

TERUMO PENPOL®

TRANSFUSION SYSTEMS

BBR WITH COMMUNICATOR

ISO 13485 



Management System
EN ISO
13485:2012
www.tuv.com
ID: 000047281

Optimize blood care with advanced technology

The most secure
environment for
blood products
outside the
human body



FEATURES | BBR WITH COMMUNICATOR

Proven refrigeration engineering

Every refrigeration product consists of four major elements – Evaporator, Compressor, Condenser and Capillary. These are selected by our refrigeration experts after continuous research. The unique refrigeration technique ensures:

- Consistency in performance
- Temperature will be well within 4+/- 2 C inside any part of the blood bag storage area /trays inside the refrigerator
- Better viability of blood & red cells stored

Solid construction, quieter presence

- CRCA/HDGI exterior construction after seven tank processes makes the cabinet rust -free and prevents chipping.
- Corrosion free Interior of SS 304 grade also helps in easy cleaning. All interior SS 304 grade stainless steel trays are with sliding facility for easy accessibility of blood bags during loading and unloading. Perforated trays ensures proper air circulation between the bags in the tray.
- Separate acrylic sheet for each tray act as an inner door which prevents cold air loss during door opening.
- Triple pane heated glass door with safety lock and rubber gasket sealing provides insulation and the ultimate protection to the stored blood products with temperature uniformity.
- Castor wheels make it convenient to user to move the equipment in blood bank.
- The compressor is placed on top of the cabinet to prevent dust accumulation, ensuring a maintenance-free compressor life.
- 80 MM thick rigid Polyurethane Insulation ensure better hold over time..

Flexibility for different storage requirements

Refrigerators are available in different capacities - 64 bags, 128 bags, 160 bags and 360 bags.

In built voltage stabilizer for increased compressor life

The 1KVA stabilizer corrects input voltage between 160 to 270 VAC and gives a constant output voltage of 190VAC to 245 VAC to the compressor.

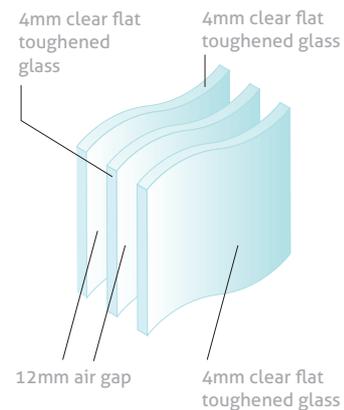
- Prevents supply of excess or low voltage to the refrigerator
- Protection from short circuits and high temperature
- Compressor life is ensured by reliable operation irrespective of input voltage.

Environment friendly manufacturing

- CFC free polyurethane foam is used as an insulation in Terumo Penpol Blood Bank Refrigerator.

Our refrigerators are designed to ensure consistency in performance and uniform temperature for all the units of blood in storage

Triple pane glass door construction for better insulation



Digital temperature controlling unit

- Eye-level display of cabinet temperature allows for easy temperature monitoring even from a distance
- 3 hours battery backup for TRCU ensures uninterrupted temperature tracking
- The new communicator TRCU comes with the user friendly touch screen facility. The following features are available Alarm- Audio and visual, Alarm-simulation, SMS alert, PC interface, Data logging, Safety lock for touch screen, Password protection for controller settings





- One handed operation for replacement of chart paper



- Door Heater avoids moisture condensation in humid atmospheric conditions
- 3 pane heated glass door insulates the refrigerator from atmospheric temperature
- Magnetic door gaskets



- Internal Fan positioned at 90° for uniform temperature maintenance all along the inside of the cabinet. Automatic switch-off of the internal fan prevents the loss of cold air when the cabinet door is open



- Perforated sliding stainless steel tray allows bags to be placed upright with sufficient airspace to reduce "Sardine effect"



- In built acrylic sheet act as an inner door which ensures minimal loss of cooling.
- Hotline around the mouth of the cabinet to prevent moisture condensation
- Internal Stabilizer ensures steady supply voltage for the whole Blood Storage Cabinet



- Factory calibrated digital sensor dipped in liquid medium for accurate temperature measurement and display
- Flicker free CF lamp for uniform lighting and better visibility of samples inside the cabinet
- Smaller foot print – less width ensures more space

Terumo Penpol sales and service engineers are located close to you for the entire duration of the life-cycle of the equipment. With over 16640 pieces of equipment installed in India and a customer base of more than 2426 clients, Terumo Penpol's reputation for friendly and round-the-clock service is widely recognized and respected.

SPECIFICATIONS | BBR WITH COMMUNICATOR

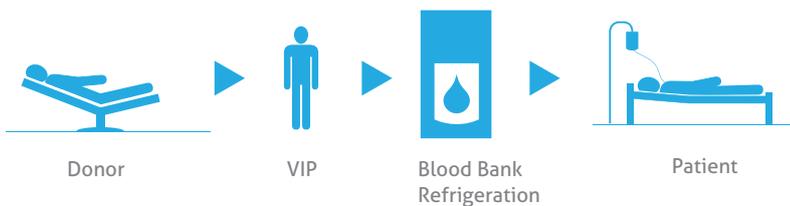
Model	CR064	CR128	CR160	CR360
Type	Vertical	Vertical	Vertical	Vertical
Total storage capacity	64nos of 450ml blood bags 80 nos of 350ml blood bags	128 nos of 450ml blood bags 160 nos of 350ml blood bags	160 nos of 450ml blood bags 200 nos of 350ml blood bags	360 nos of 450ml blood bags 510 nos of 350ml blood bags
Storage capacity per tray	32 nos of blood bags of 450ml/tray 40 nos of blood bags of 350ml/tray	32 nos of blood bags of 450ml/tray 40 nos of blood bags of 350ml/tray	32 nos of blood bags of 450ml/tray 40 nos of blood bags of 350ml/tray	72 nos of blood bags of 450ml/tray 102 nos of blood bags of 350ml/tray
Trays	2 stainless steel slide out trays - fitted with acrylic panel fixed gap (removable type)	4 stainless steel slide out trays - fitted with acrylic panel fixed gap (removable type)	5 stainless steel slide out trays - fitted with acrylic panel fixed gap (removable type)	5 stainless steel slide out trays - fitted with acrylic panel fixed gap (removable type)
Power consumption	550W(Max)	550W (Max)	550W (Max)	700W
Dimensions (external with caster wheel (W x D x H) in mm*	670 x 678 x 1181	670 x 678 x 1471	670 x 678 x 1791	870 x 958 x 1867
Dimensions (internal) (WxDxH) in mm*	510 x 490 x 610	510 x 490 x 900	510 x 490 x 1220	710 x 770 x 1210
Weight*	140 Kg	170 Kg	190 Kg	270 Kg
Door	PUF insulated tripple pane glass door			
Cabinet material	18 swg CRCA/HDGI Sheet - powder coated			
Insulation	80mm thick rigid polyurethane insulation for better Hold over time			
Inner chamber	22 SWG Stainless Steel Sheet			
Input voltage of BBR	230+/-10%VAC, 50Hz, single phase AC			
Stabilizer	1KVA Built in stabilizer			
Chamber temperature range	2°C to 6°C			
Air circulation inside the chamber	Continuously operated forced air circulation using the evaporator fan			
Lamp	CF Lamp			
Compressor	Hermetically sealed compressor			
Refrigerant	R134a(CFC Free)			
Easy serviceability	Environment friendly use and throw gas cylinder for refilling			
Wheels	Caster wheel with front lockable			
Temperature sensing method	Encapsulated digital sensor dipped in 0.25% glycerine solution kept in a plastic bottle			
Temperature controller	Temperature Recorder and Control Unit (TRCU)-with communicator			
Accuracy of temperature sensor	+/- 0.1°C			
Display	240 x 320 Graphical display with resistive touch screen			
Display resolution	0.1°C			
Alarms & Indications	Compressor ON Temperature High Temperature Low Door open Battery Low Power failure Sensor failure Chart change USB not connected Condenser clogging Memory low		Visual Audio - Visual Audio - Visual Audio - Visual Audio - Visual Audio - Visual Audio - Visual Visual Visual Visual Visual	
PC Interface	USB, RS232, LAN			
Data Logging	Pendrive			
Communication	SMS (3 mobile numbers can be set, SIM to be placed by User)			
Memory backup	Data for 1 hour (considering 1 set of data per minute)			
Battery	7AH Lead acid battery (3 hours battery backup for Controller and Recorder)			
Security	Key lock for touch screen, Key lock for door, Password protection for controller setting			
Accuracy of the chart	+/-1°C			
Duration of the chart	7 days			
Resolution of the recorder	1°C			
Method of recording	Ink pen on paper chart			
Manufacturing standard	ISO 9001 : 2008, EN ISO 13485 : 2012			
Standards & Approval	CE, EUroHS			
MDD classification	Class IIa			

Started as the first Indian manufacturer of blood bags, Terumo Penpol Private Limited continues to be the market leader in India in the field of equipment and disposables for the Blood Transfusion industry. With a comprehensive range of products covering collection, processing, storage and issue of blood, Terumo Penpol continues to serve the leading blood banks in India and around the world. Terumo Penpol is now a subsidiary of the \$4.5 billion Terumo Corporation, Japan and is a group company of Terumo BCT, USA which leads the Blood Management business of Terumo.

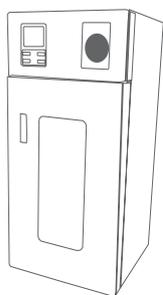


STORAGE EQUIPMENT

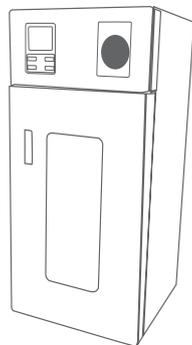
Terumo Penpol guarantees quality equipment which provides the uniform temperature requirement for blood components, and enables the contamination-free storage and transportation of blood from collection to transfusion processes.



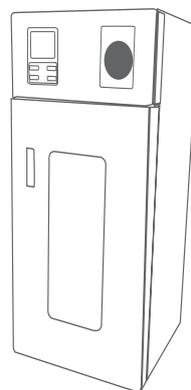
The blood cold chain is a series of interconnected activities involving equipment, personnel and processes that are critical for the safe storage and transportation of blood from collection to transfusion. A Blood Bank Refrigerator is the most critical equipment in the blood cold chain as it is the first place where blood is stored after collection.



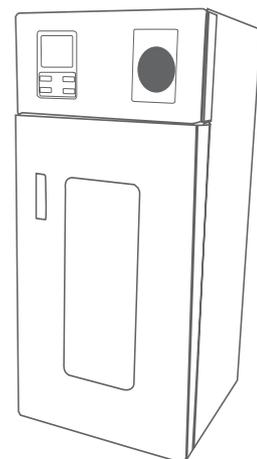
CR064



CR128



CR160



CR360

“ Temperature in all areas of the refrigerator must be maintained within 1°C and 6°C.

Temperature sensor of the refrigerator should be on high shelf and must be in a liquid filled container.”

AABB Manual

“ A successful blood storage procedure is to stand the bags upright and to provide airspace between bags to avoid 'sardine effect'. A visual and audible alarm system is essential in order to indicate unsafe temperature.

The electronic temperature control must range between 1°C to 6°C with a setting accuracy of +/- 1°C, regardless of the load.”

WHO Guidelines

REGISTERED OFFICE

TERUMO PENPOL Private Limited
I-2, JAWAHAR NAGAR
KOWDIAR P.O, TRIVANDRUM – 695003
KERALA,INDIA.
Ph.No : 0471-3015500 / 501.
Fax: 0471-2721519
CIN: U33112KL1985PTC004531

www.terumopenpol.com

www.terumobct.com

pmt@terumopenpol.com

Toll Free No : 1800 3000 7070

OUR PRODUCT RANGE

BLOOD BAGS

DONOR STATION

BLOOD COLLECTION MONITOR

TUBE SEALER

PORTABLE TUBE SEALER

DUAL HEAD TUBE SEALER

COMPOSACLE + INTELLIGENT EXPRESSOR

CRYO BATH

BLOOD BANK REFRIGERATOR

PLATELET AGITATOR AND INCUBATOR

DEEP FREEZERS

PLASMA BATH

FILTERS*

BLOOD TRANSFUSION SET*

AUTOMATIC COMPONENT EXTRACTOR*

STERILE CONNECTING DEVICE*

APHERESIS SYSTEM AND KITS*

* Additional Products for Indian market only.
Products from Terumo Corporation / Terumo BCT

TERUMO PENPOL®