

## Specifications

Model No.	MBR-304D/DR	MBR-304G/GR	MBR-704G/GR	MBR-1404G/GR
Exterior dimensions (W x D x H)	600 x 680 x 1,835mm (23.6" x 26.8" x 72.2")		770 x 830 x 1,955mm (30.3" x 32.7" x 77.0")	1,440 x 830 x 1,950mm (56.7" x 32.7" x 76.8")
Interior dimensions (W x D x H)	520 x 490 x 1,150mm (20.5" x 19.3" x 45.3")		650 x 697 x 1,500mm (25.6" x 27.4" x 59.1")	1,320 x 697 x 1,500mm (52.0" x 27.4" x 59.1")
Net weight	125kg (D/G), 140kg (DR/GR)		195kg (G), 210kg (GR)	245kg (G), 290kg (GR)
Effective capacity	304 liters [10.7 cu.ft.] (D/G), 302 liters [10.6 cu.ft.] (DR/GR)		625 liters [22.1 cu.ft.] (G), 617 liters [21.8 cu.ft.] (GR)	1,287 liters [45.4 cu.ft.]
Storage capacity	120 bags (450ml)		360 bags (450ml)	720 bags (450ml)
Exterior cabinet	Galvanised steel with baked-on finish			
Interior cabinet	Galvanised steel with baked-on finish			
Cabinet insulation	Foamed-in-place rigid polyurethane			
Outer door	Insulated steel frame with double layer glass windows			
Door lock	1		1	2
Inner door (acrylic)	2		3	6
Shelves	4 coated hard steel wire shelves and 1 stainless steel plate (D/G)		6 coated hard steel wire shelves (G)	12 coated hard steel wire shelves (G)
Drawers	5 stainless steel roll-out drawers (DR/GR)		6 stainless steel roll-out drawers (GR)	12 stainless steel roll-out drawers (GR)
Casters	4			
Compressor	175W hermetically sealed		220W hermetically sealed	300W hermetically sealed
Refrigerant	R-134a (HFC)			
Cooling performance	4°C ±1°C (Ambient temperature 35°C)			4°C ±1.5°C (Ambient temperature 35°C)
Air circulation	Forced air circulation			
Defrost	Fully automatic			
Temperature control	Microprocessor control			
Temperature alarm	High (6°C), Low (2°C), Audible and visual alarm			
Power failure alarm	Audible and visual alarm (24 hours), Automatic rechargeable battery (Ni-MH)			
Door alarm	Audible and visual alarm			
Remote alarm contact	DC30V, 2A, Normal open, Temperature alarm or power failure alarm			
Temperature monitor bottle	250ml x 2 with thermistor sensor			
Lighting	15W fluorescent lamp		20W fluorescent lamp	40W fluorescent lamp
Access hole	1		2	
Accessories	30-day recorder, Door lock key		1/7/30-day circular recorder, Door lock key	
Options	Recording paper (RP-06)		Recording paper (RP-G04), Recording pen (PG-R)	

Model No.	MBR-107D(H)	MBR-506D(H)
Exterior dimensions (W x D x H)	400 x 495 x 1,515mm (15.7" x 19.5" x 59.6")	800 x 832 x 1,810mm (31.5" x 32.8" x 71.3")
Interior dimensions (W x D x H)	320 x 350 x 710mm (12.6" x 13.8" x 28")	640 x 550 x 1,240mm (25.2" x 21.7" x 48.8")
Net weight	70kg	185kg
Effective capacity	79 liters [2.8 cu.ft.]	425 liters [15.0 cu.ft.]
Storage capacity	32 bags (450ml)	120 bags (450ml)
Exterior cabinet	Galvanised steel with baked-on finish	
Interior cabinet	Stainless steel	
Cabinet insulation	Foamed-in-place rigid polyurethane	
Outer door	Triple layer glass windows	
Door lock	1	
Inner door (acrylic)	2	5
Shelves	3 zinc-plated steel wire and 1 stainless steel	4 coated hard steel wire and 1 stainless steel
Casters	4	
Compressor	110W hermetically sealed	180W hermetically sealed
Refrigerant	R-134a (HFC)	
Cooling performance	4°C ±1°C (Ambient temperature 35°C)	
Air circulation	Forced air circulation	
Defrost	Fully automatic	
Temperature control	Microprocessor	
Temperature alarm	High (6°C), Low (2°C), Audible and visual alarm	
Power failure alarm	Audible and visual alarm (9 hours), Automatic rechargeable battery (Ni-Cd)	
Door alarm	Visual alarm	
Remote alarm contact	DC30V, 1A, Normal open	DC24V, 1A, Normal open
	Temperature alarm or power failure alarm	
Lighting	6W fluorescent lamp	15W fluorescent lamp
Access hole	1	
Accessories	30-day recorder, Door lock key 1 set	
Options	Recording paper (RP-06)	
	Basket (MBR-15B) Max.8pcs/unit 220ml bags x 7pcs/basket	Basket (MBR-55B) Max.20pcs/unit 220ml bags x 10pcs/basket
	Basket (MBR-16B) Max.8pcs/unit 450ml bags x 4pcs/basket	Basket (MBR-56B) Max.20pcs/unit 450ml bags x 6pcs/basket

• Appearance and specifications are subject to change without notice.  
**Caution:** SANYO guarantees the product under certain warranty conditions.  
 SANYO in no way shall be responsible for any loss of content or damage to content.

SANYO Electric Co., Ltd., Biomedical Division, Gunma is certified for:

**Quality management system: ISO9001 / Medical devices quality management system: ISO13485 / Environmental management system: ISO14001**

RoHS (European Restriction of Hazardous Substances directives) compliant

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# SANYO

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 For Life and the Earth

# SANYO

## Blood Bank Refrigerators



## Blood Bank Refrigerators

Specially designed to provide precise and reliable temperature control that meets various criteria for whole blood and blood derivatives.



The SANYO MBR-series provides two styles of storage systems, G-type (coated hard steel wire shelf) and GR-type (stainless steel roll-out drawers with card holder).

Designed to conform to AABB criteria, with ensured stable and reliable temperature control utilizing SANYO original technology. A special highly efficient compressor designed and developed by SANYO provides rapid cooling and quiet performance for each model.

### Stable Temperature Control

- Temperature is controlled by two sensors located in the liquid-loaded **monitor bottles**, which are in the shape of a blood bag.
- **Two thermistor sensors** for constantly monitoring the temperature in both the upper and the lower part of chamber.
- **Microprocessor control** ensures the most accurate temperature control available.
- **Multi air-flow plenum system** ensures excellent temperature uniformity in larger capacity models. (MBR-704G/GR, MBR-1404G/GR)
- **Temperature-maintained defrost** designed with thermal sensors and heaters on the evaporator, all under precise microprocessor control.

### Temperature Variations Prevented

The SANYO MBR series is designed to minimize cold air loss even with frequent door openings.

- **Separated transparent inner doors** minimize the chamber air leakage during door openings.
- **Foamed-in-place insulation** in the walls and **magnetic sealed outer doors with double-pane glass window** prevent chamber air leakage and promote complete door closings.
- **Large air circulation fan** enables rapid temperature recovery after door openings. (Double fan for MBR-1404G/GR.)

### User-Friendly Design

- **Selectable storage system** (G-type and GR-type) to suit a user's needs.
- **Fluorescent interior lamp** with ON/OFF switch and a **large view window** in the outer door provide a clear view of stored items.
- **Digital display** is easy to see, and is calibratable through the control panel.



Easy access front control panel

### Alarm and Safety Functions

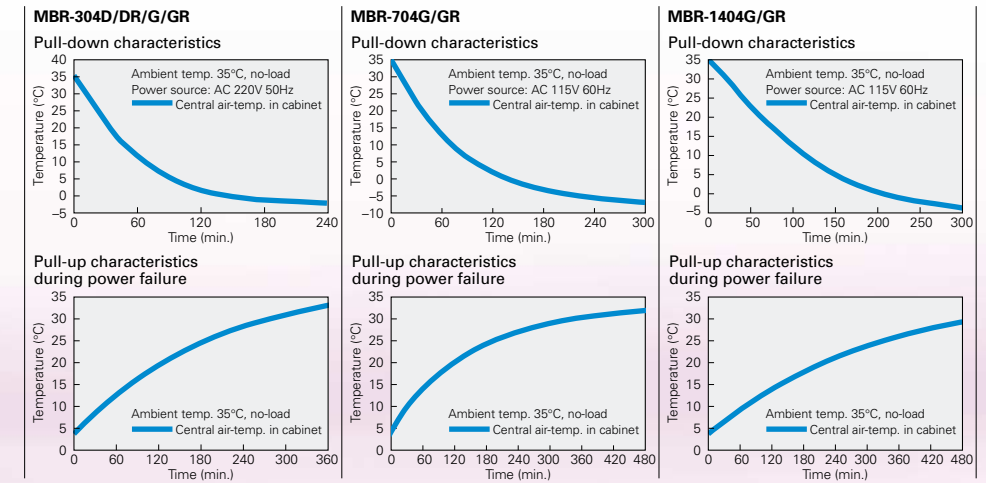
To ensure the safety of precious blood supply, the SANYO MBR series provides the following safety functions:

- **Audible and flashing LED visual alarms** with remote alarm contacts, in case of power failure, high or low temperature condition, or any thermal sensor abnormality.
- Door alarm and key lock are standard features.
- Re-activating buzzer, lamp and remote alarm contact. (30 min. after buzzer stops)
- Built-in temperature recorder.

### Environmentally Friendly

SANYO refrigerators feature commercially-available HCFC-free, HFC refrigerants and HCFC-free insulation.

### Performance Data (Reference Data)



\* A continuously operating compressor was used to obtain data for the upper three graphs.



**MBR-304D/DR**  
**MBR-304G/GR**  
Effective capacity  
**304 liters**  
(10.7 cu.ft.) MBR-304D/G  
**302 liters**  
(10.6 cu.ft.) MBR-304DR/GR

Cooling performance:  
**4°C ± 1°C**  
(Ambient temp. 35°C)

**120 bags/**  
450ml blood bag

**MBR-704G/GR**  
Effective capacity  
**625 liters**  
(22.1 cu.ft.) MBR-704G  
**617 liters**  
(21.8 cu.ft.) MBR-704GR

Cooling performance:  
**4°C ± 1°C**  
(Ambient temp. 35°C)

**360 bags/**  
450ml blood bag

**MBR-1404G/GR**  
Effective capacity  
**1,287 liters**  
(45.4 cu.ft.)

Cooling performance:  
**4°C ± 1.5°C**  
(Ambient temp. 35°C)

**720 bags/**  
450ml blood bag

**MBR-107D(H)**  
**MBR-506D(H)**  
Effective capacity  
**79 liters**  
(2.8 cu.ft.) MBR-107D(H)  
**425 liters**  
(15.0 cu.ft.) MBR-506D(H)

Cooling performance:  
**4°C ± 1°C**  
(Ambient temp. 35°C)

**32 bags/**  
450ml blood bag  
**120 bags/**  
450ml blood bag

\* Descriptions in this catalog are based on the models MBR-304D/DR, 304G/GR, 704G/GR and 1404G/GR.  
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### Dimensions (Unit : mm)

