Please read the operating instructions carefully before using this product, and keep the operating instructions for future use.
See page 44 for all model numbers.
Read the operating instructions carefully before using the appliance and follow the instructions for safety operation.

PHC Corporation never guarantees any safety if the appliance is used for any objects other than intended use or used by any procedures other than those mentioned in the operating instructions.

Keep the 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 the operating instructions is unclear or if there are any inaccuracies.

No part of the operating instructions may be reproduced in any form without the expressed written permission of PHC Corporation.

**IMPORTANT NOTICE**

PHC Corporation guarantees this product under certain warranty conditions. However, please note that PHC Corporation shall not be responsible for any loss or damage to the contents of the product.

<Intended Use>
This equipment is designed for storage of pharmaceuticals, samples and reagents.
It is imperative that the user complies with the 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 the 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 service personnel only.

USA Only: This product has a fluorescent lamp that contains mercury. Disposal may be regulated in your community due to environmental considerations. For disposal or information, please visit PHC website: https://www.phchd.com.

Contains mercury / Contenu avec mercure

For more information on safe handling procedures, the measures to be taken in case of accidental breakage and safe disposal options visit: ec.gc.ca/mercure-mercury/.

Dispose of or recycle in accordance with applicable laws.

Pour plus de renseignements sur les procédures de manutention sécuritaire, les mesures à prendre en cas de bris accidentel et les options d’élimination sécuritaire visitez: ec.gc.ca/mercure-mercury/.

Mettez au rebut ou recyclez conformément aux lois applicables.
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.
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 power supply cord or plug may cause fire or electric shock.

Do not use the power supply cord if its plug is loose. Such power 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 power supply plug from the power supply outlet, grip the power supply plug, not the cord. Pulling the power supply 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 supply cord. A damaged power supply cord may cause electric shock or fire.

Disconnect the power supply 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.

Do not position this unit and the other unit so that it is difficult to operate the disconnection of the power supply plug. Failure to disconnect the power supply plug may cause fire if there is something wrong with the unit.
This unit must be plugged into a dedicated circuit protected by branch circuit breaker.

Use a dedicated power source as indicated on the rating label attached to the unit. A multiple-tap 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 power supply plug or improper insertion may cause a heat or ignition.

Never store corrosive substances such as acids or alkalis in the unit except in a sealed container. These may be detrimental to health and may cause corrosion of internal components, cooling circuit or electrical components.

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.
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);
REFRIGERATOR COMPONENTS

Refrigerator unit

1. Light switch
2. Fluorescent lamp [page 26]
3. Glow starter [page 26]
4. Space for temperature recorder [page 35]
5. MPR-1014R
6. Remote alarm terminal [page 22]
7. Circuit breaker switch
8. Remote alarm terminal [page 22]
9. Space for temperature recorder [page 35]
10. MPR-1014R
11. Glow starter [page 26]
12. Fluorescent lamp [page 26]
13. Remote alarm terminal [page 22]
1. **Control panel:** The chamber temperature and alarms can be set through the keys on the control panel. The temperature display and indicators are also provided on the control panel. Refer to page 10 for details.

2. **Location of battery kit for power failure alarm:** The battery kit (optional) alerts the power failure by the alarm indicator and alarm buzzer.

3. **Door switch:** This switch detects the door status (open/close). The door check lamp is ON when the door is open.

4. **Door:** Sliding type. The recessed portion on the rail enables the self-closing of the door. The glass is pair construction.
   - The condensation may be found on the door frame with ambient humidity of about 50%R.H. and on the glass surface with ambient humidity of about 60%R.H. This is not a malfunction.
   - The condensation on the door is dropped on the rail and exhausted to the evaporating tray.

5. **Air exhaust vent:** Do not block this vent. Arrange the stored items not to subject to the cold air from the vent.

6. **Drawer (Right side of MPR-1014R):** To pull out the drawer, take out the drawer with pushing the button at the bottom of the drawer.
   <Important> Never pull out the multiple drawers at a time. It may cause tipping over of the unit.

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

8. **Filter:** Clean the filter once a month. Refer to page 28.

9. **Evaporating tray:** Defrost water from the evaporator accumulates in the tray and evaporates into the atmosphere. See page 27 for cleaning.

10. **Leveling foot (front, 3 locations):** These are used for install the unit. Adjust the height of the leveling feet by turning the screw bolts until 3 front casters are away from the floor.

11. **Shelf:** The set location is adjustable.
   - Items to be stored in the chamber must be placed on the shelves. Do not put stored items directly on the bottom of the chamber.

12. **Access port:** This port allows a sensor or cable of measuring equipment to enter the chamber from outside.
   - Replace 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.

13. **Exclusive alarm sensor:** A sensor for detecting the temperature rise at the upper area of the chamber. Refer to page 23 for alarm functions.

14. **Back spacer (also used as a fixture):** To keep the space between the unit and the back wall for adequate cooling performance. And this can be used as a fixture. Fix the unit by using the fixture and a rope or chain. Refer to page 12.

15. **Circuit breaker switch:** Switch ON this circuit breaker switch before the unit starts to run. Refer to page 13.
1. **Door check indicator (DOOR):** The red LED lamp is lit when the door is opened.
   - 2 minutes after the door check indicator is lit, the buzzer is activated to notice the door opening. [page 20]

2. **Alarm indicator (ALARM):** The red LED lamp blinks during an alarm condition. [page 23]

3. **Temperature display:** Normally shows the present chamber temperature and during an alarm condition, shows an error code. [page 24]

4. **Up arrow key (▲):**
   - At “temperature display mode”; pressing this key for more than 5 seconds leads setting mode.
   - At “setting mode”; increases number values between choices. [page 15 to page 21]
   - At “setting of lock function”; selects ON-OFF of key lock for chamber temperature setting. [page 16]

5. **Scroll key (▶):**
   - At “temperature display mode”; pressing this key for more than 5 seconds leads “setting of lock function”. [page 16]

   At “setting mode”; moves the operator through digit on the display. [page 15 to page 21]

6. **Set key (SET):**
   - At “temperature display mode”; pressing this key leads “chamber temperature setting mode”.
   - At “setting mode”; stores the value into computer memory.

7. **Alarm buzzer stop key (BUZZER):** Mutes the audible alarm however, the audible alarm recovers after certain period (ringback time) if the same alarm status continues. [page 21]
   - Pressing this key during the power failure displays the chamber temperature for 5 seconds (with MPR-48B1 installed).
   - “temperature display mode”: the status which the temperature display shows the current chamber temperature
   - “setting mode”: the status which the temperature display is ready to be entered after pressing the up arrow key for 5 seconds.
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.
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 3 front casters from the floor. [Fig. 1]
And adjust the leveling foot to level the unit.
- The unit is installed firmly by separating the casters from the floor. The unit may be moved at the time of opening/closing the door if the casters contact with floor.

3. Fixing the unit
Fix the unit to the wall by using 2 back spacers [Fig. 2] and a rope or chain.
- The back spacers (which are also used to prevent the unit from toppling over) have a dual purpose: To provide a clearance between the unit and the wall behind it, and to prevent the unit toppling over.

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 power 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.
5. Installation of shelves
The shelves are packaged all together. Set the shelves in the standard position before start-up of the unit.

Set the shelf stopper to the following location (5 locations) on the shelf support to adjust the shelves in the standard position:

1) The sixth hole under the first screw from the top (top screw) [Fig. 3]
2) The fifth hole under the third screw from the top.
3) The fourth hole under the fifth screw from the top
4) The third hole under the third screw from the bottom.
5) The second hole under the first screw from the bottom (bottom screw).

<Important>
Never put the stored item on the bottom of the chamber. Always put them on the shelf or in the drawer (in the case of MPR-1014R).

6. Turn on the circuit breaker switch
This unit is equipped with a circuit breaker on the back. Make sure to turn on the circuit breaker switch before the unit starts to run [Fig. 4].

When the operation of the unit is stopped by this breaker, contact our sales representative or agent after disconnected the power supply plug.
Follow the procedures for the initial and consequent operations of the unit.

❖ At the recovery after power failure, the operation is start-up automatically with the setting before power failure. [page 21]

1. Connect the power supply cord to the dedicated outlet with appropriate rating.
   ► The alarm indicator and the chamber temperature may blink. (This is not a malfunction.)
   <Important>
   If the unit is unplugged or the power to the unit is interrupted, do not restart the unit for at least 5 minutes. This protects the compressor.

2. On start-up, the alarm buzzer sometimes operates. In this case, stop the alarm buzzer by pressing the alarm buzzer stop key (BUZZER). (This is not a malfunction.)
   <Important>
   Close the door securely. The door check indicator is lit when the door is open. The alarm buzzer activates when the door is opened for more than 2 minutes. The alarm buzzer is canceled when the door is closed.

3. Allow the chamber temperature to fall to 5 °C (The chamber temperature is set to 5 °C at the factory). Check the chamber temperature on the temperature display.
   ❖ Allow the chamber temperature to fall to the set temperature when the start-up after cleaning, maintenance or moving.

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

5. Set the desired chamber temperature. [page 15]

6. When the chamber temperature gets to the set temperature, begin slowly placing items into the chamber to minimize the temperature rise.
   <Important>
   Always put the stored items on the shelf or in the drawer, not on the bottom of the chamber. Do not contact the stored items to the chamber walls. Do not block the air intake vent nor air exhaust vent. Place the stored items with adequate space between them to keep the cool air circulation.
Set the chamber temperature according to the condition of use. This refrigerator can keep the stored items for a long period under appropriate temperature.

- Setting range of chamber temperature: between 2 °C and 14 °C
- Initial setting (factory setting): 5 °C

<Important>
The chamber temperature of 2 °C may cause partial freeze of stored items.

Example: Change the chamber temperature to 4 °C from 5 °C

Following shows a sample setting. Set the desired chamber temperature according to the condition of use.

<table>
<thead>
<tr>
<th>Description of operation</th>
<th>Key operated</th>
<th>Indication after operation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Connect the power supply plug to the dedicated outlet. (only when start-up of unit)</td>
<td>-----</td>
<td>The current chamber temperature is displayed.</td>
</tr>
<tr>
<td>2 Press set key.</td>
<td>SET</td>
<td>The current setting (005) is displayed and the first digit blinks.</td>
</tr>
<tr>
<td>3 Press up arrow key and scroll the figure to 4.</td>
<td>▲</td>
<td>The display is changed to 004 from 005.</td>
</tr>
<tr>
<td>4 Press set key.</td>
<td>SET</td>
<td>Set temperature is memorized and the current chamber temperature is displayed.</td>
</tr>
</tbody>
</table>

⚠️ The setting mode returns to the temperature display mode automatically when 90 seconds has passed without any key operation (auto-return function). In this case, the setting is not accepted.

⚠️ CAUTION
It is recommended to install an automatic temperature recorder (optional component) to check the highest/lowest chamber temperature when the item which needs severe temperature control is stored.
The setting of chamber temperature can be protected to avoid an accidental change. When the lock is ON, the change of chamber temperature setting through the key pad is not available.

- Initial setting (factory setting): lock OFF

<table>
<thead>
<tr>
<th>Display</th>
<th>Mode</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>L 0</td>
<td>Lock is OFF</td>
<td>Enable to change the chamber temperature setting</td>
</tr>
<tr>
<td>L 1</td>
<td>Lock is ON</td>
<td>Disable to change the chamber temperature setting</td>
</tr>
</tbody>
</table>

Example: Change the lock to ON from OFF (factory setting)

<table>
<thead>
<tr>
<th>Description of operation</th>
<th>Key operated</th>
<th>Indication after operation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Press scroll key for 5 seconds.</td>
<td>🔄</td>
<td>The current setting (L 0) is displayed and the first digit blinks.</td>
</tr>
<tr>
<td>Press up arrow key once.</td>
<td>🖇</td>
<td>The display is changed to L 1 from L 0.</td>
</tr>
<tr>
<td>Press set key.</td>
<td>SET</td>
<td>Lock status is memorized and the current chamber temperature is displayed.</td>
</tr>
</tbody>
</table>

* The setting mode returns to the temperature display mode automatically when 90 seconds has passed without any key operation (auto-return function). In this case, the setting is not accepted.
The following 2 kinds of defrost methods are provided with this refrigerator. Both defrost methods are controlled automatically.

- **Cycle defrost**
  To keep the chamber temperature stable, the refrigeration compressor is cycled on and off. During “off” period any frost which has accumulated 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 inside 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 cycle can be initiated.
  When the unit is operating under a forced defrost cycle, the current chamber temperature and dF are displayed alternately on the temperature display.
  Once the forced defrost cycle is completed, normal operation resumes.

⚠️ **CAUTION**

The unit may collect excessive frost on the evaporator if it is installed in high temperature and high humidity location. For example, the unit starts to defrost once a week with 2 °C setting in the ambient of 35 °C and 80 % R.H. The chamber temperature goes up to approximately 10 °C temporarily during defrosting.
Setting of high temperature alarm

By setting the high temperature alarm, the alarm indicator and the temperature display blink and the alarm buzzer operates (after 15 minutes) when the chamber temperature is over the setting of high temperature alarm. Set the high temperature alarm to protect the stored items against the damage resulting from temperature rise.

- Setting range of high temperature alarm:
  - Between chamber temperature plus 2 °C and chamber temperature plus 14 °C

- Initial setting (factory setting): chamber temperature plus 5 °C

Example: Change the high temperature alarm to chamber temperature plus 3 °C from chamber temperature plus 5 °C.

- Following shows a sample setting. Set the desired high temperature alarm according to the condition of use.

<table>
<thead>
<tr>
<th>Description of operation</th>
<th>Key operated</th>
<th>Indication after operation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>-----</td>
<td>The current chamber temperature is displayed. 4</td>
</tr>
<tr>
<td>2 Press up arrow key for 5 seconds.</td>
<td>▲</td>
<td>F00 is displayed and the first digit blinks. F00</td>
</tr>
<tr>
<td>3 Press up arrow key once.</td>
<td>▲</td>
<td>The display is changed to F01 from F00. F01</td>
</tr>
<tr>
<td>4 Press set key.</td>
<td>SET</td>
<td>The current setting (005) is displayed and the first digit blinks. 005</td>
</tr>
<tr>
<td>5 Press up arrow key and scroll the figure to 3.</td>
<td>▲</td>
<td>The display is changed to 003 from 005. 003</td>
</tr>
<tr>
<td>6 Press set key.</td>
<td>SET</td>
<td>Set temperature is memorized and the current chamber temperature is displayed. 4</td>
</tr>
</tbody>
</table>

⚠️ The setting mode returns to the temperature display mode automatically when 90 seconds has passed without any key operation (auto-return function). In this case, the setting is not accepted.

<Important>
The high temperature alarm may be activated after defrosting or a large amount of load is stored in the chamber. This is not a malfunction. The high temperature alarm is cancelled automatically when the chamber temperature reaches the set temperature.
ALARM TEMPERATURE SETTING

Setting of low temperature alarm

By setting the low temperature alarm, the alarm indicator and temperature display blink and alarm buzzer operates (after 15 minutes) when the chamber temperature is below the setting of low temperature alarm. Set the low temperature alarm to protect the stored items against the damage resulting from temperature lowering.

- Setting range of low temperature alarm:
  - Between chamber temperature minus 2 °C and chamber temperature minus 14 °C
- Initial setting (factory setting): chamber temperature minus 5 °C

Example: Change the low temperature alarm to chamber temperature minus 3 °C from chamber temperature minus 5 °C

Following shows a sample setting. Set the desired low temperature alarm according to the condition of use.

<table>
<thead>
<tr>
<th>Description of operation</th>
<th>Key operated</th>
<th>Indication after operation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>-----</td>
<td>The current chamber temperature is displayed.</td>
</tr>
<tr>
<td>2</td>
<td>▲</td>
<td>F00 is displayed and the first digit blinks.</td>
</tr>
<tr>
<td>3</td>
<td>▲</td>
<td>The display is changed to F02 from F00.</td>
</tr>
<tr>
<td>4</td>
<td>SET</td>
<td>The current setting (-05) is displayed and the first digit blinks.</td>
</tr>
<tr>
<td>5</td>
<td>▲</td>
<td>The display is changed to -03 from -05.</td>
</tr>
<tr>
<td>6</td>
<td>SET</td>
<td>Set temperature is memorized and the current chamber temperature is displayed.</td>
</tr>
</tbody>
</table>

The setting mode returns to the temperature display mode automatically when 90 seconds has passed without any key operation (auto-return function). In this case, the setting is not accepted.

<Important>

Regardless of the setting of low temperature alarm, the alarm indicator and the temperature display blink and the alarm buzzer operates if the chamber temperature is lower than 0 °C to prevent the stored items from freezing.
SETTING OF DELAY OF DOOR ALARM

The door check indicator is lit when the door is opened, and the alarm buzzer sounds with some delay to notice the door opening. The delay time (between lighting of the door check indicator and activation of the alarm buzzer) can be changed. Set an appropriate delay time according to the condition of use to prevent the rise of chamber temperature resulting from inadequate door close.

- Setting range of delay time: between 1 and 15 minutes
- Initial setting (factory setting): 2 minutes

Example: Change the delay time to 3 minutes from 2 minutes

Following shows a sample setting. Set the desired delay time according to the condition of use.

<table>
<thead>
<tr>
<th>Description of operation</th>
<th>Key operated</th>
<th>Indication after operation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>-----</td>
<td>The current chamber temperature is displayed.</td>
</tr>
<tr>
<td>2 Press up arrow key for 5 seconds.</td>
<td>▲</td>
<td>F00 is displayed and the first digit blinks.</td>
</tr>
<tr>
<td>3 Press up arrow key 4 times.</td>
<td>▲</td>
<td>The display is changed to F04 from F00.</td>
</tr>
<tr>
<td>4 Press set key.</td>
<td>SET</td>
<td>The current setting (002) is displayed and the first digit blinks.</td>
</tr>
<tr>
<td>5 Press up arrow key and scroll the figure to 3.</td>
<td>▲</td>
<td>The display is changed to 003 from 002.</td>
</tr>
<tr>
<td>6 Press set key.</td>
<td>SET</td>
<td>Delay time is memorized and the current chamber temperature is displayed.</td>
</tr>
</tbody>
</table>

The setting mode returns to the temperature display mode automatically when 90 seconds has passed without any key operation (auto-return function). In this case, the setting is not accepted.
The alarm buzzer operates again after a certain period (ringback time) even if the alarm buzzer is silenced by pressing the alarm buzzer stop key (BUZZER) when the same alarm status is continued. Set the ringback time to prevent the misidentify the alarm status.

- Setting range of ringback time: between 10 and 60 minutes (10 minutes interval)
- Display of setting: between 010 and 060 (000 display shows no ringback)
- Initial setting (factory setting): 30 minutes

The alarm buzzer will not recover once the alarm buzzer is silenced by pressing the alarm buzzer stop key (BUZZER) when the ringback time is set to 000. However, the alarm buzzer will operate if other alarm status is detected.

Example: Change the ringback time to 20 minutes from 30 minutes

Following shows a sample setting. Set the desired ringback time according to the condition of use.

<table>
<thead>
<tr>
<th>Description of operation</th>
<th>Key operated</th>
<th>Indication after operation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>-----</td>
<td>The current chamber temperature is displayed.</td>
</tr>
<tr>
<td>2</td>
<td>Press up arrow key for 5 seconds.</td>
<td>➡️</td>
</tr>
<tr>
<td>3</td>
<td>Press up arrow key 5 times.</td>
<td>➡️</td>
</tr>
<tr>
<td>4</td>
<td>Press scroll key once.</td>
<td>➡️</td>
</tr>
<tr>
<td>5</td>
<td>Press up arrow key twice.</td>
<td>➡️</td>
</tr>
<tr>
<td>6</td>
<td>Press set key.</td>
<td>SET</td>
</tr>
<tr>
<td>7</td>
<td>Press up arrow key and scroll the figure to 2.</td>
<td>➡️</td>
</tr>
<tr>
<td>8</td>
<td>Press set key.</td>
<td>SET</td>
</tr>
</tbody>
</table>

The setting mode returns to the temperature display mode automatically when 90 seconds has passed without any key operation (auto-return function). In this case, the setting is not accepted.

The setting should be performed during normal operation, not during alarm status.

**OPERATION CHECK AFTER RECOVERY**

After recovery from a power failure, the unit will resume operation automatically with the setting before power failure. Accordingly, there is no need for re-set, however, always check the running status after recovery.

- The set value is memorized by nonvolatile memory during power failure.

**CAUTION**

After recovery from a power failure, always check the unit starts the operation normally with the setting before power failure.
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 refrigerator is installed in a desolate location so that an alarm status is noticed to an operator.

✧ Contact our representative or agent for the installation of a remote alarm equipment (commercial item).
  ● Location of remote alarm terminal: rear lower left
  ● Allowable contact capacity: DC 30 V, 2 A

The alarm status of remote alarm terminal is cancelled by pressing the alarm buzzer stop key (BUZZER) since the remote alarm 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 (with MPR-48B1 installed).

✧ The remote alarm terminal returns to the alarm status again after a certain period (ringback time) if the same alarm status continues.

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 terminal

1. Remove the terminal cover at rear lower left of the cabinet by unscrewing 2 screws. [Fig. 1]

2. Connect the lead wire of a remote alarm equipment (commercial item) to the terminal.
  ✧ It is recommended to use cables with a maximum length of 30 meters.

3. Replace the terminal cover and fix it by 2 screws.
ALARM FUNCTIONS

This unit has the alarms functions shown below.

<table>
<thead>
<tr>
<th>Alarms</th>
<th>Situation</th>
<th>Indication</th>
<th>Alarm buzzer</th>
<th>Remote alarm</th>
</tr>
</thead>
<tbody>
<tr>
<td>High temp. alarm</td>
<td>If the chamber temp. is higher than the high temp. alarm setting. [page 18]</td>
<td>Alarm indicator blinks. Chamber temp. blinks.</td>
<td>Intermittent tone with 15 minutes delay.</td>
<td>Alarm status with 15 minutes delay.</td>
</tr>
<tr>
<td>Air circulation alarm</td>
<td>If the chamber temp. distribution gets worse (chamber temperature at upper area is high)</td>
<td>Alarm indicator blinks. Chamber temp. blinks.</td>
<td>Intermittent tone with 15 minutes delay.</td>
<td>Alarm status with 15 minutes delay.</td>
</tr>
<tr>
<td>Low temp. alarm</td>
<td>If the chamber temp. is lower than the low temp. alarm setting. [page 19]</td>
<td>Alarm indicator blinks. Chamber temp. blinks.</td>
<td>Intermittent tone with 15 minutes delay.</td>
<td>Alarm status with 15 minutes delay.</td>
</tr>
<tr>
<td>0 ºC alarm</td>
<td>If the chamber temp. is lower than 0 ºC</td>
<td>Alarm indicator blinks. Chamber temp. blinks.</td>
<td>Intermittent tone</td>
<td>Alarm status.</td>
</tr>
<tr>
<td>Power failure alarm</td>
<td>At power failure. If the power supply cord is unplugged.</td>
<td>-----</td>
<td>-----</td>
<td>Message status.</td>
</tr>
<tr>
<td>Power failure alarm (with MPR-48B1)</td>
<td>At power failure. If the power supply cord is unplugged.</td>
<td>Alarm indicator blinks. Chamber temp. blinks.</td>
<td>Intermittent tone</td>
<td>Alarm status.</td>
</tr>
<tr>
<td>Door alarm</td>
<td>When the door is open.</td>
<td>Door check indicator blinks.</td>
<td>Intermittent tone with 2 minutes delay.</td>
<td>-----</td>
</tr>
</tbody>
</table>

- The alarm status of remote alarm terminal is cancelled by pressing the alarm buzzer stop key (BUZZER) since the remote alarm is operated in conjunction with alarm buzzer. (except for power failure alarm status)
- The remote alarm terminal returns to the alarm status again after a certain period (ringback time) if the same alarm status continues.

Air circulation alarm

The alarm indicator blinks and the alarm buzzer sounds (after 15 minutes) when the sensor detects that the chamber temperature distribution is getting worse extremely. This may be caused by the block of cold air in the chamber due to the frost on the evaporator or stop of cooling fan motor.
- The air circulation is detected by the exclusive alarm sensor attached to the upper area of the chamber.

SAFETY FUNCTIONS

This unit has the safety functions shown below.

<table>
<thead>
<tr>
<th>Safety</th>
<th>Situation</th>
<th>Indication, Buzzer</th>
<th>Safety operation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Over-heat protection</td>
<td>When the chamber temp. is higher than about 28 ºC.</td>
<td>-----</td>
<td>The defrost heater is OFF. Fan motor for cold air circulation is OFF. Reset when the chamber temp. is lower than about 18 ºC.</td>
</tr>
<tr>
<td>Over-cool protection</td>
<td>When the chamber temp. is lower than about 0 ºC.</td>
<td>-----</td>
<td>Compressor is OFF. Reset when the chamber temp. is higher than 6 ºC.</td>
</tr>
<tr>
<td>Auto-return</td>
<td>When there is no key pressing in setting mode for 90 seconds.</td>
<td>-----</td>
<td>Finishing of setting mode and returning to temp. display mode.</td>
</tr>
<tr>
<td>Key lock</td>
<td>When the key lock is ON (L1).</td>
<td>-----</td>
<td>Change of chamber temp. setting is disable.</td>
</tr>
</tbody>
</table>
This unit has the self diagnostic functions shown below.

<table>
<thead>
<tr>
<th>Sensor abnormality</th>
<th>Situation</th>
<th>Indication</th>
<th>Alarm buzzer</th>
<th>Remote alarm</th>
</tr>
</thead>
<tbody>
<tr>
<td>If the thermal sensor is disconnected.</td>
<td>Alarm indicator blinks. E01 and chamber temp. are displayed alternately.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>If the thermal sensor is short-circuited.</td>
<td>Alarm indicator blinks. E02 and chamber temp. are displayed alternately.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>If the defrost sensor 1 is disconnected.</td>
<td>Alarm indicator blinks. E03 and chamber temp. are displayed alternately.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>If the defrost sensor 1 is short-circuited.</td>
<td>Alarm indicator blinks. E04 and chamber temp. are displayed alternately.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>If the compressor sensor is disconnected.</td>
<td>Alarm indicator blinks. E05 and chamber temp. are displayed alternately.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>If the compressor sensor is short-circuited.</td>
<td>Alarm indicator blinks. E06 and chamber temp. are displayed alternately.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>If the ambient temp. sensor is disconnected.</td>
<td>Alarm indicator blinks. E07 and chamber temp. are displayed alternately.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>If the ambient temp. sensor is short-circuited.</td>
<td>Alarm indicator blinks. E08 and chamber temp. are displayed alternately.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>If the defrost sensor 2 is disconnected.</td>
<td>Alarm indicator blinks. E11 and chamber temp. are displayed alternately.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>If the defrost sensor 2 is short-circuited.</td>
<td>Alarm indicator blinks. E12 and chamber temp. are displayed alternately.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>If the exclusive alarm sensor is disconnected.</td>
<td>Alarm indicator blinks. E13 and chamber temp. are displayed alternately.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>If the exclusive alarm sensor is short-circuited.</td>
<td>Alarm indicator blinks. E14 and chamber temp. are displayed alternately.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Condenser temp. abnormality</td>
<td>In the event of failure of fan motor for cooling the compressor. When the ambient temperature exceeds the usable environmental condition, etc.</td>
<td>Alarm indicator blinks. E10 and chamber temp. are displayed alternately.</td>
<td>Intermittent tone</td>
<td>Alarm status</td>
</tr>
<tr>
<td>Battery check (with MPR-48B1)</td>
<td>When about 3 years have passed with the power supply cord connected to the outlet. (time to replace the battery)</td>
<td>F-1 and chamber temp. are displayed alternately.</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td>Fan motor check</td>
<td>When about 6 years have passed with the power supply cord connected to the outlet. (time to replace the fan motor)</td>
<td>F-2 and chamber temp. are displayed alternately.</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td>Setting check (with MPR-48B1)</td>
<td>When the battery switch is turned ON without setting after attachment.</td>
<td>E09 and chamber temp. are displayed alternately.</td>
<td>-----</td>
<td>-----</td>
</tr>
</tbody>
</table>

- The alarm status of remote alarm terminal is cancelled by pressing the alarm buzzer stop key (BUZZER) since the remote alarm is operated in conjunction with alarm buzzer. (except for power failure alarm status)
- The remote alarm terminal returns to the alarm status again after certain period (ringback time) if the same alarm status continues.
- The chamber temperature is controlled at about 5 °C by the defrost sensor if the thermal sensor is disconnected or short circuited.
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, 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.
Replacement of fluorescent lamp

Follow the procedure below when replacing a fluorescent lamp. The fluorescent lamp is located vertically at the back of the center mullion. [Fig. 1]

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

2. Move the stored items on the left shelves to the right shelves (right drawers for MPR-1014R). Then remove all shelves on the left side.

3. Pull the fluorescent lamp backwards from the clip together with the lamp cover and wiring.

4. After remove the water-proof cover, remove the cap with the wiring on the both sides of the lamp cover.

5. Take out the fluorescent lamp from the lamp cover and insert a new fluorescent lamp in it.

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

7. Replace the lamp cover to the clip (2 locations).

8. Replace the shelves on the left side and return the stored items.

9. Connect the power supply cord to the outlet and check the fluorescent lamp is turned on.

Replacement of glow starter

The glow starter is located on the top front in the chamber (upper left of the fluorescent lamp). [Fig. 1]

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

2. Remove the water-proof cover and replace the glow starter. (glow starter; FG-4P)

3. Replace the water-proof cover.

4. Connect the power supply cord to the outlet and check the fluorescent lamp is turned on.
ROUTINE MAINTENANCE

Cleaning of evaporating tray

1. As shown in Fig. 1, remove 2 hand screws on the bottom of the unit cover and remove the unit cover.

2. The evaporating tray is installed in the back.
   To remove the evaporating tray, lift slightly and pull the evaporating tray as shown in Fig. 2.

3. Dispose any accumulated water in the evaporating tray.

4. Wash the evaporating tray with a diluted neutral dishwashing detergent and clean water.
   ♦ Never use the hot or boiling water to clean the tray.

5. Replace the evaporating tray in it original position securely.
   ♦ The drain hose (black hose) is located in the back.
     Check the drain hose is in the evaporating tray.

6. Replace the unit cover and fix it with 2 hand screws.

<Important>
Improper installation of the evaporating tray or unit cover may cause abnormal noise. Set the evaporating tray and unit cover surely and check there is no abnormal noise during operation.
Cleaning of filter

The filter is located in the right inside the unit cover. Clean the filter once a month to keep the refrigerating performance and condition of refrigerating unit.

To clean the filter, follow the procedure below.

⚠️ WARNING

Do not touch a condenser behind the filter when removing the filter for cleaning. The condenser is hot and may cause injury.

1. As shown in Fig. 1, remove 2 hand screws on the bottom of the unit cover and remove the unit cover.

2. Pull the filter to the left (to the front of the evaporating tray) by taking the finger grip (black) on the left edge as shown in Fig. 2.

3. Tilt the filter slightly to the back and take out the filter.

4. Wash the filter with clean water and dry it naturally.

5. Set the filter in the front of the evaporating tray and slide the filter to the right (to the front of the condenser).

6. Replace the unit cover and fix it with 2 hand screws.
## TROUBLESHOOTING

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

<table>
<thead>
<tr>
<th>Malfunction</th>
<th>Check/Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>If nothing operates even when plugged in</td>
<td>- The unit is not connected to the power supply properly.</td>
</tr>
<tr>
<td></td>
<td>- The capacity and voltage of power supply is not sufficient.</td>
</tr>
<tr>
<td></td>
<td>- There is a power failure.</td>
</tr>
<tr>
<td></td>
<td>- The circuit breaker on the supply circuit is activated.</td>
</tr>
<tr>
<td></td>
<td>- The fuse on the supply circuit is blown.</td>
</tr>
<tr>
<td>The alarm device is activated at start-up</td>
<td>- The alarm status is kept until the chamber temperature reaches the set temperature.</td>
</tr>
<tr>
<td>The alarm device is activated during operation</td>
<td>- The unit is not connected to the power supply properly.</td>
</tr>
<tr>
<td></td>
<td>- The capacity and voltage of power supply is not sufficient.</td>
</tr>
<tr>
<td></td>
<td>- There is a power failure.</td>
</tr>
<tr>
<td></td>
<td>- The circuit breaker on the supply circuit is activated.</td>
</tr>
<tr>
<td></td>
<td>- The fuse on the supply circuit is blown.</td>
</tr>
<tr>
<td></td>
<td>- The chamber temperature setting was changed.</td>
</tr>
<tr>
<td></td>
<td>- The door was kept opened for a long time.</td>
</tr>
<tr>
<td></td>
<td>- The containers of high temperature (load) were put in the chamber.</td>
</tr>
<tr>
<td></td>
<td>- The door is opened.</td>
</tr>
<tr>
<td>No key operation is available</td>
<td>- The key lock is set in ON (L 1).</td>
</tr>
<tr>
<td></td>
<td>- Set the key lock in OFF (L 0).</td>
</tr>
<tr>
<td>During the setting mode, the mode returns to the</td>
<td>- The setting mode returns to the temperature display mode automatically when 90 seconds has passed without any key operation (auto-return function).</td>
</tr>
<tr>
<td>temp. display mode</td>
<td></td>
</tr>
<tr>
<td>Noisy</td>
<td>- The floor is not sturdy.</td>
</tr>
<tr>
<td></td>
<td>- The installation site is not level.</td>
</tr>
<tr>
<td></td>
<td>- The refrigerator is tilted.</td>
</tr>
<tr>
<td></td>
<td>- The cabinet contacts the surrounding wall.</td>
</tr>
<tr>
<td></td>
<td>- The installation of the evaporating tray or unit cover is improper.</td>
</tr>
<tr>
<td>When chamber does not get cold enough</td>
<td>- A large amount of items or warm product was put in the chamber.</td>
</tr>
<tr>
<td></td>
<td>- The door is frequently opened.</td>
</tr>
<tr>
<td></td>
<td>- The chamber temperature setting is high.</td>
</tr>
<tr>
<td></td>
<td>- The unit is in direct sunlight.</td>
</tr>
<tr>
<td></td>
<td>- The unit is not installed in the installation site specified in this manual.</td>
</tr>
<tr>
<td></td>
<td>- The ventilation around the unit is blocked.</td>
</tr>
<tr>
<td></td>
<td>- There is a nearby heat source.</td>
</tr>
<tr>
<td></td>
<td>- The ambient temperature is too high.</td>
</tr>
<tr>
<td></td>
<td>- The allowable ambient temperature is between -5 °C and +35 °C.</td>
</tr>
<tr>
<td></td>
<td>- The stored items is too much.</td>
</tr>
<tr>
<td></td>
<td>- The air exhaust vent is blocked up with containers.</td>
</tr>
<tr>
<td></td>
<td>- The access port is not covered.</td>
</tr>
<tr>
<td></td>
<td>- The access port should be covered with the insulation and rubber caps when no use.</td>
</tr>
<tr>
<td></td>
<td>- The door seal is damaged.</td>
</tr>
<tr>
<td></td>
<td>- If it is damaged, contact our sales representative or agent for replacement.</td>
</tr>
<tr>
<td></td>
<td>- Any foreign substance is located between door gaskets.</td>
</tr>
</tbody>
</table>

**Note:**

If the malfunction is not eliminated after checking the above items or the malfunction is not shown in the above table, contact our sales representative or agent.
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.

**Decontamination of unit**

Before disposal of unit with biohazardous danger, decontaminate the unit to the extent possible by the user.
DISPOSAL OF UNIT

Information on Disposal for Users of Waste Electrical & Electronic Equipment (private households)

This symbol on the products and/or accompanying documents means that used electrical and electronic products should not be mixed with general household waste. For proper treatment, recovery and recycling, please take these products to designated collection points, where they will be accepted on a free of charge basis. Alternatively, in some countries you may be able to return your products to your local retailer upon the purchase of an equivalent new product.

Disposing of this product correctly will help to save valuable resources and prevent any potential negative effects on health and the environment which could otherwise arise from inappropriate waste handling. Please contact your local authority for further details of your nearest designated collection point. Penalties may be applicable for incorrect disposal of this waste, in accordance with national legislation.

For business users in the European Union

If you wish to discard electrical and electronic equipment, please contact your dealer or supplier for further information.

Information on Disposal in other countries outside the European Union

This symbol is only valid in the European Union. If you wish to discard this product, please contact your local authorities or dealer and ask for the correct method of disposal.

Benutzerinformationen zur Entsorgung von elektrischen und elektronischen Geräten (private Haushalte)


Die ordnungsgemäße Entsorgung dieses Produkts dient dem Umweltschutz und verhindert mögliche schädliche Auswirkungen auf Mensch und Umgebung, die aus einer unsachgemäßen Handhabung von Abfall entstehen können. Genaue Informationen zur nächstgelegenen Sammelstelle erhalten Sie bei Ihrer Gemeindeverwaltung.

In Übereinstimmung mit der Landesgesetzgebung können für die ordnungsgemäße Entsorgung dieser Art von Abfall Strategiepakete errichtet werden.

Für Geschäftskunden in der Europäischen Union

Bitte treten Sie mit Ihrem Händler oder Lieferanten in Kontakt, wenn Sie elektrische und elektronische Geräte entsorgen möchten. Er hält weitere Informationen für sie bereit.

Informationen zur Entsorgung in anderen Ländern außerhalb der Europäischen Union

Dieses Symbol ist nur in der Europäischen Union gültig. Bitte treten Sie mit Ihrer Gemeindeverwaltung oder Ihrem Händler in Kontakt, wenn Sie elektrische und elektronische Geräte entsorgen möchten, und fragen Sie nach einer Entsorgungsmöglichkeit.

Технолошко забављање на електрични и електронски отпадни материјал (самоприпадници)

Ако се ово симбол јави на производу изузевено и/или на прилагођен документ, то значи да производ не треба смештавати у обичном баковом броду. Уместо тога, посветује се да се продукт врати у аплингову или обновову точку за те производе, где ће бити примљен без плаћа. У неким земаљама, може се да се продукт вернете у блиску продавницу, када се купује нови производ.

Правилно смештаје производа може да помогне да се појача природним ресурсима, како би се пречиле могуће негативне ефekte на здравље и окружење које могу да наступе из неправилног обрада производа. Просите своју локалну власт да вам остави детаљи за најближу аплингову точку за производе.

У обществено место овог производа ће помогнути да се запази природни ресурси, како би се пречиле могуће негативне ефекте на здравље и окружење које могу да наступе из неправилног обрада производа. Просите своју локалну власт да вам остави детаљи за најближу аплингову точку за производе.

Informations relatives à l'évacuation des déchets, destinées aux utilisateurs d'appareils électriques et électroniques (appareils ménagers domestiques)

Lorsque ce symbole figure sur les produits et/ou les documents qui les accompagnent, cela signifie que les appareils électriques et électroniques ne doivent pas être jetés avec les ordures ménagères.

Pour que ces produits subissent un traitement, une récupération ou un recyclage appropriés, envoyez-les dans les points de collecte désignés, où ils peuvent être déposés gratuitement. Dans certains pays, il est possible de réinvestir les produits au revendeur local en cas d’achat d’un produit équivalent.

En éliminant correctement ce produit, vous contribuerez à la conservation des ressources vitales et à la prévention des éventuels effets négatifs sur l’environnement et la santé humaine qui pourraient survenir dans le cas contraire.

Afin de connaître le point de collecte le plus proche, veuillez contacter vos autorités locales.

Des sanctions peuvent être appliquées en cas d’élimination incorrecte de ces déchets, conformément à l’article national relatif.

Utilisateurs professionnels de l’Union européenne

Pour en savoir plus sur l’élimination des appareils électriques et électroniques, contactez votre revendeur local.

Informations sur l’évacuation des déchets dans les pays ne faisant pas partie de l’Union européenne

Ce symbole n’est reconnu que dans l’Union européenne. Pour le reste des pays, veuillez contacter les autorités locales ou votre revendeur afin de connaître la procédure d’élimination à suivre.
Oplysninger om afhændelse af elektriske apparater og elektronisk udstyr (privat husholdning)

Disposal of unit

For at sikre en korrekt behandling, insamling og genbrug, skal du aflevere disse produkter på de indenfor anerkendte insamlingssteder, hvor de vil blive modtaget uden ekstra omkostninger. I nogle lande er der også mulighed for, at du kan indlevere dine produkter hos den lokale forhandler, hvis du køber et nyt og tilsvarende produkt.

Hvis du afhænder dette produkt på korrekt vis, vil det være med at spare på det økologiske lag på jorden og forhindre uønskede negative påvirkninger på folkesundheden og miljøet. Hvis du aflevere produkter i en påtaget affaldsbeholder, så kontakt de lokale myndigheder for at få yderligere oplysninger.

Informasjon sobre la eliminación para los usuarios de equipos eléctricos y electrónicos usados (hogar doméstico)

Para que estos productos se sometan a un proceso adecuado de tratamiento, recuperación y reciclaje, lea a continuación el punto de recogida designado, donde los admite sin coste alguno. En algunos países existe también la posibilidad de devolver los productos a su minorista local al comprar un producto nuevo equivalente.

Si desea el producto correctamente, estará contribuyendo a preservar recursos y a evitar cualquier posible efecto negativo en la salud de las personas y en el medio ambiente que pudiera producirse debido al tratamiento incorrecto de los productos electrónicos y eléctricos no adecuados. Si desea desechar este producto, póngase en contacto con su distribuidor o proveedor para que le informe detalladamente sobre el punto de recogida designado más cercano.

De acuerdo con la legislación nacional, podrían aplicarse multas por la eliminación incorrecta de estos desechos.

Para empresas de la Unión Europea

Si desea desechar equipos eléctricos y electrónicos, póngase en contacto con su distribuidor o proveedor para que le informe sobre el método correcto de eliminación.

Información sobre la eliminación en otros países no pertenecientes a la Unión Europea

Este símbolo sólo es válido en la Unión Europea. Si desea desechar este producto, póngase en contacto con las autoridades locales o con su distribuidor para que le informen sobre el método correcto de eliminación.

Informacije o likvidaciji použitého elektrického a elektronického zařízení (domácnostní domácnosti)

Tento symbol není platný pro domácnosti, které vznikli z nesprávného zaobchádění s odpadem. Pre bližšie informácie o vašom najbližším zborem mieste kontaktujte, prosím, vaše miestne úřady alebo predajcu a informujte si správne metódy likvidácie.

Pre právnické osoby v České republice

Ak potrebujete zlikvidovať potrestané elektrické a elektronické produkty, pre bližšie informácie kontaktujte, prosím, svojho miestného predajcu alebo dodavateľa.

Informace o likvidaci elektrického a elektronického odpadu v krajinných mimo Evropské unie

Tento symbol je platný iba v České republice. Ak si prijate zlikvidovať tento produkt, pre bližšie informácie kontaktujte, prosím, vaše miestne úřady alebo predajcu a informujte si správne metódy likvidácie.

Informacje dla użytkowników o pozywaniu się urządzeń elektrycznych i elektronicznych (domoweści domowe)

Nowy symbol, który obowiązuje w Unii Europejskiej. W razie konieczności poświęcone urządzeniu elektrycznym lub elektronicznym, które nie jest zgodne z wymaganiami, prosimy kontaktować się z lokalnymi władzami lub ze sprzedawcą aby uzyskać informacje o prawidłowym sposobie postępowania.

Informação sobre a eliminação dos utilizadores de equipamentos eléctricos e electrónicos usados (habitação doméstica)

Este símbolo só é válido no interior da União Europeia. Se desejar desfazer-se deste produto, entre em contacto com as autoridades locais ou com o seu distribuidor para que informem sobre o método correto de eliminação.

Informações para os utilizadores de equipamentos eléctricos e electrónicos usados (habitação doméstica)

Este símbolo é válido apenas na União Europeia. Se desejar desfazer-se deste produto, entre em contacto com as autoridades locais ou com o seu distribuidor para que informem sobre o método correto de eliminação.

Información sobre la eliminación para los usuarios de equipos eléctricos y electrónicos usados (hogar doméstico)

Información sobre la eliminación de los productos eléctricos y electrónicos (hogar doméstico)

Este símbolo sólo es válido en la Unión Europea. Si desea desechar este producto, póngase en contacto con su distribuidor o proveedor para que le informe sobre el método correcto de eliminación.

Información sobre la eliminación de los productos eléctricos y electrónicos (hogar doméstico)

Este símbolo sólo es válido en la Unión Europea. Si desea desechar este producto, póngase en contacto con su distribuidor o proveedor para que le informe sobre el método correcto de eliminación.

Informação sobre a eliminação dos proprietários de equipamentos elétricos e eletrónicos usados (habitação doméstica)

Este símbolo só é válido no interior da União Europeia. Se desejar desfazer-se deste produto, entre em contacto com as autoridades locais ou com o seu distribuidor para que informem sobre o método correto de eliminação.
**DISPOSAL OF UNIT**

Information for users of electronic and electrical appliances (within the EU)

This symbol is valid only within the EU. Information for users of the EU is available at the nearest point for disposal of electronic and electrical appliances.

**Informacije za uporabnike o odstranitvi odpadne električne in elektronske opreme (zasebna gospodinjstva)**

Ta simbol, ki se nahaja na izdelkih in sličnih priloženih dokumentih, pomeni, da se uporabnik električne in elektronske izdelke ne smejo odstraniti z odvzemljajem. Za primerno odstranjevanje, predelavo in reciklajo vas prosimo, da odnesete te izdelke na ustrezen mestni teden, kjer se odstranjevanje te izdelkov lahko opravi brezplačno.

V nekaterih državah boste lahko vrnilo te izdelke v vašo lokalni prodajalnik ali v naslovni nakupa te izdelka. Pravilno odstranjevanje teh izdelkov bo pomagalo obvarovati druge, ki v neposrednem okolju, ki je lahko nastane pri nepooblaščenem odstranjevanju. Prosim vas, da se za dodatne informacije obrnete na vaše najbližjo zbirko vaj lokalne vmesnice.

**Informacije o odstranitvi v drugih državah, ki so izven Evropske Unije**

Simbol je veljaven samo v Evropski Uniji. Se se želite znebiti tega izdelka varošno, se obrnete na vašega prodajalca ali dobavitelja. Ustrezne informacije in upravljave se na podlagi nacionalnih zakonov za tudi pravilno odstranjevanje.

**Informacije za poslovne uporabnike v Evropski Uniji**

Če ste želeli znebiti električne in elektronske opreme varošno, se obrnete na vašega prodajalca ali dobavitelja. Ustrezne informacije in upravljave se na podlagi nacionalnih zakonov za tudi pravilno odstranjevanje.

**Informacije o odstranitvi v drugih državah, ki so izven Evropske Unije**

Simbol je veljaven samo v Evropski Uniji. Če se želite znebiti tega izdelka varošno, se obrnete na vašega prodajalca ali dobavitelja. Ustrezne informacije in upravljave se na podlagi nacionalnih zakonov za tudi pravilno odstranjevanje.

**Informacije za poslovne uporabnike v Evropski Uniji**

**Informacije o odstranitvi v drugih državah, ki so izven Evropske Unije**

Simbol je veljaven samo v Evropski Uniji. Če se želite znebiti tega izdelka varošno, se obrnete na vašega prodajalca ali dobavitelja. Ustrezne informacije in upravljave se na podlagi nacionalnih zakonov za tudi pravilno odstranjevanje.
The chamber temperature is recorded and maintained by attaching a temperature recorder available as an optional component. For the attachment of a temperature recorder, an optional recorder fixing is necessary.

<table>
<thead>
<tr>
<th>Temperature recorder</th>
<th>Recorder fixing</th>
</tr>
</thead>
<tbody>
<tr>
<td>MTR-0621LH</td>
<td>MPR-S30</td>
</tr>
<tr>
<td>MTR-G04A (AC 100 V to 120 V)</td>
<td>MPR-S7</td>
</tr>
<tr>
<td>MTR-G04C (AC 220 V to 240 V)</td>
<td></td>
</tr>
</tbody>
</table>

Contact our sales representative or agent for the attachment of a temperature recorder. For the usage of the temperature recorder, refer to an instruction manual enclosed with the temperature recorder.

For MPR-1014, the installation is same as for MPR-1014R.

**WARNING**

Always disconnect the power supply plug before installing a temperature recorder in order to prevent electric shock or injury.
Attachment of MTR-0621LH

1. Remove the right bottom shelf (right bottom drawer for MPR-1014R) in the chamber.

2. Unscrew the screw fixing the panel cover at the space for temperature recorder and open the panel cover. [Fig. 1] ▶ The screw has a cap. Remove the cap beforehand.

3. Remove the panel cover from the shaft by pushing the shaft edge to the right and left side respectively. [Fig. 1]

4. Fix the temperature recorder to the frame in the recorder fixing (MPR-S30) referring to the instruction manual enclosed with the recorder fixing. [Fig. 2]

5. Unscrew 2 screws on the air intake vent cover (right side) on the front bottom and then remove the air intake vent cover. [Fig. 3]

6. Remove the putty covering the sensor port and take out the insulation in it. Pass the recorder sensor into the chamber through the sensor port from the space for temperature recorder. [Fig. 4]
7. Fix the recorder sensor to the sensor fixture. [Fig. 5]
   - The center of the recorder sensor should be the center of the sensor fixture.

8. Replace the insulation to the sensor port and cover the sensor port with the putty. Then replace and fix the air intake vent cover by 2 screws.

9. Set the temperature recorder with the frame to the space for temperature recorder. [Fig. 6]

10. Replace the right bottom shelf (right bottom drawer for MPR-1014R) in the chamber.
**Attachment of MTR-G04A or MTR-G04C**

1. Remove the right bottom shelf (right bottom drawer for MPR-1014R) in the chamber.

2. Unscrew the screw fixing the panel cover at the space for temperature recorder and open the panel cover. [Fig. 1] The screw has a cap. Remove the cap beforehand.

3. Remove the panel cover from the shaft by pushing the shaft edge to the right and left side respectively. [Fig. 1]

4. Fix the temperature recorder to the recorder fitting in the recorder fixing (MPR-S7) referring to the instruction manual enclosed with the recorder fixing. [Fig. 2]

5. Unscrew 2 screws on the air intake vent cover (right side) on the front bottom and then remove the air intake vent cover. [Fig. 3]

6. Remove the putty covering the sensor port and take out the insulation in it. Pass the recorder sensor into the chamber through the sensor port from the space for temperature recorder. [Fig. 4]
7. Fix the recorder sensor to the sensor fixture. [Fig. 5]
   ◦ The center of the recorder sensor should be the center of the sensor fixture.

8. Replace the insulation to the sensor port and cover the sensor port with the putty. Then replace and fix the air intake vent cover by 2 screws.

9. Connect the recorder connector to the connector for recorder power located at upper right inside the space for temperature recorder. [Fig. 6]
   ◦ The connector for recorder power has a connector cover. Remove the connector cover before connection.

10. Set the temperature recorder with the channel on the recorder fitting aligned with the shaft and fix the temperature recorder by a screw at the space for temperature recorder. [Fig. 7]
    Then put a cap on the screw removed in procedure 2 on page 38.

11. Replace the right bottom shelf (right bottom drawer for MPR-1014R) in the chamber.
The alarm indicator blinks and the alarm buzzer sounds to notice the power failure when a battery for power failure alarm is installed. For the installation of the battery for power failure alarm, a battery mounting box (MPR-48B1), an optional component is necessary. A battery for power failure alarm is included in the battery mounting box.

- Contact our sales representative or agent for the installation of the battery mounting box (MPR-48B1).

1. Remove the top cover on the right front of the refrigerator top by unscrewing 4 screws. [Fig. 1]

2. Release the harnesses from the clip fixed to the back side of the top cover. [Fig. 2]

3. Pass the harnesses through the bottom opening of the battery box and set the battery box on the right front of the refrigerator top so that 4 screw holes can be aligned. [Fig. 3]

- The battery box should be located with the battery switch faced to the refrigerator back.

4. Put the battery on the right of the battery box. [Fig. 3]
5. Put the battery fixture over the battery and fix the battery box and battery fixture by 4 screws. [Fig. 4]

6. Connect the harness to the battery connector and battery switch [Fig. 5] and bind the harnesses by the clip on the battery fixture. [Fig. 4]

7. Cover the opening beside the battery switch with the top cover removed in procedure 1 (4 screws). The harness in no use is bound by the clip on the back of the top cover.

8. Put the battery box cover over the battery box and fix the battery box cover with screws (3 screws on the right and left). [Fig. 6]

9. Perform the setting for battery through the keys on the control panel of refrigerator. Refer to the procedure on the next page “Setting for battery before starting”.

10. Switch on the battery switch on the battery box.
After installing the optional battery mounting box (MPR-48B1), setting on the main unit is required.

Contact our sales representative or agent for setting.
## SPECIFICATIONS

<table>
<thead>
<tr>
<th>Product name</th>
<th>Pharmaceutical Refrigerator</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MPR-1014</td>
</tr>
<tr>
<td></td>
<td>MPR-1014R</td>
</tr>
<tr>
<td>External dimensions</td>
<td>W1800 mm x D600 mm + (58) mm x H1790 mm</td>
</tr>
<tr>
<td>Internal dimensions</td>
<td>W1700 mm x D465 mm x H1300 mm</td>
</tr>
<tr>
<td>Effective capacity</td>
<td>1033 L</td>
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<tr>
<td></td>
<td>1029 L</td>
</tr>
<tr>
<td>Exterior</td>
<td>Painted steel</td>
</tr>
<tr>
<td>Interior</td>
<td>Stainless steel</td>
</tr>
<tr>
<td>Door</td>
<td>Sliding type, 2-layer pair glass with heat ray reflection film x 2</td>
</tr>
<tr>
<td>Insulation</td>
<td>Rigid polyurethane foamed-in place</td>
</tr>
<tr>
<td>Shelves</td>
<td>Hard steel wire on polyester coating x 10</td>
</tr>
<tr>
<td></td>
<td>Allowable load; 50 kg/shelf</td>
</tr>
<tr>
<td>Drawers</td>
<td>Hard steel wire on polyester coating x 5</td>
</tr>
<tr>
<td>(MPR-1014R only)</td>
<td>Allowable load; 50 kg/shelf</td>
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<tr>
<td>Access port</td>
<td>Inner diameter; 30 mm, Left side</td>
</tr>
<tr>
<td>Cooling method</td>
<td>Forced cool air circulation</td>
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<tr>
<td>Compressor</td>
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<tr>
<td>Fan motor</td>
<td>For chamber cooling; output 3 W x 2</td>
</tr>
<tr>
<td>Evaporator</td>
<td>Fin and tube type</td>
</tr>
<tr>
<td>Condenser</td>
<td>Fin and tube type</td>
</tr>
<tr>
<td>Refrigerant</td>
<td>R-404A</td>
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<tr>
<td>Defrosting</td>
<td>Cycle defrost + forced defrost, Fully automatic</td>
</tr>
<tr>
<td>Defrost heater</td>
<td>141 W</td>
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<tr>
<td>Temperature controller</td>
<td>Electronic control system (control range; between 2 °C and 14 °C)</td>
</tr>
<tr>
<td>Thermometer</td>
<td>Digital thermometer</td>
</tr>
<tr>
<td>Fluorescent lamp</td>
<td>FL40SD (FL40SSECW for MPR-1014-PE and MPR-1014R-PE)</td>
</tr>
<tr>
<td>Alarms</td>
<td>High temp. alarm, Low temp. alarm, 0 °C alarm, Air circulation alarm, Door alarm</td>
</tr>
<tr>
<td></td>
<td>Power failure alarm (with MPR-48B1)</td>
</tr>
<tr>
<td>Remote alarm contact</td>
<td>During alarm buzzer and power failure, Output: N.O.; &quot;close&quot;, N.C.; “open” *</td>
</tr>
<tr>
<td>Weight</td>
<td>246 kg</td>
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<tr>
<td></td>
<td>258 kg</td>
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<tr>
<td>Accessories</td>
<td>1 set of key</td>
</tr>
<tr>
<td></td>
<td>40 shelf stoppers, 10 shelves</td>
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<tr>
<td>Optional components</td>
<td>Temperature recorder (MTR0621LH) and Recorder fixing (MPR-S30)</td>
</tr>
<tr>
<td></td>
<td>Temperature recorder [MTR-G04A (for 100 V to 120 V) or MTR-G04C (for 220 V to 240 V)] and Recorder fixing (MPR-S7)</td>
</tr>
<tr>
<td></td>
<td>Battery mounting box (MPR-48B1)</td>
</tr>
</tbody>
</table>

- Design or specifications will be subject to change without notice.
- The dimension in ( ) shows the projected dimension.
- Refer to the updated catalog when ordering an optional component.
- It is recommended to use cables with a maximum length of 30 meters.
### Performance

<table>
<thead>
<tr>
<th>Product name</th>
<th>Pharmaceutical Refrigerator</th>
</tr>
</thead>
<tbody>
<tr>
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<td>MPR-1014</td>
</tr>
<tr>
<td>Model number</td>
<td>MPR-1014-PT</td>
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<td>MPR-1014-PA</td>
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<tr>
<td></td>
<td>MPR-1014-PK</td>
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<tr>
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<td>MPR-1014-PR</td>
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<tr>
<td></td>
<td>MPR-1014-PE</td>
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<tr>
<td>Temperature control range</td>
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<tr>
<td>Usable ambient temperature</td>
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<td>Noise level</td>
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<td>Maximum pressure</td>
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<td>/335 W</td>
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<thead>
<tr>
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<tbody>
<tr>
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<td>MPR-1014R</td>
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<td>+2 °C to +14 °C</td>
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<tr>
<td>Noise level</td>
<td>42 dB/44 dB (A scale) (50 Hz/60 Hz)</td>
</tr>
<tr>
<td>Maximum pressure</td>
<td>2239 kPa</td>
</tr>
<tr>
<td>Rated voltage</td>
<td>AC 115 V</td>
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<tr>
<td></td>
<td>AC 220 V</td>
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<tr>
<td></td>
<td>AC 220 V/230 V</td>
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<td>Rated frequency</td>
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<td>335 W</td>
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<td></td>
<td>320 W/325 W</td>
</tr>
<tr>
<td></td>
<td>/335 W</td>
</tr>
</tbody>
</table>

- 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 EU directives.
Safety check sheet

1. Unit contents:
   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:
   No contamination: □ Yes □ No
   Decontaminated: □ Yes □ No
   Contaminated: □ Yes □ No
   Others:

3. Instructions for safe repair/maintenance/disposal 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: Pharmaceutical Refrigerator
Model: MPR-
Serial number:
Date of Installation:

Please decontaminate the unit yourself before calling the service engineer.