device classification	Class IIa; Directive 93/42/EEC Annex IX, Rule 2			

Available in select markets.

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To learn more about our blood bank refrigerators, contact your Terumo Blood and Cell Technologies representative.

TERUMO BLOOD AND CELL TECHNOLOGIES

Terumo Blood and Cell Technologies is a medical technology company. Our products, software and services enable customers to collect and prepare blood and cells to help treat challenging diseases and conditions. Our employees around the world believe in the potential of blood and cells to do even more for patients than they do today. **TERUMOBCT.COM**

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