Panasonic®

Operating Instructions

Blood Bank Refrigerator

MBR-305GR

MBR-305GR Series



DOMINIQUE DUTSCHER SAS

Please read these instructions carefully before using this product, and save this operating instructions for future use.

See page 33 for all model numbers.

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INTRODUCTION

■ Read this operating instructions carefully before using the appliance and follow the instructions for safety operation.

■ Our company never guarantee any safety if the appliance is used for any objects other than intended use or used by any procedures other than those mentioned in this operating instructions.

■ Keep this operating instructions in an adequate place to refer to it as necessary.

■ The contents of the operating instructions will be subjected to change without notice due to the improvement of performance or functions.

■ Contact our sales representative or agent if any page of the operating instructions is lost or page order is incorrect.

■ Contact our sales representative or agent if any point in this operating instructions is unclear or if there are any inaccuracies.

■ No part of this operating instructions may be reproduced in any form without the expressed written permission of our company.

⚠CAUTION
Our company guarantees the product under certain warranty conditions. Our company in no way shall be responsible for any loss of content or damage of content.

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PRECAUTIONS FOR SAFE OPERATION

It is imperative that the user complies with this operating instructions as it contains important safety advice.

Items and procedures are described so that you can use this unit correctly and safely. If the precautions advised are followed, this will prevent possible injury to the user and any other person.

Precautions are illustrated in the following way:

⚠WARNING

Failure to observe WARNING signs could result in a hazard to personnel possibly resulting in serious injury or death.

⚠CAUTION

Failure to observe CAUTION signs could result in injury to personnel and damage to the unit and associated property.

Symbol shows;

△ this symbol means caution.

⃠ this symbol means an action is prohibited.

● this symbol means an instruction must be followed.

Be sure to keep this operating instructions in a place accessible to users of this unit.

< Label on the unit >



This mark is labeled on the cover in which the electrical components of high voltage are enclosed to prevent the electric shock.
The cover should be removed by a qualified engineer or a service personnel only.

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PRECAUTIONS FOR SAFE OPERATION

⚠WARNING

Do not use the unit outdoors. Current leakage or electric shock may result if the unit is exposed to rain water.

Only qualified engineers or service personnel should install the unit. The installation by unqualified personnel may cause electric shock or fire.

Install the unit on a sturdy floor and take an adequate precaution to prevent the unit from turning over. If the floor is not strong enough or the installation site is not adequate, this may result in injury from the unit falling or tipping over.

Never install the unit in a humid place or a place where it is likely to be splashed by water. Deterioration of the insulation may result which could cause current leakage or electric shock.

Never install the unit in a flammable or volatile location. This may cause explosion or fire.

Never install the unit where acid or corrosive gases are present as current leakage or electric shock may result due to corrosion.

Always ground (earth) the unit to prevent electric shock. If the power supply outlet is not grounded, it will be necessary to install a ground by qualified engineers.

Never ground the unit through a gas pipe, water main, telephone line or lightning rod. Such grounding may cause electric shock in the case of an incomplete circuit.

Connect the unit to a power source as indicated on the rating label attached to the unit. Use of any other voltage or frequency other than that on the rating label may cause fire or electric shock.

Never store volatile or flammable substances in this unit if the container cannot be sealed. These may cause explosion or fire.

Do not insert metal objects such as a pin or a wire into any vent, gap or any outlet on the unit. This may cause electric shock or injury by accidental contact with moving parts.

Use this unit in safe area when treating the poison, harmful or radiate articles. Improper use may cause bad effect on your health or environment.

Turn off the power switch (if provided) and disconnect the power supply to the unit prior to any repair or maintenance of the unit in order to prevent electric shock or injury.

Do not touch any electrical parts (such as power supply plug) or operate switches with a wet hand. This may cause electric shock.

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PRECAUTIONS FOR SAFE OPERATION

⚠WARNING

Ensure you do not inhale or consume medication or aerosols from around the unit at the time of maintenance. These may be harmful to your health.

Never splash water directly onto the unit as this may cause electric shock or short circuit.

Never put containers with liquid on the unit as this may cause electric shock or short circuit when the liquid is spilled.

Never bind, process, or step on the power supply cord, or never damage or break the power supply plug. A broken supply cord or plug may cause fire or electric shock.

Do not use the supply cord if its plug is loose. Such supply cord may cause fire or electric shock.

Never disassemble, repair, or modify the unit yourself. Any such work carried out by an unauthorized person may result in fire, or electric shock or injury due to a malfunction.

Disconnect the power supply plug if there is something wrong with the unit. Continued abnormal operation may cause electric shock or fire.

When removing the plug from the power supply outlet, grip the power supply plug, not the cord. Pulling the cord may result in electric shock or fire by short circuit.

Disconnect the power supply plug before moving the unit. Take care not to damage the power cord. A damaged cord may cause electric shock or fire.

Disconnect the power plug when the unit is not used for long periods. Keeping the connection may cause electric shock, current leakage, or fire due to the deterioration of insulation.

If the unit is to be stored unused in an unsupervised area for an extended period, **ensure that children do not have access and that doors cannot be closed completely.**

The disposal of the unit should be accomplished by appropriate personnel. Remove doors to prevent accidents such as suffocation.

Do not put the packing plastic bag within reach of children as suffocation may result.

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PRECAUTIONS FOR SAFE OPERATION

⚠CAUTION

Use a dedicated power source (a dedicated circuit with a breaker) as indicated on the rating label attached to the unit. A branched circuit may cause fire resulting from abnormal heating.

Connect the power supply plug to the power source firmly after removing the dust on the plug. A dusty plug or improper insertion may cause a heat or ignition.

Never store corrosive substances such as acid or alkali in this unit if the container cannot be sealed. These may cause corrosion of inner components or electric parts.

Check the setting when starting up of operation after power failure or turning off of power switch. The stored items may be damaged due to the change of setting.

Be careful not to tip over the unit during movement to prevent damage or injury.

Prepare a safety check sheet when you request any repair or maintenance for the safety of service personnel.

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ENVIRONMENTAL CONDITIONS

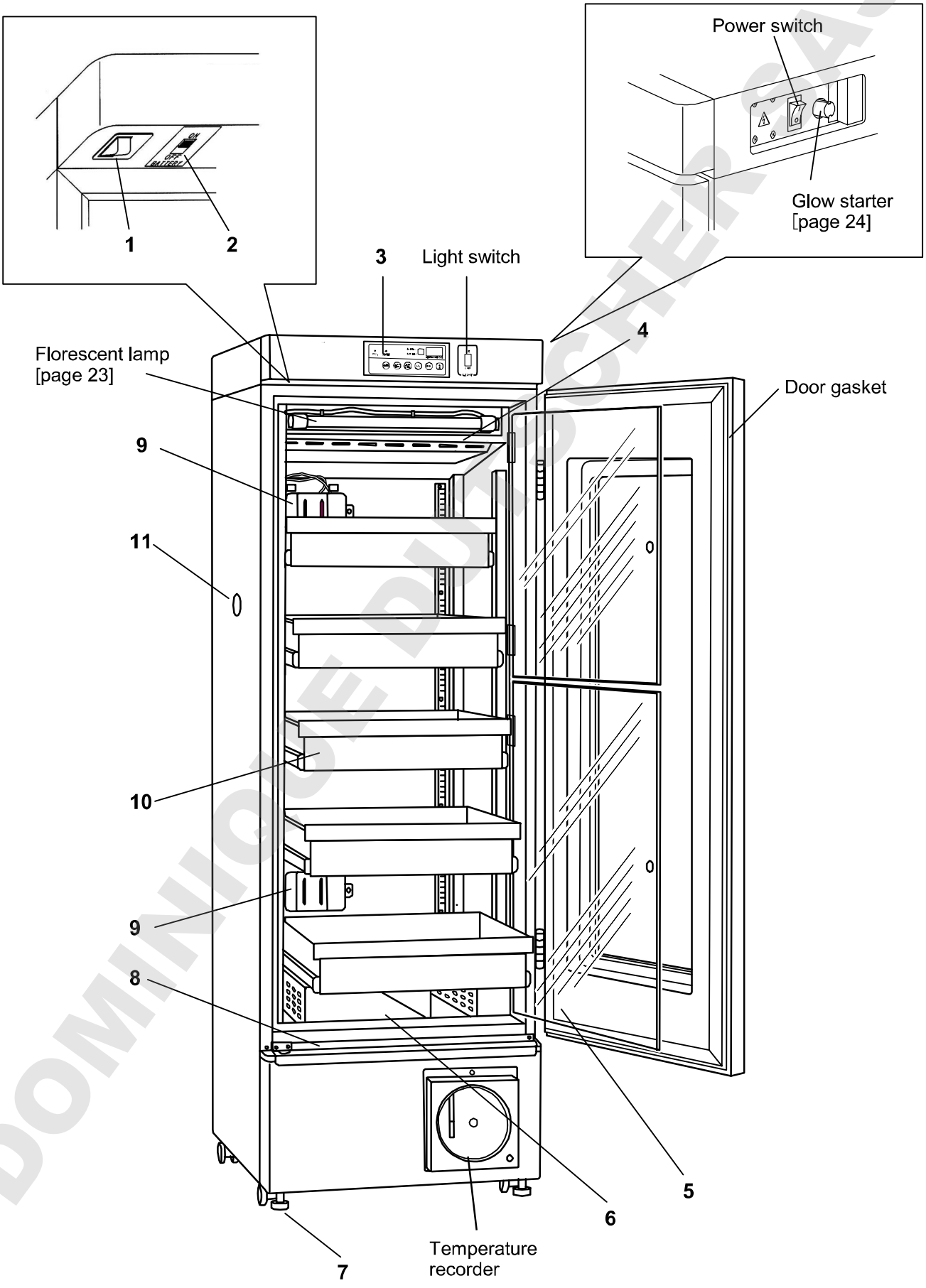
This equipment is designed to be safe at least under the following conditions (based on the IEC 61010-1):

- Indoor use;
- Altitude up to 2000 m;
- Temperature 5°C to 40°C
- Maximum relative humidity 80% for temperature up to 31°C decreasing linearly to 50% relative humidity at 40°C;
- Mains supply voltage fluctuations up to ±10% of the nominal voltage;
- Transient overvoltages up to the levels of OVERVOLTAGE CATEGORY II ;
- Temporary OVERVOLTAGES occurring on the mains supply;
- Applicable pollution degree of the intended environment (POLLUTION DEGREE 2 in most cases);

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REFRIGERATOR COMPONENTS

Refrigerator unit



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REFRIGERATOR COMPONENTS

1. Door alarm switch: This switch detects the door status (open/close). The door check lamp is ON when the door is open and the alarm buzzer sounds with 2 minutes delay. [page 20]

2. Battery switch: ON-OFF switch for built-in battery for power failure alarm. Always turn on this switch when the refrigerator is operated to assure the power failure alarm. Turn off this switch when the refrigerator is not used for long period to protect the battery.

3. Control panel: With the key on the control panel, temperature display can be changed and the alarm test is available. Also, the running status can be checked on the temperature display and an indicator. [page 11]

4. Air intake vent (upper front): Do not block this vent. Blocking this vent may cause unstable chamber temperature. Do not insert fingers or similar articles into the vent.

5. Inner door: This prevents the cold air from escaping when the outer door is opened. Always close the inner door surely before closing the outer door.

6. Air exhaust vent (bottom front): Do not block this vent. Blocking this vent may cause unstable chamber temperature. Arrange the storage items not to subject to the cold air from this vent.

7. Leveling feet (front, 2 locations): These are screw bolts used to install and fix the unit. Adjust the height of the leveling feet by turning the screw bolts until 2 front casters are away from the floor. [page 13]

8. Dew receiver: The condensation on the outer door is accumulated on this dew receiver. Wipe off the water on the dew receiver with a cloth.

9. Monitor bottle (upper and lower): A sensor to display the chamber temperature is attached to the monitor bottle. Fill the bottle with 200 mL of 10% glycerol fluid or water before commencing the operation. [page 16]

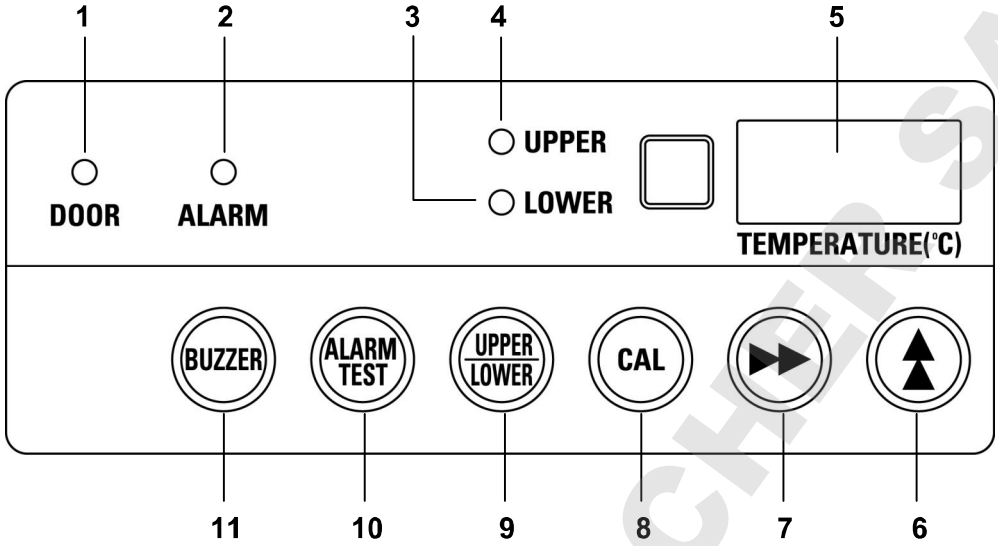
10. Drawer: The maximum load is 20 kg per drawer.
✧ Items to be stored in the chamber must be placed on the shelves or drawers. Do not put storage items directly on the bottom of the chamber.

11. Access port (left side): This port allows a sensor or cable of measuring equipment to enter the chamber from outside.
✧ Replace the insulation and the rubber caps when the access port is not used. Improper replacement may cause rise of chamber temperature or condensation around the access port.

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REFRIGERATOR COMPONENTS

Control panel components



1. Door check indicator (DOOR): The red LED lamp is lit when the outer door is opened.

✧ 2 minutes after the door check indicator is ON, the alarm buzzer is activated to notice the door opening. [page 20]

2. Alarm indicator (ALARM): The red LED lamp blinks during an alarm status. [page 20]

3. Temperature display indicator (LOWER): This lamp is lit when the lower monitor bottle temperature is displayed or when the average temperature of lower and upper monitor bottle temperature is displayed on the temperature display.

4. Temperature display indicator (UPPER): This lamp is lit when the upper monitor bottle temperature is displayed or when the average temperature of lower and upper monitor bottle temperature is displayed on the temperature display.

5. Temperature display: Normally this shows the present chamber temperature and during an alarm status, this shows a blinking chamber temperature [page 20]. And an error code and a chamber temperature is displayed alternately when the self diagnostic function detects any abnormality. [page 21]

6. Up arrow key (▲): This key is used at calibration mode of sensor for temperature display. Pressing this key at calibration mode causes the numerical value to change. [page 19]

7. Scroll key (▶▶): This key is for service and used by a service personnel only.

8. Calibration key (CAL): This key is used for the calibration of sensor for temperature display. Pressing this key for more than 5 seconds leads “calibration mode”. [page 19]

✧ Use this key only when the calibration of sensor for temperature display is necessary.

9. Temperature display changeover key (UPPER/LOWER): By pressing this key, the displayed temperature is changed in sequence; upper temperature, lower temperature, and average temperature of upper and lower temperature. [page 17]

10. Alarm test key (ALARM TEST): This key is used to check the operation of alarm buzzer, alarm indicator and remote alarm terminal. [page 20]

11. Alarm buzzer stop key (BUZZER): Pressing this key silences the alarm buzzer when the alarm indicator blinks and the alarm buzzer sounds.

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INSTALLATION SITE

To operate this unit properly and to obtain maximum performance, install the unit in a location with the following conditions:

✧ A location not compliance with the following conditions may cause poor performance, failure or accident.

■ A location not subjected to direct sunlight

Do not install the unit under direct sunlight. Installation in a location subjected to direct sunlight may degrade the performance.

■ A location with adequate ventilation

Leave at least 10 cm around the unit for ventilation. Poor ventilation will result in a reduction of the performance and consequently the failure.

■ A location away from heat generating sources

Avoid installing the unit near heat-emitting appliances such as a heater or a boiler etc. Heat can decrease the intended performance of the unit.

■ A location with little temperature change

Install the unit under stable ambient temperature. Installing the unit under unstable ambient temperature may result in unstable performance.

■ A location with a sturdy and level floor

Always install the unit on a sturdy and level floor withstanding the total weight of the unit. The uneven floor or tilted installation may cause failure or injury. Unstable condition may cause vibration or noise.

■ A location not prone to high humidity

Install the unit in the ambient of 80% R.H. or less humidity. Installation under high humidity may cause current leakage or electric shock.

⚠CAUTION

The unit may collect excessive frost on the evaporator if it is installed in high temperature and high humidity location. This will cause frequent defrosting.

■ A location without flammable or corrosive gas

Never install the unit in a flammable or corrosive location. This may cause explosion or fire or may result in the current leakage or electric shock by the corrosion of the electrical components.

⚠CAUTION

Never install the unit in a location where the corrosive material such as sulfur compound is likely to be generated (near a drainage facilities, etc). Corrosion of the copper pipe may result in deterioration of cooling unit and consequently the failure.

■ A location without the possibility of anything fall

Avoid installing the unit in the location where anything can fall down onto the unit. This may cause the breakdown or failure of the unit.

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INSTALLATION

1. After unpackaging

Remove all transportation packaging materials and tapes. Open the doors and ventilate the unit. If the outside panels are dirty, clean them with a diluted neutral dishwashing detergent.

✧ Undiluted detergent can damage the plastic components. For the dilution, refer to the instruction of the detergent.

✧ After the cleaning with the diluted detergent, always wipe it off with a wet cloth. Then wipe off the panels with a dry cloth.

Note:

Remove the cable tie banding the power supply cord. Prolonged banding may cause the corrosion of the cord coating.

2. Installing the unit

Extend the leveling feet by rotating them counterclockwise to separate 2 front casters from the floor. [Fig. 1]

And adjust the leveling foot to level the unit.

✧ The unit is installed firmly by separating the front casters from the floor. The unit may be moved at the time of opening/closing the door if the front casters contact with floor.

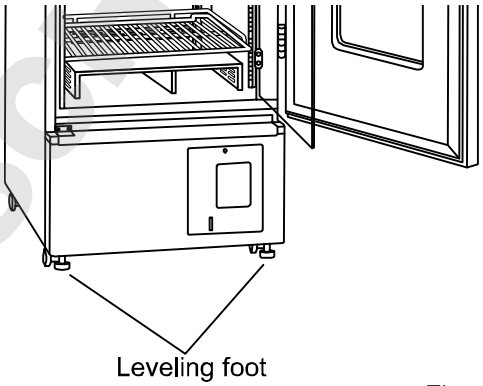


Fig. 1

3. Fixing the unit

Fix the unit to the wall by using 2 back spacers and a rope or chain. [Fig. 2]

4. Ground (earth) the unit

The ground (earth) is for preventing the electric shock in the case of the electrical insulation is somehow degraded. Always ground the unit at the time of installation.

✧ A 3-prong plug with grounding pole is provided to the poser supply cord. There is no need for electric work for grounding.

✧ If the power supply outlet is not grounded, it will be necessary to install a ground by qualified engineers.

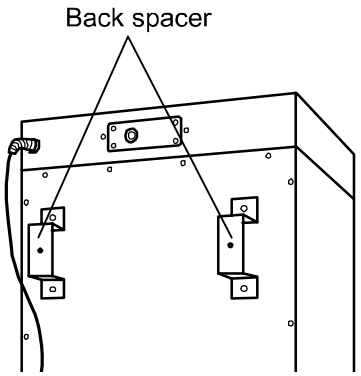


Fig. 2

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START-UP OF UNIT

Follow the procedures for the initial and consequent operations of the unit.

✧ At the recovery from power failure, the operation is start-up automatically with temperature setting of 4°C

1. With the blood bank refrigerator empty, connect the power supply cord to the dedicated outlet with appropriate rating, and turn on the power switch.

➽ The alarm buzzer operates. Silence the alarm buzzer by pressing the alarm buzzer stop key (BUZZER). The alarm buzzer recovers after 30 minutes. (This is caused by high temperature alarm function and not a malfunction.)

2. Fill the monitor bottles with 10% glycerol fluid or water of 200 mL. [page 16]

<Important>

Close the doors (outer and inner door) securely. The door check indicator is lit when the outer door is open. The alarm buzzer activates when the outer door is opened for more than 2 minutes. The alarm buzzer is canceled when the outer door is closed.

3. The chamber temperature is set to 4°C at the factory. Check that the chamber temperature reaches 4°C on the temperature display.

✧ Check that the chamber temperature falls to 4°C on the temperature display when the start-up after cleaning, maintenance or moving.

4. Turn on the light switch to check the fluorescent lamp is on. After checking, turn off the light switch if the light is not necessary.

5. Turn on the battery switch.

<Important>

Always turn on the battery switch when the blood bank refrigerator is operating to assure the power failure alarm.

6. Begin slowly placing items into the chamber to minimize the temperature rise.

<Important>

Never put the storage items on the bottom of the chamber. Always put the storage items on the shelf or in the drawer.

<Attention>

The outer door has a condensation on the glass during refrigerator operation. Wipe off the condensation with a dry soft cloth. Also, wipe off the water on the dew receiver regularly.

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PLACING OF STORAGE ITEMS

Do not disturb the air circulation in the chamber by the storage items. The disturbed air circulation can cause the freezing of storage items or degrade of temperature distribution in the chamber.

Air intake vent

Do not block the air intake by the storage items near the air intake vent. Care should be taken not to put any paper or plastic chips near the air intake vent. They may be vacuumed up and block the air intake vent.

Air exhaust vent

Do not block the air exhaust by the storage items near the air exhaust vent. Care should be taken not to put storage items nearby the air exhaust vent. The storage items may be frozen.

Load line

The storage area is limited to ensure the air flow in the chamber. The labels “load line” are attached to the right and left side of the chamber. Always put the storage items within the area limited by the labels.

⚠CAUTION

Never block the air intake or exhaust vent. Also, never disturb the air circulation therefore, place the storage items with adequate space.

Never store corrosive substances such as acid or alkali in this unit if the container cannot be sealed. These may cause corrosion of inner components or electric parts.

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PREPARATION OF MONITOR BOTTLE

Before start-up of the operation, fill the monitor bottles (upper and lower) with 10% glycerol fluid or water of 200 mL by following the procedure below.

1. Remove top and bottom drawer.

2. Remove the cover on the monitor bottle.
✧ The cover is fixed by the upper and lower clicks. It can be removed by pulling the upper side forward as shown in figure 1.

3. Take out the sensor for temperature display from the monitor bottle.
✧ The sensor for temperature display is not fixed, therefore it is removed together with the cover.
✧ Take out the recorder sensor as well from the lower monitor bottle.

4. Remove the fixing screws (2 screws) and take out the monitor bottle.

5. Remove the cap (screw type) on the monitor as shown in the figure 2.

6. Pour 10% glycerol fluid or water of 200 mL into the monitor bottle.

7. Cap the monitor bottle and fix the monitor bottle to its original location by the fixing screws.

8. Set the sensor for temperature display to the monitor bottle and replace the cover.
✧ Set the recorder sensor as well to the lower monitor bottle.

9. Replace the top and bottom drawer.

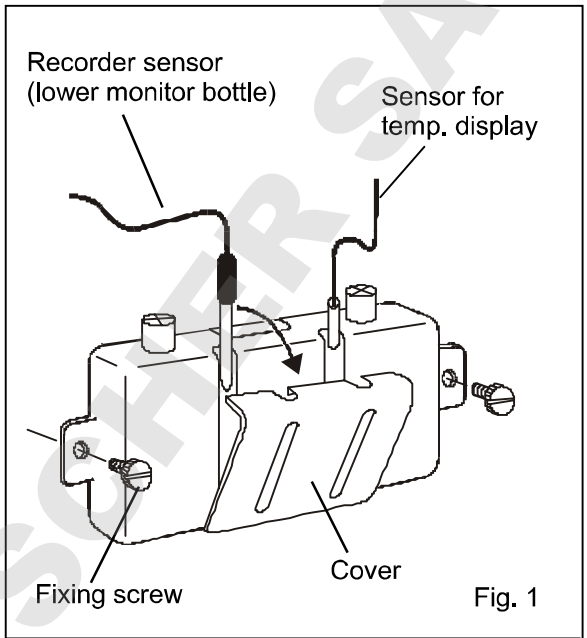


Fig. 1

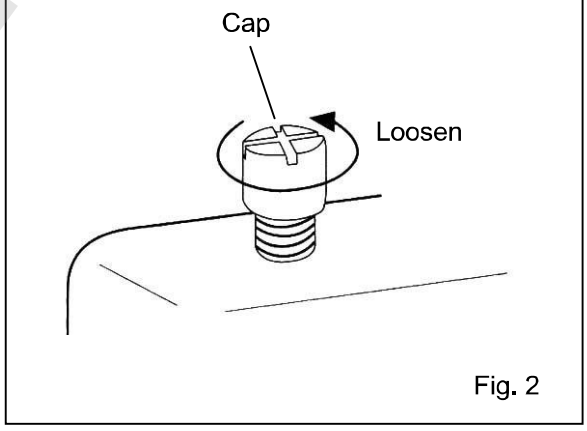


Fig. 2

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DISPLAY OF CHAMBER TEMPERATURE

The chamber temperature is set to 4°C at the factory. The temperature on the temperature display shows the temperature of sensor for temperature display attached to the monitor bottle (upper and lower). By pressing the temperature display changeover key, the displayed temperature is changed in sequence; upper temperature, lower temperature, and mean temperature of upper and lower temperature. The table 1 shows the procedure for changeover.

<Important>

The upper temperature is the representative of high temperature and the lower temperature is the representative of low temperature. Accordingly, the displayed temperature is not always 4°C. This is not a malfunction.

Table 1. Changeover of temperature display **●: Lamp ON ○: Lamp OFF**

	Operation	Key operated	Indication after operation	Display mode
1	Plug-in the power supply cord and turn on the power switch.	-----	Mean temperature is displayed. ● UPPER ● LOWER	Mean temperature
2	Press the temperature display changeover key.	UPPER/LOWER	Upper temperature is displayed. ● UPPER ○ LOWER	Upper temperature
3	Press the temperature display changeover key.	UPPER/LOWER	Lower temperature is displayed. ○ UPPER ● LOWER	Lower temperature
4	Press the temperature display changeover key.	UPPER/LOWER	Mean temperature is displayed. ● UPPER ● LOWER	Mean temperature
5	Repeat from step 2.			

DFROSTING OF EVAPORATOR

The following 2 defrost methods are adopted in this unit and both of them are controlled automatically.

■ Cycle defrost

To keep the chamber temperature stable, the compressor is cycled on and off. During "off" period any frost on the evaporator is melted by energizing a defrost heater. This will not have any discernible effect on the chamber temperature.

■ Forced defrost

When the ambient humidity is high, or a large amount of damp product is being stored in the chamber, there is a possibility that cycle defrost may not be enough to remove all of the frost on the evaporator. In this case, a forced defrost is initiated when the defrost sensor detects the frost.

When the unit is operating under the forced defrost, the current chamber temperature and "dF" is displayed alternately on the temperature display.

Once the forced defrost is completed, the normal operation resumes. Note the temperature of blood bag (400 mL) in the chamber rises by approximately 1°C during the forced defrost.

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REMOTE ALARM TERMINAL

The alarm status is noticed to a remote location when a remote alarm equipment (commercial item) is connected to the remote alarm terminal. It is recommended to install a remote alarm equipment (commercial item) when the blood bank refrigerator is installed in a desolate location so that an alarm status is noticed to an operator.

✧ Contact our sales representative or agent for the installation of a remote alarm equipment (commercial item).

- Location of remote alarm terminal: inside the terminal cover (upper rear)
- Allowable contact capacity: DC 30 V▪2 A

Contact output:

	between COM and N.O.	between COM and N.C.
At normal status	open	close
At abnormal status	close	open

✧ The alarm status of remote alarm terminal is cancelled by pressing the alarm buzzer stop key (BUZZER) since the remote alarm terminal is operated in conjunction with alarm buzzer. However, the alarm status of remote alarm terminal is not cancelled by pressing the alarm buzzer stop key (BUZZER) when the unit is under power failure alarm.

✧ The remote alarm terminal is in alarm status when the power supply cord is unplugged because it is regarded as a power failure. In this case, the alarm status of remote alarm terminal is not cancelled by pressing the alarm buzzer stop key (BUZZER).

Connection of remote alarm equipment

1. Remove the terminal cover at the top of the back side by unscrewing 4 screws. [Fig. 1]

2. Connect the lead wire of a remote alarm equipment (commercial item) to the terminal. [Fig. 2]

3. Pass the lead wire of a remote alarm equipment through the port on the terminal cover.

4. Replace the terminal cover and fix it by 4 screws.

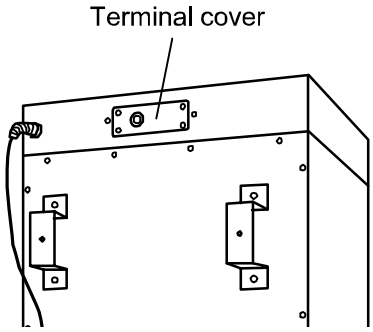


Fig. 1

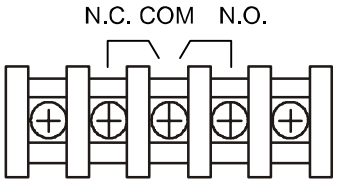


Fig. 2

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CALIBRATION OF SENSOR

The temperature on the temperature display shows the temperature of sensor for temperature display attached to the monitor bottle (upper and lower).
Follow the procedure below when the calibration of the sensor for temperature display is necessary.

1. Remove the cover on the monitor bottle as shown in figure 1.

2. Take out the sensor for temperature display from the chamber.
✧ The lower monitor bottle has a recorder sensor (left side) as well. Care should be taken not to take out the recorder sensor.

3. Prepare a bottle or beaker with a solution of crushed ice and cold water. Agitate the mixture thoroughly.

4. Put the sensor for temperature display to be calibrated in the mixture.

5. Select the temperature display by pressing temperature display changeover key to show the temperature of sensor for temperature display to be calibrated
✧ For the changeover of temperature display, refer to page 17.

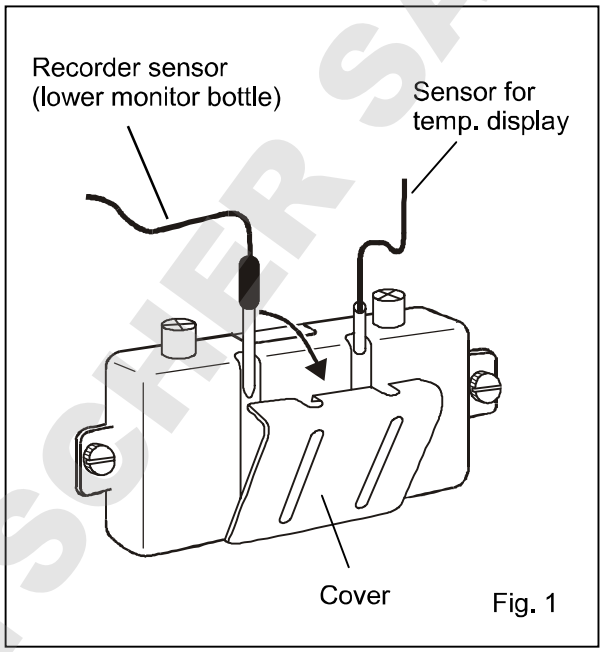


Fig. 1

6. While sometimes agitating the mixture, allow the temperature indicated on the temperature display to be stable.

7. Calibration is needed if the temperature on the temperature display does not show 0°C.

8. Press the calibration key (CAL) on the control panel for 5 seconds.
➽ The temperature display shows C00.

9. Set an identification code for sensor for temperature display by using the up arrow key (▲▲).
✧ The identification code for upper sensor for temperature display: C01
The identification code for lower sensor for temperature display: C02.
<Important>
Never set any identification code other than C01, C02.

10. Press the calibration key (CAL).

11. Check that the temperature shown on the temperature display is approximately 0°C.
✧ Repeat the above procedure through 6 to 10 if the temperature shown on the temperature display is out of the range of 0±0.2°C.

12. Take out the sensor for temperature display from the mixture and wipe it with a dry and soft cloth.

13. Replace the sensor for temperature display and fix it with a cover.
✧ Also replace and fix the recorder sensor to the lower monitor bottle.

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ALARM FUNCTIONS

This unit has the alarm functions shown below.
Contact our sales representative or agent if the alarm status continues because there is a possibility of any failure.

Alarms	Situation	Indication	Alarm buzzer	Remote alarm
High temp. alarm	If the temperature of the upper or lower sensor for temp. display is higher than 6°C.	Alarm indicator blinks. Displayed temp. blinks.	Intermittent tone	Alarm status
Low temp. alarm	If the temperature of the upper or lower sensor for temp. display is lower than 2°C.	Alarm indicator blinks. Displayed temp. blinks.	Intermittent tone	Alarm status
Power failure alarm	At the power failure. If the power supply cord is unplugged. When power switch is off.	Alarm indicator blinks. Temperature display is off.	Intermittent tone	Alarm status.
Door alarm	When the outer door is open.	Door check indicator lights.	Intermittent tone with 2 minutes delay.	---

✧ The alarm status of remote alarm terminal is cancelled by pressing the alarm buzzer stop key (BUZZER) since the remote alarm terminal is operated in conjunction with alarm buzzer. However, the alarm status of remote alarm terminal is not cancelled by pressing the alarm buzzer stop key (BUZZER) when the unit is under power failure alarm.

✧ This unit is provided with the alarm buzzer recovery function. The alarm buzzer will operate again after 30 minutes if the alarm status continues even if the alarm buzzer was silenced by pressing the alarm buzzer stop key (BUZZER).

✧ The power failure alarm is kept for approximately 24 hours (when the battery is charged fully). 2- day operation of blood bank refrigerator is necessary to charge the fully discharged battery to full level. A remote alarm keeps alarm status even if the battery is discharged.

✧ The blood bank refrigerator resumes the operation with 4°C setting at the recovery from the power failure.

Checking of alarm operation

The alarm operation can be checked by the procedure below.

1. Press the alarm test key (ALARM TEST).

2. The alarm indicator blinks, the alarm buzzer sounds intermittently, and the remote alarm is in alarm status. This is kept for 90 seconds and finished automatically.

✧ During the 90 seconds, the alarm buzzer can not be silenced by pressing the alarm buzzer stop key (BUZZER).

3. The alarm operation can be canceled by pressing the alarm test key (ALARM TEST) again during the 90 seconds.

DOMINIQUE DUTSCHER SAS

SELF DIAGNOSTIC FUNCTIONS

This unit has the self diagnostic functions shown below.
Contact our sales representative or agent if an error code (ex. E03) is displayed resulting from the self diagnostic.

Self diagnostic	Situation	Indication	Alarm buzzer	Remote alarm
Sensor abnormality	If the defrost sensor is disconnected.	Alarm indicator blinks. E03 and chamber temp. is displayed alternately.	Intermittent tone	Alarm status
	If the defrost sensor is short-circuited.	Alarm indicator blinks. E04 and chamber temp. is displayed alternately.		
	If the compressor sensor is disconnected.	Alarm indicator blinks. E05 and chamber temp. is displayed alternately.		
	If the compressor sensor is short-circuited.	Alarm indicator blinks. E06 and chamber temp. is displayed alternately.		
	If the low temp. alarm sensor is disconnected.	Alarm indicator blinks. E13 and chamber temp. is displayed alternately.		
	If the low temp. alarm sensor is short-circuited.	Alarm indicator blinks. E14 and chamber temp. is displayed alternately.		
	If the upper sensor for temp. display is disconnected.	Alarm indicator blinks. E15 and chamber temp. is displayed alternately.		
	If the upper sensor for temp. display is short-circuited.	Alarm indicator blinks. E16 and chamber temp. is displayed alternately.		
	If the lower sensor for temp. display is disconnected.	Alarm indicator blinks. E17 and chamber temp. is displayed alternately.		
	If the lower sensor for temp. display is short-circuited.	Alarm indicator blinks. E18 and chamber temp. is displayed alternately.		
Battery check	When about 3 years have passed with the power switch on. (time to replace the battery)	F-1 and chamber temp. is displayed alternately.	—	—
Fan motor check	When about 6 years have passed with the power switch on. (time to replace the fan motor)	F-2 and chamber temp. is displayed alternately.	—	—

✧ The alarm status of remote alarm terminal is cancelled by pressing the alarm buzzer stop key (BUZZER) since the remote alarm terminal is operated in conjunction with alarm buzzer. However, the alarm status of remote alarm terminal is not cancelled by pressing the alarm buzzer stop key (BUZZER) when the unit is under power failure alarm.

✧ This unit is provided with the alarm buzzer recovery function. The alarm buzzer will operate again after 30 minutes if the alarm status continues even if the alarm buzzer was silenced by pressing the alarm buzzer stop key (BUZZER).

DOMITIQUE DELACHER SAS

ROUTINE MAINTENANCE

⚠WARNING

Always disconnect the power supply to the unit prior to any repair or maintenance of the unit in order to prevent electric shock or injury.

Ensure you do not inhale or consume medication or aerosols from around the unit at the time of maintenance. These may be harmful to your health.

Cleaning of exterior, interior, and accessories

Use a dry cloth to wipe off small amounts of dirt on the outside and inside of the unit and all accessories.
If the outside panels are dirty, clean them with a diluted neutral dishwashing detergent.
Wipe off the condensation on the glass or exterior of the cabinet with a dry soft cloth.

✧ Undiluted detergent can damage the plastic components. For the dilution, refer to the instruction of the detergent.

✧ After the cleaning with the diluted detergent, always wipe it off with a wet cloth. Then wipe off the cabinet or accessories with a dry cloth.

<Important> Never pour water onto or into the unit. This may cause electric shock or failure.

⚠CAUTION

Do not use a brush, an acid, a thinner, a laundry soap, a powder detergent, boiling water for cleaning. These cause damage of painted surface or failure of plastic and rubber components. Also, do not wipe the plastic and rubber components by a volatile material.

Checking of alarm operation

Check the alarm operation regularly (once per 6 months) to assure the alarm is activated at the time of power failure. The alarm operation can be checked by the procedure below.

1. Press the alarm test key (ALARM TEST).

2. The alarm indicator blinks, the alarm buzzer sounds intermittently, and the remote alarm is in alarm status. This is kept for 90 seconds and finished automatically.

✧ During the 90 seconds, the alarm buzzer can not be silenced by pressing the alarm buzzer stop key (BUZZER).

3. The alarm operation can be canceled by pressing the alarm test key (ALARM TEST) again during the 90 seconds.

DOMINIQUE DUTSCHER SAS

ROUTINE MAINTENANCE

Replacement of fluorescent lamp

Follow the procedure below when replacing a fluorescent lamp. The fluorescent lamp is located horizontally in the upper front of the chamber. [Page 9]

1. Turn off the light switch and power switch and then disconnect the power supply plug.

2. Move the storage items on the top shelf or top drawer.

3. Hold adjacent to the socket and pull the fluorescent lamp downwards with the lamp cover to remove the fluorescent lamp from the clip (2 locations) together with the wiring. [Fig. 1]

4. After removing the water-proof cover, remove the socket with the wiring on the both sides of the lamp cover. [Fig. 2]

5. Take out the fluorescent lamp from the lamp cover and insert a new fluorescent lamp in it.
(fluorescent lamp; FL15SD)

6. Replace the socket with the wiring and the water-proof cover on the both sides of the lamp cover.

7. Fix the lamp cover with the clip (2 locations).

8. Replace the storage items to the top shelf or top drawer.

9. Connect the power supply plug to the outlet and turn on the power switch.

10. Turn on the light switch to check the fluorescent lamp is on.

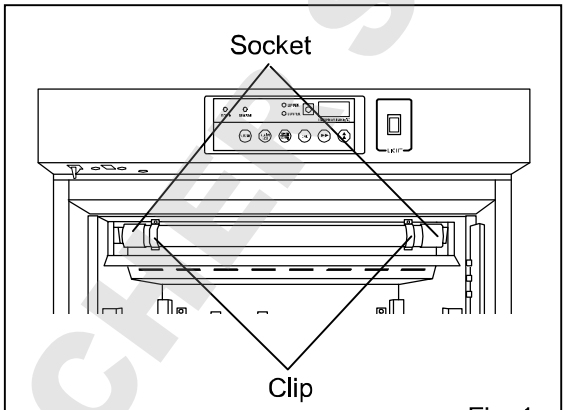


Fig. 1

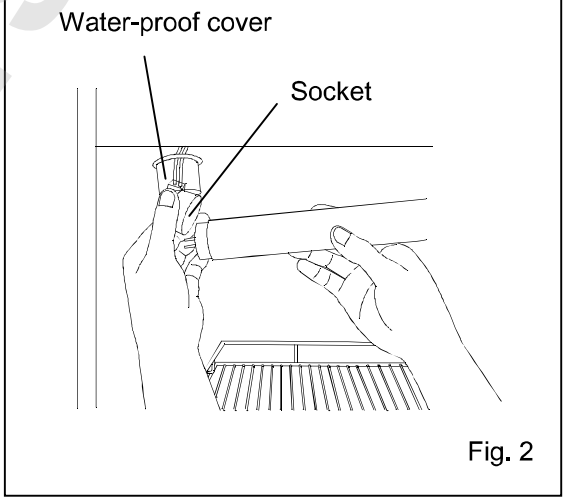


Fig. 2

DOMINIQUE DUTSCHER SAS

ROUTINE MAINTENANCE

Replacement of glow starter

The glow starter is located on the upper right of the unit. [Fig. 10]

1. Turn off the light switch and power switch and then disconnect the power supply plug.

2. Remove the glow starter and install a new glow starter. (glow starter; FG-1P)

3. Connect the power supply plug to the outlet and turn on the power switch.

4. Turn on the light switch to check the fluorescent lamp is on.

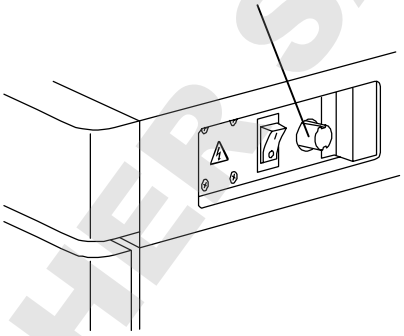


Fig.10

DOMINIQUE DUTSCHER SAS

REPLACEMENT OF BATTERY

Replace the battery for power failure alarm every 3 years (when F-1 and chamber temperature is displayed alternately to ensure the alarm is operated in the event of power failure. Contact our sales representative or agent for the replacement of battery when F-1 and chamber temperature is displayed alternately.

✧ The alarm function (blink of alarm indicator, sound of alarm buzzer) will not operate when the battery for power failure alarm is flat.

✧ The alarm indicator blinks and the alarm buzzer sounds by the battery for power failure alarm. The regular replacement of the battery for power failure alarm is important to prevent the rise of chamber temperature in the case of unexpected situation.

⚠WARNING

The replacement of the battery for power failure alarm should be executed by a qualified engineer or a service personnel only. The replacement of the battery for power failure alarm involves the risk of electric shock.

<Important>

The used battery is a recyclable precious resource. Do not dispose of the battery. Always follow the procedure for recycling.

Replacement of battery for power failure alarm

✧ The battery for power failure alarm is located on the backside of the control panel.

1. Turn off the light switch and power switch and then disconnect the power supply plug.

2. Remove 8 screws fixing the top cover and then remove the top cover. [Fig. 1]

3. Loosen 1 screw fixing each band and remove 2 bands. [Fig. 2]

4. Disconnect the connector and take out the battery for power failure alarm. [Fig. 2]

<Important>

Always put an insulating tape on the terminal portion of the used battery to prevent the short circuit.

5. Fix a new battery for power failure alarm with 2 bands and 2 screws and then connect the connector.

6. Replace the top cover and fix it with 8 screws.

7. Connect the power supply plug to the outlet and turn on the power switch.

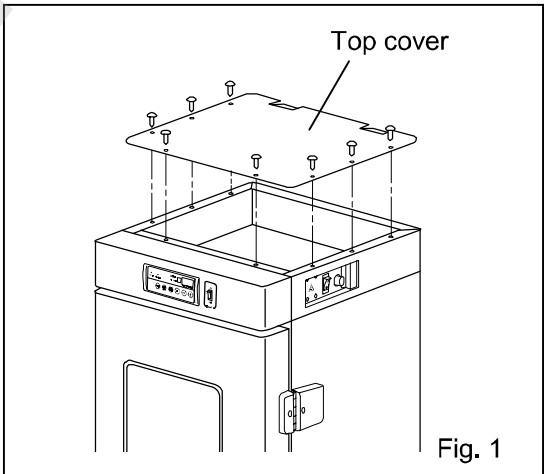


Fig. 1

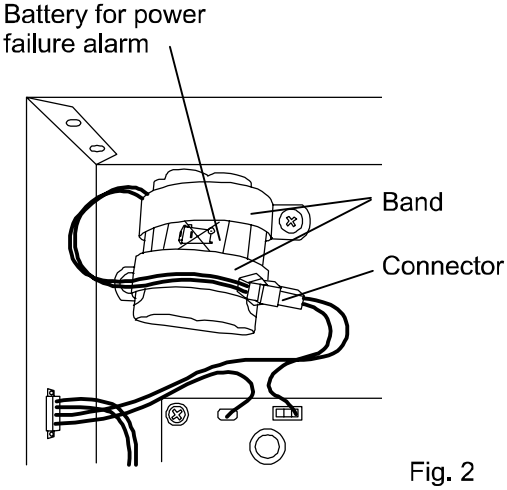


Fig. 2

DOMINIQUE DUTSCHER SAS

TROUBLESHOOTING

If the unit malfunctions, check out the following before calling for service.

<Attention>
If the malfunction is not eliminated after checking the following items or the malfunction is not shown in the table below, contact our sales representative or agent.

Malfunction	Check/Remedy
If nothing operates even when plugged in	□ The unit is not connected to the power supply properly. □ The capacity and voltage of power supply is not sufficient. □ There is a power failure. □ The circuit breaker on the supply circuit is activated. → A breaker of 15 A or more is recommended. □ The fuse on the supply circuit is blown.
The alarm is activated at start-up	✧ The alarm status is kept until the chamber temperature reaches the set temperature. ➢ The alarm buzzer recovers after 30 minutes even if the alarm buzzer is silenced by pressing the alarm buzzer stop key (BUZZER).
The alarm is activated during operation	□ The unit is not connected to the power supply properly. □ The capacity and voltage of power supply is not sufficient. □ There is a power failure. □ The circuit breaker on the supply circuit is activated. → A breaker of 15 A or more is recommended. □ The fuse on the supply circuit is blown. □ The outer door was kept opened for a long time. □ The outer door is opened. □ An error code is displayed on the temperature display. [page 21] → Contact our sales representative or agent.
Noisy	□ The floor is not sturdy. □ The installation site is not level. □ The blood bank refrigerator is tilted. □ The cabinet contacts the surrounding wall.
When chamber does not get cold enough	□ The outer door is frequently opened. □ The inner door is open. □ The unit is in direct sunlight. □ The ventilation around the unit is blocked. □ There is a nearby heat source. □ The ambient temperature is too high. → The allowable ambient temperature is between 5 and 35°C. □ The storage items are too much. □ The air exhaust vent is blocked up with storage items. □ The access port is not covered. → The access port should be covered with the insulation and rubber caps when no use. □ The door gasket is damaged. → If it is damaged, contact our sales representative or agent for replacement. □ Any foreign substance is located between door gaskets.
The displayed temperature is not 4°C	The displayed temperature between 3 and 5°C (depending on the ambient temperature) is not a malfunction

DOMINIQUE DUTSCHER SAS

DISPOSAL OF UNIT

⚠WARNING

If the unit is to be stored unused in an unsupervised area for an extended period **ensure that children do not have access and doors cannot be closed completely.**

The disposal of the unit should be accomplished by appropriate personnel. Always remove doors to prevent accidents such as suffocation.

Recycle of battery



The unit contains a rechargeable battery. The battery is recyclable. At the end of it's useful life, check with you local solid officials option or proper disposal.



＊Label indication is obliged to comply with Taiwanese battery regulation.

Decontamination of unit

Before disposal of unit, decontaminate the unit yourself.

DOMINIQUE DUTSCHER SAS

DISPOSAL OF UNIT

(English)

FOR EU USERS

The symbol mark and recycling systems described below apply to EU countries and do not apply to countries in other areas of the world.

Your Panasonic product is designed and manufactured with high quality materials and components which can be recycled and/or reused.

The symbol mark means that electrical and electronic equipment, batteries and accumulators, at their end-of-life, should be disposed of separately from your household waste.

Note:

If a chemical symbol is printed beneath the symbol mark, this chemical symbol means that the battery or accumulator contains a heavy metal at a certain concentration. This will be indicated as follows: Hg: mercury, Cd: cadmium, Pb: lead

In the European Union there are separate collection systems for used electrical and electronic equipment, batteries and accumulators.

Please, dispose of them correctly at your local community waste collection/recycling centre.

Please, help us to conserve the environment we live in!

(German)

Für EU-Staaten

Das Symbol und das erwähnte Wiederverwertungssystem gelten nur für die Länder der EU und nicht für andere Länder oder Gebiete in der Welt.

Die Produkte von Panasonic werden aus hochwertigen Materialien und Komponenten gefertigt, die sich wieder verwenden lassen.

Das Symbol bedeutet, dass elektrische oder elektronische Geräte, Batterien und Akkus am Ende ihrer Lebensdauer nicht im Haushaltmüll entsorgt werden dürfen.

Hinweis:

Ein chemisches Zeichen unter dem Symbol bedeutet, dass die Batterie bzw. der Akku Schwermetalle in gewissen Konzentrationen enthält. Die Metalle werden wie folgt bezeichnet: Hg: Quecksilber, Cd: Kadmium, Pb: Blei

In der Europäischen Union gibt es separate Sammelstellen für elektrische und elektronische Geräte, Batterien und Akkus.

Entsorgen Sie solche Geräte bitte richtig in der kommunalen Sammelstelle bzw. im Recyclingzentrum.

Helfen Sie mit, die Umwelt in der wir leben, zu schützen.



DOMINIQUE DUTSCHER SAS

DISPOSAL OF UNIT

(French)
POUR LES UTILISATEURS DE UE
Le symbole et les systèmes de recyclage évoqués ci-dessous s'appliquent uniquement aux pays de UE.

Votre produit Panasonic est conçu et fabriqué avec des composants et des matériaux de hautes qualités qui peuvent être recyclés et/ou réutilisés.

Le symbole signifie que les équipements électriques et électroniques, les batteries et les accumulateurs ne doivent pas être mis au rebut avec les déchets domestiques à l'issue de leur durée de vie.

Remarque:
Si un symbole chimique est imprimé sous le symbole, le symbole chimique indique que la batterie ou l'accumulateur contient une certaine concentration de métaux lourds. Les métaux sont indiqués de la manière suivante: Hg: mercure, Cd: cadmium, Pb: plomb.

Il existe différents systèmes de collecte pour les équipements électriques et électroniques, les batteries et les accumulateurs usagés au sein de l'Union européenne.
Veuillez mettre les équipements au rebut de manière correcte, auprès de votre centre de recyclage/de collecte des déchets local.

Aidez-nous à préserver l'environnement dans lequel nous vivons!

Les machines ou appareils électriques et électroniques contiennent fréquemment des matières qui, si elles sont traitées ou éliminées de manière inappropriée, peuvent s'avérer potentiellement dangereuses pour la santé humaine et pour l'environnement.
Cependant, ces matières sont nécessaires au bon fonctionnement de votre appareil ou de votre machine. Pour cette raison, il vous est demandé de ne pas vous débarrasser de votre appareil ou machine usagé avec vos ordures ménagères.

(Spanish)
PARA USUARIOS DE LA UNION EUROPEA
El símbolo y los sistemas de reciclado descriptos a continuación se aplican para países de la Unión Europea y no se aplica para países en otras áreas del mundo.

Su producto Panasonic fue diseñado y fabricado con materiales de alta calidad y componentes que pueden ser reciclados y/o vueltos a usar.

El símbolo significa que los equipos eléctricos y electrónicos, baterías y acumuladores, al final de su vida útil, debe ser desechados separadamente de sus residuos domiciliarios.

Nota:
Si hay un símbolo químico impreso debajo del símbolo, este símbolo químico significa que la batería o acumulador contiene una cierta concentración de un metal pesado. Esto es indicado de la siguiente manera: Hg: mercurio, Cd: cadmio, Pb: plomo

En la Unión Europea hay sistemas de recolección separados para equipos eléctricos y electrónicos, baterías y acumuladores usados.
Por favor, disponga de ellos correctamente en el centro de recolección de residuos/reciclado de la comunidad de su localidad.

Por favor, ayúdenos a proteger el medio ambiente en que vivimos!



DOMINIQUE PUTSCHER SAS

DISPOSAL OF UNIT

(Portuguese)
PARA UTILIZADORES DA UE
O símbolo e os sistemas de reciclagem descritos abaixo aplicam-se aos países da UE e não se aplicam aos países noutras áreas do mundo.

O seu produto Panasonic foi concebido e fabricado com materiais e componentes de elevada qualidade que podem ser reciclados e/ou reutilizados.

O símbolo significa que o equipamento eléctrico e electrónico, baterias e acumuladores, em final de vida, não devem ser deitados fora juntamente com o lixo doméstico.

Atenção:
Se estiver impresso um símbolo químico debaixo do símbolo de , este símbolo químico significa que a bateria ou acumulador contém um metal pesado numa determinada concentração. Estará indicado da seguinte forma: Hg: mercúrio, Cd: cádmio, Pb: chumbo

Na União Europeia existem sistemas de recolha separados para equipamento eléctrico e electrónico, baterias e acumuladores.
Por favor, entregue-os no seu centro de reciclagem/recolha de lixo local.

Por favor, ajude-nos a conservar o ambiente!

(Italian)
PER UTENTI UE
Il simbolo e i sistemi di riciclaggio descritti di seguito si applicano esclusivamente ai paesi dell'UE.

Questo prodotto Panasonic è stato progettato e realizzato con materiali e componenti di elevata qualità che possono essere riciclati e/o riutilizzati.

Il simbolo di riciclaggio mostrato di seguito indica che i dispositivi elettrici ed elettronici, le batterie e gli accumulatori, una volta esauriti, devono essere smaltiti separatamente rispetto ai rifiuti domestici.

Nota:
Se sotto il simbolo di riciclaggio appare un simbolo chimico, esso sta ad indicare che la batteria o l'accumulatore contengono metalli pesanti a determinate concentrazioni. Questo viene specificato come segue: Hg: mercurio, Cd: cadmio, Pb: piombo.

Nell'Unione europea esistono diversi sistemi per la raccolta dei rifiuti speciali quali i dispositivi elettrici ed elettronici, le batterie e gli accumulatori.
Si raccomanda di provvedere allo smaltimento di tali rifiuti secondo quanto previsto dalle normative vigenti in materia.

Aiutaci a conservare l'ambiente!



DOMINIQUE DUTSCHER SAS

DISPOSAL OF UNIT

(Dutch)
VOOR GEBRUIKERS IN DE EU
Het symbool en de recycleersystemen die hieronder beschreven worden, zijn van toepassing op de landen in de EU en zijn niet van toepassing op landen in andere delen van de wereld.

Uw Panasonic product is ontworpen en gemaakt met materialen en onderdelen van hoge kwaliteit, die gerecycleerd en opnieuw gebruikt kunnen worden.

Het symbool betekent dat elektrische en elektronische apparatuur, batterijen en accu's aan het eind van hun leven apart van uw huisafval weggegooid moeten worden.

Let op:
Indien een chemisch symbool afgedrukt staat onder het symbool, betekent dit chemisch symbool dat de batterij of accu een zwaar metaal met een bepaalde concentratie bevat. Dit wordt als volgt aangegeven: Hg: kwik, Cd: cadmium, Pb: lood

In de Europese Unie zijn afzonderlijke inzamelingssystemen voor gebruikte elektrische en elektronische apparatuur, batterijen en accu's.
Wilt u deze op de juiste manier weggooien bij uw plaatselijk afvalinzameling-/recyclingcentrum in uw buurt?

Help ons het milieu waarin wij leven in stand te houden!

(Swedish)
FÖR ANVÄNDARE INOM EU
Den symbolmärkning och de återvinningssystem som beskrivs här nedan gäller länder inom EU och gäller inte länder i någon annan del av världen.

Din Panasonic -produkt har konstruerats och tillverkats med delar och material av hög kvalitet, som kan återvinnas och/eller återanvändas.

Symbolmärkningen innebär att elektrisk och elektronisk utrustning, batterier och ackumulatorer, vid slutet av deras livslängd, inte får slängas som hushållsavfall utan skall slängas separat.

Observera:
Om en kemisk symbol finns tryckt under denna symbolmärkning, betyder denna kemiska symbol att batteriet eller ackumulatorn innehåller en tungmetall med en viss koncentration. Detta indikeras på följande sätt: Hg: kvicksilver, Cd: kadmium, Pb: bly

I den Europeiska Unionen finns det separata uppsamlingssystem för använd elektrisk och elektronisk utrustning, batterier och ackumulatorer.
Gör dig av med sådana saker på rätt sätt på den speciella lokala platsen för återsamling/återanvändning.

Hjälp oss att bevara den miljö vi lever i!



DOMINIQUE DUTSCHER SAS

SPECIFICATIONS

Product name	Blood Bank Refrigerator MBR-305GR
External dimensions	W600 mm x D680 mm x H1835 mm
Internal dimensions	W520 mm x D490 mm x H1150 mm
Effective capacity	302 L
Exterior	Painted steel
Interior	Painted steel
Outer door	Painted steel, Provided with 2-layer glass window
Inner door	Acrylic resin, 2 doors
Insulation	Rigid polyurethane foamed-in place
Drawer	Stainless steel x 5, Allowable load; 20 kg/drawer
Access port	Inner diameter; 30 mm, Left side
Cooling method	Forced cool air circulation
Compressor	Hermetic type, Output; 150 W x 1
Evaporator	Fin and tube type
Condenser	Wire and tube type
Refrigerant	R-134a
Defrosting	Cycle defrost + forced defrost, Fully automatic
Defrost heater	50 W
Temperature controller	Electronic control system
Temperature display	Digital display (in 0.1°C increments)
Fluorescent lamp	FL15SD x 1
Alarms	High temp. alarm, Low temp. alarm, Power failure alarm, Door alarm
Battery	For power failure alarm (DC 6 V 1100 mAh, automatic recharge)
Remote alarm contact	During alarm buzzer and power failure, Output; N.O.; “close”, N.C. “open”
Weight	147 kg
Accessories	1 set of key
Optional components	Interface board (MTR-480) Storage basket (MBR-35B, MBR-55B, MBR-55BL)

✧ Design or specifications will be subject to change without notice.

✧ Refer to the updated catalog when ordering an optional component.

DOMINIQUE DUTSCHER SAS

PERFORMANCE

Product name	Blood Bank Refrigerator MBR-305GR		
Model number	MBR-305GR-PA	MBR-305GR-PK	MBR-305GR-PE
Storage temperature	4°C (distribution; ±1.5°C)		
Usable ambient temperature	5°C to 35°C		
Noise level	41/41 dB (A scale) (50 Hz/60 Hz)		
Maximum pressure	1850 kPa		
Rated voltage	AC 115 V	AC 220 V	AC 220 V/230 V/240 V
Rated frequency	60 Hz	60 Hz	50 Hz
Power consumption	230 W	220 W	205 W/210 W/220 W

✧ The above data is measured based on our internal basis.

✧ Design or specifications will be subject to change without notice.

✧ The unit with CE mark complies with EC directives.

DOMINIQUE DUTSCHER SAS

⚠ CAUTION

Please fill in this form before servicing.
Hand over this form to the service engineer to keep for his and your safety.

Safety check sheet

1. Refrigerator contents : ☐Yes ☐No
   Risk of infection: ☐Yes ☐No
   Risk of toxicity: ☐Yes ☐No
   Risk from radioactive sources: ☐Yes ☐No

   (List all potentially hazardous materials that have been stored in this unit.)
   Notes :

2. Contamination of the unit
   Unit interior ☐Yes ☐No
   No contamination ☐Yes ☐No
   Decontaminated ☐Yes ☐No
   Contaminated ☐Yes ☐No
   Others:

3. Instructions for safe repair/maintenance of the unit
   a) The unit is safe to work on ☐Yes ☐No
   b) There is some danger (see below) ☐Yes ☐No
   Procedure to be adhered to in order to reduce safety risk indicated in b) below.

Date :
Signature :
Address, Division :
Telephone :

Product name :	Model :	Serial number :	Date of Installation :
Blood Bank Refrigerator	MBR-		

Please decontaminate the unit yourself before calling the service engineer.

DOMINIQUE DUTSCHER SAS

DOMINIQUE DUTSCHER SAS

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