Kimchi refrigerator
User's Guide
Model: GR-K243UG

Please read this User's Guide carefully before operating and keep it handy for reference at all times.

Service center

Address:
P.O. Box240007
201 James Record Road
Huntsville, AL 35824

Call:
1-800-243-0000

Web:
http://www.lgservice.com
## Advantages of the product

### Easy installation

- With a nice design to fit well with any place in the kitchen, the refrigerator can be installed any location where there temperature is between 5 to 43°C.

### Various food storage capabilities

- You can not only store and ferment Kimchi but also store Chungukjjang and use exclusively for freezing to expand your variety of food to store.

### Storage and seasoning at the same time

- You can separately select to store and season the lid left/right and drawer left/right compartment. (But drawer right compartment is only for storage.)

### Door that is easy to open and close

- With an absorption device attached to the door, the door can be lightly opened and slowly closed to minimize the impact.

### High quality seal type Kimchi storage container

- The Kimchi storage container with high usability and seal will keep the Kimchi flavor fresh. (The shape of the Kimchi storage container can differ depending on the model).

### Strong deodorizing function

- Both left and right compartments have a separately installed "deodorizer" to reduce the smell of Kimchi. When the deodorizing effect is reduced, clean the internal sides of the refrigerator and reuse the deodorizer. (Refer to page 39 for methods on cleaning the refrigerator and reusing the deodorizer.)

### To make a Chungkukjang and a Old Kimchi

- You can easily make and store the Chungkukjang which is good for health.
- You can make the Old Kimchi in a month, which it takes in general a year or longer to ferment

### Door cooling system

- The refrigerant in the inside of the door makes the inside temperature, which became hot due to opening the door, be stable quickly.

### Magic crisper

- With a magic crisper installed on the lid of the vegetable compartment, it will absorb moisture when overly humid and adds moisture when overly dry to keep the freshness of the vegetable.
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This product is exclusively for 115V/60Hz.
Safety precautions must be observed to prevent accident or injury.

Keep this manual in a convenient place where it is readily available for reference.

⚠️ This symbol indicates a warning about a specific event or condition.

⚠️ Warning ➤ Not keeping the instruction may cause severe danger such as death or serious wound. The instruction should be followed.

**When connecting the power**

**Use a dedicated circuit.**
Plugging in several products to the outlet can cause a fire. This can activate the circuit breaker to cause the food to go bad.

**Be sure that the power cord is connected properly and is not pinched by having the appliance pushed against it.**
Do not allow the plug to become damaged or get wet. It could cause a fire or an electrical shock.

**Unplug the appliance when cleaning it. Do not pull the cord or handle the electric cord with damp hands.**
There is a danger of electric shock or fire from short circuit.

**Do not bend the power cord forcibly. Be sure it is not damaged by being under a heavy object.**
The power cord may be damaged and cause a fire or electrical shock.

**When pushing in the refrigerator after unplugging the power plug during installation, make sure the power cord is not crushed or pressed under the refrigerator.**
It can cause a fire or an electric shock.
Do not extend or modify the length of the power plug.
There is a danger of electric shot of fire from electrical damage to the power line.

Unplug the appliance and wipe the cord with a dry cloth and plug it in firmly.
If the cord or plug are dusty or wet, or has a poor connection, it can cause a fire and electrical shock.

Do not damage, process, forcefully bend, pull or twist the power cord.
Damaged power cord can cause a fire or an electric shock.

Ground properly during installation.
It can cause electrical shock in case of a problem or leakage.

When using the refrigerator

Do not use or store fire devices and flammable products (ether, benzene, alcohol, chemical, LP gas, flammable spray, cosmetics etc.) near the refrigerator.
There is a danger of explosion or fire.

Do not use the appliance for any other purpose than home use. (Do not use for storing pharmaceuticals or test material or use for shipping container.)

- This appliance is made for household use only. When it is used as a shipping container, unexpected accidents (electrical shot, fire etc.) may occur as a result of high temperature or moisture, vibration etc.
- When pharmaceuticals are stored for extended periods, their quality may deteriorate.
Safety precautions

When using the refrigerator

Do not store anything that could leak water or other fluid such as flower vase, cup, cosmetics, chemical etc.

It can cause a fire or electrical shock or cause an injury from falling off.

Do not use sharp tools to defrost or remove ice from the appliance.

- The product may be damaged, resulting in fire or electrical shock.
- If the refrigerant is leaked, it can cause problems to the cooling function resulting in overly seasoned Kimchi.

Do not spray water or wipe with benzene, thinner etc. inside or outside the appliance.

It may degrade the insulation of electrical parts and cause an injury, fire or electrical shock.

If gas leaks from the appliance, don’t touch the appliance or its plug, instead ventilate the area immediately.

There is a danger of fire or other damage, as a spark could ignite the gas and cause an explosion.

Only a properly trained service agent experienced in refrigerator should disassemble, repair or modify this appliance.

There is a danger of fire, injury or electrical shock.

When disposing the old appliance, be sure to detach the doors.

Children could accidentally close themselves in an abandoned appliance and suffocate.
Do not install the appliance in a damp place or where water will spatter.
Water will degrade the insulation, posing a shock hazard.

If you smell something burning or see smoke from the refrigerator, immediately unplug the power and contact the service center.
It can cause a fire.

Do not climb on top of the refrigerator or go inside the refrigerator after opening the door.
• The refrigerator may fall over or the person can fall from the refrigerator to get injured. Especially when the refrigerator is installed on the veranda, child can fall from the refrigerator and cause death.
• Child can suffocate when trapped inside the refrigerator.

Do not step on the drawer.
It is dangerous to step on the basket because of accidental basket breaking.

Do not store any drinks in glass bottle.
If you store a drink in glass bottle (alcohol, cider, juice etc.) and the drink freezes, the bottle can break and cause an injury.

Do not lit a candle inside the refrigerator to remove the smell.
There is a danger of an explosion or a fire.

You should always get service before using if the refrigerator has been submersed under water.
It can cause a fire or an electric shock.
**Safety precautions**

**Caution** ▶ It can damage the house or appliance. Always take special caution.

When operating the doors, be sure to avoid placing your hands where the doors could close on them.

The hinge mechanism includes a buffer that causes the door to close automatically when it reaches an angle of 20°. Having your hands in the way could result in injury.

Do not stick your hand or a metal rod on the lid part or under the appliance, climb on the door or go inside after opening the door.

Because the bottom of the refrigerator is a metal place, it can cause an electric shock or injury.
- If you install the refrigerator on the veranda, there is a danger of the child falling off from the veranda.
- There is a danger of a child being trapped and suffocating inside the refrigerator.

Do not put live animal inside the refrigerator.

If the hinge of the door is damaged or not working properly, do not use the doors and contact the service center. Use the refrigerator after getting service from the center.

If the power cord or plug is damaged, or if the outlet is loose, do not plug in.

It can cause an electric shock or short circuit.
### Cautions during use

<table>
<thead>
<tr>
<th>Caution</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Do not overfill the Kimchi storage containers.</strong></td>
<td>As Kimchi is fermented, it increases in volume and the juice can overflow. Also if the container lid is open on one end, the Kimchi will turn sour quickly and mold may form. Fill the container only up to 80% and firmly close the lid. If you use a plastic wrap or clean plastic wrap on top of the Kimchi surface, you can store Kimchi for a longer period.</td>
</tr>
<tr>
<td><strong>Do not pour Kimchi directly into the appliance nor store Kimchi in plastic bags.</strong></td>
<td>If you put Kimchi directly into the appliance, it may freeze, become contaminated, or deteriorate in quality. Always make and store Kimchi only in the containers provided. It can reduce the product performance or cause an electrical shock or fire.</td>
</tr>
<tr>
<td><strong>After storing the Kimchi for 3-4 days, check if there is any spill.</strong></td>
<td>As part of the initial fermenting process, the juice can overflow, in which case you cannot store the Kimchi for a long period of time.</td>
</tr>
<tr>
<td><strong>Do not mix various different types of food in the left or right compartment.</strong></td>
<td>If you select the left compartment to freezing and put frozen food, Kimchi, vegetable/fruit all mixed into it, the Kimchi and vegetable/fruit may freeze.</td>
</tr>
<tr>
<td><strong>Be sure to use enough salt when preparing Kimchi.</strong></td>
<td>The amount of salt significantly affects the fermenting speed. A small amount of Kimchi intended for immediate consumption can be prepared with little salt. But large quantities of Kimchi to be stored for longer periods must contain more salt.</td>
</tr>
<tr>
<td><strong>If you store vegetable/fruit while you are storing Kimchi, be sure to keep them in the fresh vegetable storage container.</strong></td>
<td>Fruits and vegetables may be frozen when stored for a long time or when kept at the maximum storage temperature. Do not store tropical fruits (banana, pineapple etc.) which can go bad at low temperature.</td>
</tr>
<tr>
<td><strong>When putting the Kimchi container into and out of the appliance, hold them gently by the handle.</strong></td>
<td>The floor of the compartment can be damaged from the impact. (The design of the Kimchi containers may be vary among different models.)</td>
</tr>
</tbody>
</table>
Installation method

- **Ground properly during installation.**
  It can cause electrical shock in case of a problem or leakage.

- **Do not install the appliance where it is too hot or is subject to direct sunlight.**
  Install the appliance where the ambient temperature is between 5 to 43°C. If the temperature of the installation location is too high, it can cause problems to the function and change the color of the refrigerator.

- **Maintain a suitable clearance around the appliance.**
  Maintain suitable clearance around the appliance as shown in the figure. If there is insufficient clearance, the appliance performance deteriorates and the electricity cost will increase.

- **Install the appliance on a firm and level floor.**
  If the floor is unstable, the vibration may cause noise and functional failure.
  - If the appliance is not leveled, use the horizontal adjusting leg to level the product.
  - When install the appliance on a carpeted floor or on the wooden floor, place a piece of plywood or similar material underneath to prevent the discoloration.
  - Instable installation may cause to fall the refrigerator to damage you.

- **When pushing the appliance in, make sure the power cord is not pressed by the bottom or back of the product.**
  It can cause fire or electrical shock. If you hang the power cord to the hanger on the back of the product, you will be able to reduce the possibility of the power cord being pressed.

- **When pushing the appliance in, make sure the power cord is not pressed by the bottom or back of the product.**
  It can cause fire or electrical shock. If you hang the power cord to the hanger on the back of the product, you will be able to reduce the possibility of the power cord being pressed.
Ground safely.

Plug the cord into a 115V grounded outlet. If you are unsure of the voltage or grounding integrity, consult a qualified electrician or service person.

- In the event of an electric short circuit, grounding reduces the risk of electric shock by providing an escape wire for the electric current.
- In order to prevent possible electric shock, this appliance must be grounded.
- Improper use of the grounding plug can result in an electric shock.

Caution

- Never ground the appliance to gas pipe, water pipe, lightning rod or a telephone line connector.
- Plastic water pipe does not have the grounding effect.

Do this after installation

- Do this after installation
  Connect the power plug to the dedicated outlet.

- Put in the food.
  Store the food in the refrigerator 3-4 hours after the installation. When storing frozen food, store the frozen food after the power of the refrigerator has been connected for more than 1 day.

- Wait for more than 5 minutes to re-insert the plug right after pulling it out.
  Otherwise, excessive operation of the compressor may cause breakdown.
Moving and voltage changing method

When transporting

Before transportation

- Remove all food from the appliance and secure the Kimchi containers and doors with tape.
- Turn the horizontal adjusting leg counterclockwise ( ) all the way and tighten it.
- Hang the power cord to the hanger on the back of the appliance and tape it.

When transporting

- When sliding and moving the appliance, turn the horizontal adjusting leg counterclockwise ( ) all the way and tighten it. The leg can scratch the floor or become loose to be separated.
- After completing the transportation, turn the horizontal adjusting leg clockwise ( ) to level the balance, and use the left and right side handle to move the appliance.
- When transporting the appliance to a far away location, do not completely lay the refrigerator on the floor to the side. It can cause problems.

- This product is exclusively for 115V/60Hz.
**Name of each part**

**Left door**

**Right door**

**Deodorizer**

**Kimchi storage container**
- Store food in the Kimchi container.
  ※ The size and shape of the Kimchi container may vary among models.

**Drawer left compartment**

**Drawer right compartment**
- When you open the right drawer compartment, the cover is half-opened automatically
  ※ You can move the cover using your Hands.

**Vertical adjustment leg**

**Vegetable freshness storage container**
- If you store food for a long time or store Kimchi in "Max" temperature, the vegetable/fruit can freeze.

**Carrying handle**

**Proper opening/closing method of Kimchi container**

- **When opening**
  Lift all the wings in the arrow direction and open the container.

- **When closing**
  In the opposite way as opening the container, push down all the wings in the arrow direction to close the container. If the direction of the lid is not correct, turn the lid and close the container properly.

**Vegetable freshness storage container**
- Container for storing Kimchi and vegetable/fruit simultaneously in the same compartment.

- **Lid**
  Close the lid tightly.

- **Inner basket**
  Keep vegetables or fruits in the basket.

- **Outer basket**
  Check and empty the outer basket regularly because condensation often collects here.

- **Chungukjang tray**
  Remove the Kimchi container from the drawer left and right compartment and use the tray when fermenting Chungukjang.

**Caution**
If you store food for a long time or store Kimchi in "Max" temperature, the vegetable/fruit can freeze.
Before actually making and storing Kimchi, read and understand the name and function of each button.

To use the DIOS Kimchi Refrigerator, you must press the **Lock/Unlock** button for more than 2 seconds until the "Unlock" button below the lock lights up.

Before using any function, you must press the **Lock/Unlock** button for more than 2 seconds until the "Unlock" button below the lock lights up. When you are finished with the settings in the Unlock status, press the **Lock/Unlock** button until the "Lock" button below the lock lights up to set to Lock status.

In Lock status, when you press any function button, the light next to the Lock LED will blink 3 times. If you do not press any button for more than 60 seconds in Unlock status, it will automatically switch to Lock status.

This prevents any unintended changes of setting from children.

- Before using any function, you must press the **Lock/Unlock** button for more than 2 seconds until the "Unlock" button below the lock lights up.
- When you are finished with the settings in the Unlock status, press the **Lock/Unlock** button until the "Lock" button below the lock lights up to set to Lock status.

This button sets the storing food and storing temperature for each compartment.

- For lid left compartment, you can select **Kimchi/Vegetable/Fruit/Freeze**.
- For lid right compartment, you can select **Kimchi/Vegetable/Fruit/Light Freeze**.
- For drawer left compartment, you can select **Kimchi/Broth kimchi/Chungukjang**.
- For drawer right compartment, you can select **Vegetable/Fruit/Rice**.

You can select min>mid>max by each food storage. (Refer to "Storing Cabbage Kimchi/Old Kimchi/Radish Kimchi/Mul Kimchi" in page 16 for details.)

This button maintains the delicious Kimchi fresh.

- If you feel that the flavor is right during the storing and fermenting process of the Kimchi, you can press the Flavor Keeping button to keep the current flavor of the Kimchi for a longer period of time.
- The selection is available only when storing and maturing kimchi - such as chinese cabbage kimchi, radish kimchi, watery radish kimchi - at the left and right lid-compartment.
The color of the display may vary depending on the model.

**more than 2 seconds to unlock the control.**

**- Using method**

**This button selects the degree of seasoning for the Kimchi.**
- For lid left and right compartment, you can select **Cabbage Kimchi/Radish Kimchi/Broth Kimchi**
- For drawer left compartment, you can select **Cabbage Kimchi/Broth Kimchi/Old Kimchi/Chungukjang**
- Drawer left compartment does not have a fermenting function for Radish Kimchi.
- Drawer right compartment does not have a fermenting function.
- Underground fermentation can only be selected for radish Kimchi.
- Select the right temperature according to the type of food to store and the degree of saltiness of the Kimchi.

**You can turn on/off the power of lid left/right compartment and drawer left/right compartment.**
- When turning off the power of the selected compartment, press the Lock/Unlock button for more than **2 seconds** until the "Unlock" letter lights up. Then press the Power button for more than 2 seconds until the power of the selected compartment is turned off with up.
- To turn on the power, press the Lock/Unlock button for more than 2 seconds until "Unlock" button lights up and the lightly press the power button.

- To use the functions of the Kimchi refrigerator you must always change to Unlock status using the Lock/Unlock button. Always check left or right of which compartment to store or ferment the food.
  For example, if you want to ferment the Kimchi in the lid left compartment, store the Kimchi in the lid left compartment and press the Ferment button after selecting the lid left compartment.
**Storing Kimchi**

When you connect the power, you can store the Kimchi at standard temperature without any setting.

**To store Cabbage Kimchi**

1. Press the **Lock/Unlock** button for more than 2 seconds.

   - Press the ‘Lock/Unlock’ button **more than 2 seconds.** The lamp above the Lock/Unlock button is turned off, and the control becomes unlocked. Then, other functions can be operated.

2. There are about 200 types of Korean Kimchi.
   The optimal storing temperature differs by the Kimchi type and the seasoning used for the Kimchi. Adjust the temperature of "Min", "Mid" and "Max" depending on the type and condition of the Kimchi.
2

Press the **Store** button.

- Select the desired Kimchi type and storing stage by pressing the "**Store**" button. Every time you press the button, the menu will switch as follows.

  **Left door**
  
<table>
<thead>
<tr>
<th>Kimchi</th>
<th>Vegetable/Fruit</th>
<th>freeze</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mid → Max → Min</td>
<td>Mid → Max → Min</td>
<td>General → Strong freeze → Light freeze</td>
</tr>
</tbody>
</table>

  **Right door**
  
<table>
<thead>
<tr>
<th>Kimchi</th>
<th>Vegetable/Fruit</th>
<th>freeze</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mid → Max → Min</td>
<td>Mid → Max → Min</td>
<td>Light freeze : Mid → Max → Min</td>
</tr>
</tbody>
</table>

  **Drawer left compartment**
  
<table>
<thead>
<tr>
<th>Kimchi</th>
<th>Broth Kimchi</th>
<th>Chungukjang</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mid → Max → Min</td>
<td>Mid → Max → Min</td>
<td>Mid → Max → Min</td>
</tr>
</tbody>
</table>

  **Drawer right compartment**
  
<table>
<thead>
<tr>
<th>Vegetable/Fruit</th>
<th>Rice</th>
<th>Chungukjang</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mid → Max → Min</td>
<td>Mid → Max → Min</td>
<td>Mid → Max → Min</td>
</tr>
</tbody>
</table>

- Select the right temperature according to the type of food to store and the degree of saltiness of the Kimchi.

3

Press the **Lock/Unlock** button again.

- Press the **Lock/Unlock** button for more than **2 seconds**.

  The letter below the lock changes from "Lock" to "Unlock" to enable other functions.
Rhythm fermenting (seasoning)
Cabbage Kimchi/Radish Kimchi/Broth Kimchi

Caution
If you select the rhythm ferment (seasoning), the storing period will be shorter than selecting store. Seasoning and rhythm fermenting are the same function.

To ferment Cabbage Kimchi

1. Press the Lock/Unlock button for more than 2 seconds.
   - Press the ‘Lock/Unlock’ button more than 2 seconds. The lamp above the Lock/Unlock button is turned off, and the control becomes unlocked. Then, other functions can be operated.

   - To ferment two types of Kimchi in one compartment
     If you ferment two types of different Kimchi in one compartment, they can be under-fermented or over-fermented. Therefore in this case, select the type that is fermented faster. Generally, Kimchi is fermented in the order of Broth Kimchi → Cabbage Kimchi → Radish Kimchi.

   - If you operating the fermenting function several times, the Kimchi will be too sour.
     Because operating the fermenting function several times can make the Kimchi too sour, operate the rhythm fermenting function only once. Generally, Kimchi is fermented in the order of Underground Ferment → Fresh → Standard → Mature.

   - About underground fermenting
     This is the fermenting method of bringing out the deep taste of Kimchi by storing the Cabbage Kimchi underground during the cold winter.

   - To ferment the Kimchi more
     Select Standard or Mature for fermenting.
Press the Ferment Button

- Select the type of Kimchi and the fermenting stage by pressing the Ferment button.
- Every time you press button, the menu will switch as follows.

**Cabbage Kimchi (total 6 stages):**

**Radish Kimchi, Broth Kimchi (total 5 stages):**

**Old Kimchi, Chungukjang (total 3 stages):**

- For lid left and right compartment, you can select Cabbage Kimchi/Radish Kimchi/Broth Kimchi.
- For drawer left compartment, you can select Cabbage Kimchi/Broth Kimchi/Old Kimchi/Chungukjang.
  (Drawer left compartment does not have a Radish kimchi fermenting function)
- Drawer right compartment does not have a fermenting function. It is only for storing.
  ※ The underground fermenting function of the Cabbage Kimchi can only be selected in the lid left and right compartment.
  ※ Select the right fermenting stage according to the type of food to store and the degree of saltness of the Kimchi.

Press the Lock/Unlock button again.

- Press the Lock/Unlock button when you are done with the setting.
  The letter below the lock changes from "Unlock" to "Lock" to start Kimchi Storage.
Storing the flavor of Kimchi

This function maintains the current flavor of the stored Kimchi for a long time. (This can only be selected for Kimchi (Cabbage Kimchi, Radish Kimchi, Broth Kimchi) in lid left/right compartment.)

To store the Kimchi with Flavor Keeping

Press the Lock/Unlock button for more than 2 seconds.

- Press the Lock/Unlock button for more than 2 seconds.
  The letter below the lock changes from "Lock" to "Unlock" to enable other functions.

To cancel the rhythm fermenting easily

- You can do one of the two following methods to cancel the fermenting function already selected.
  1. Press the Flavor Keeping button. (This will cancel the fermenting process and start the flavor keeping process.)
  2. Press the Store button.

When the seasoning process is complete

- When the seasoning process is complete, the remaining time will show "0 hours" and the temperature will be set to "Mid" for the selected Kimchi type.
- When the fermenting process is complete, press the Lock/Unlock button to turn off the LED showing "Remaining 0 hours".

※ The button shape of display could be changed for the better performance.
2

Press the **Flavor Keeping** button.

- If you press the Flavor Keeping button, the "**Flavor Keeping**" button will light up.
- Flavor Keeping can only be selected for Kimchi (Cabbage, Radish and Broth Kimchi) and not for Vegetable/Fruit, Light Freezing and Freezing.

3

Press the **Lock/Unlock** button again.

- Press the **Lock/Unlock** button when you are done with the setting.
- The letter below the lock changes from "Unlock" to "Lock" to start **Flavor keeping**.
Using method of operating control parts

Storing vegetable/fruit, light freezing, freezing food and storing rice

**Vegetable/Fruit**
~ This function stores the vegetable/fruit fresh for a long time.

**Light freezing**
~ This is good for storing raw fish or meat to eat within 10 days.

**Freezing**
~ This is good for freezing food to store for a long time or frozen food.

**Rice**
~ You can store rice as the newly cropped taste with no bugs.

※ The button shape of display could be changed for the better performance.

1. Press the **Lock/Unlock** button for more than 2 seconds.
   - Press the **Lock/Unlock** button for more than 2 seconds.
   - The letter below the lock changes from "Lock" to "Unlock" to enable other functions.

What is the "Light freeze" function?
- What is the "Light freeze" function?
  It is the convenient function by reducing the cooking time while storing the food to eat within a short time such as meat and fish at about -5°C and quickly thawing.
  (You should eat food as soon as possible because the food can not be stored for a long time at the "Light freeze" function.)
2 Press the Store button.

- Select the desired Kimchi type and storing stage by pressing the "Store" button.
- Every time you press button, the menu will switch as follows.

Left door
Kimchi : Md → Max → Min → Vegetable/Fruit : Md → Max → Min → freeze: General → Strong freeze → Light freeze
Right door
Kimchi : Md → Max → Min → Vegetable/Fruit : Md → Max → Min → Light freeze : Md → Max → Min
Drawer left compartment
Kimchi : Md → Max → Min → Broth Kimchi : Md → Max → Min → Chungukjang : Md → Max → Min
Drawer right compartment
Vegetable/Fruit : Md → Max → Min → Rice : Md → Max → Min

• The left drawer is dedicated for storing Kimchi/Watery radish Kimchi/Cheonggukjang (bean paste soup).

※ Select the right temperature according to the type of food to store and the degree of saltiness of the Kimchi.

3 Press the Lock/Unlock button again.

• Press the Lock/Unlock button when you are done with the setting. The letter below the lock changes from "Unlock" to "Lock" to start storing the selected food.
Caution during vegetable/fruit and light freezing, rice storage

Note the following when storing vegetable/fruit

- **To store vegetable or fruit for a long time**
  
  Because washed vegetables can turn bad easily, do not wash the vegetable before storing. Because leaf vegetables (sesame leaves, lettuce etc.) cannot be stored for a long time, wrap them in a newspaper or a sealed container to increase their storage period.

- **Do not put in tropical fruits.**
  
  Do not store tropical fruits (banana, pineapple etc.) which can go bad at low temperature.

- **To store vegetable/fruit when storing Kimchi, store the vegetable/fruit in the vegetable freshness container.**
  
  If you store food for a long time or store Kimchi in "Max" temperature, the vegetable/fruit can freeze.

Note the following when storing food in light freezing

- **About light freezing function**
  
  If you store meat or fish in light freezing function, you can store it longer than an average refrigerator. And because it is lightly frozen, the defrosting time is reduced for cooking.

  - Store only food that you will consume within 10 days in the light freezing function and freeze the rest of the food.
  - You can cook it fresh when stored for less than 10 days.

    ※ If you need defrosting for meat or fish depending on the stored period, leave it for 10 to 30 minutes before cooking.

⚠️ **Caution** If you store Kimchi, vegetable or fruit in light freezing, they can all freeze.
Note the following when storing rice

- **When storing rice in drawer right compartment**
  During the humid rainy period in summer, dew drops can form on the cover of the drawer storage container in the drawer compartment. When this happens, wipe them off with a dry cloth.

- **Rice is very sensitive to humidity.**
  When the power is turned off temporarily from a power outage or for cleaning, check if there is any water within the rice storage compartment and wipe it off with a dry cloth.
Using method of operating control parts

Fermenting Chungukjang

You can easily make Chungukjang that is good for your health. To ferment the Chungukjang well, you have to ferment the completely boiled soybeans in the drawer left compartment. For more details, refer to page 32 (How to make delicious Chungukjang)

To ferment the Chungukjang in the drawer left compartment

The button shape of display could be changed for the better performance.

Press the Lock/Unlock button for more than 2 seconds.

Press the Lock/Unlock button for more than 2 seconds.
The letter below the lock changes from "Lock" to "Unlock" to enable other functions.

When fermenting Chungukjang in the drawer left compartment

- After putting boiled soybean (maximum of 500g) in the tray and remove the Kimchi container of the drawer left compartment. Put in the tray and tray cover, and close tightly.

When fermenting Chungukjang is complete

- The remaining time of "0 hours" is shown.
- When the fermenting is complete, it is automatically stored. But if you want to store for a long period of time, wrap the Chungukjang and store it in Freeze.

To ferment Chungukjang well

- Boil soybeans completely for 5-6 hours and cool to about 40℃. Then put the beans in the tray to ferment the beans. Be careful not to drop the water drops formed on the cover of the tray to the beans when opening and closing the drawer.
For more details on fermenting the Chungukjang, refer to page 32 (How to make delicious Chungukjang).
Press the **Store** button.

- Select one from Fresh>Standard>Mature (3 stage) degree of Chungukjang by pressing the **Ferment** button.
- Every time you press the button, the menu will switch as follows.

**Cabbage Kimchi (total 5 stages):**

- **Broth Kimchi (total 5 stages):**

- **Old Kimchi, Chungukjang (total 3 stages):**

※ Drawer left compartment does not have the Cabbage Kimchi underground fermenting function and Radish Kimchi fermenting function.

※ The more the Chungukjang is fermented, the stronger the taste and smell.

---

Press the **Lock/Unlock** button again.

- Press the **Lock/Unlock** button when you are done with the setting.

The letter below the lock changes from "Unlock" to "Lock" to start fermenting Chungukjang.

---

**Cautions when fermenting Chungukjang**: (Do refer to page 32 (How to make delicious Chungukjang) for more details.)

- To ferment Chungukjang well, the quality of soybeans, boiling soybeans, removing moisture appropriately and cooling temperature (40℃) are very important.
- For the Chungukjang soybeans, avoid old beans and imported beans and use newly cropped domestic beans.
- For boiling the soybeans, boil soybeans in strong fire for 30 minutes and in weak fire for 5-6 hours until the color is dark brown and sticky. When it is completely boiled, the shape of the bean is maintained but is crushed when slightly pressed.
- When the dew drops from the cover of the tray falls on the beans during the fermenting process of Chungukjang, the sticky resin (bacteria) on the Chungukjang melts. Therefore when open/closing the drawer or when removing the tray, be careful not to shake it.
Fermenting the Old Kimchi

You can taste a nicely salted and acidulous Old Kimchi. If you ripen the Kimchi made more saltily and with less subsidiaries, (red pepper powder, garlic, etc.) you can get the tastily Old Kimchi.

Please refer to page 34 (How to make delicious the Old Kimchi) for details.

※ The period to ripen the Old Kimchi is around a month (23-30 days) which is longer than generally ripe Kimchi.

※ The Old Kimchi would not be tasty to the person who does not like an acidulous taste because it is more acidulous than the generally ripe Kimchi.

To ferment the Old Kimchi

To ferment the Old Kimchi, you can press the Lock/Unlock button for more than 2 seconds. The letter below the lock changes from "Lock" to "Unlock" to enable other functions.

Cautions when fermenting the Old Kimchi

- It takes long time, around 23 ~ 30 days, for the Old Kimchi to be fermented. If the power is off or the door opens during fermentation, the taste of the Old Kimchi would be changed.

- You should make the Old Kimchi with the cabbage for winter reservation and be a little more salty to lessen that the tissues of cabbages get flabby and that it smells stale. (the salinity of a general Kimchi: 2.0~2.5 %, the Old Kimchi: 3.5~5 %) To put too much subsidiaries such as red peppers, etc. can hinder lactobacillus' activity and the Kimchi can be unripe. Please refer to page 34 (How to make delicious the Old Kimchi) for how to make the Old Kimchi.

- When completing the fermentation of the Old Kimchi, the remaining time becomes to "0" and the status is automatically changed to under the "storage of the Old Kimchi".
2

Press the Store button.

- Select one from Fresh>Standard>Mature (3 stage) degree of Old Kimchi by pressing the Ferment button.
- Every time you press the button, the menu will switch as follows.

Cabbage Kimchi (total 5 stages):

Broth Kimchi (total 5 stages):

Old Kimchi, Chungkukjang (total 3 stages):

※ Drawer left compartment does not have the Cabbage Kimchi underground fermenting function and Radish Kimchi fermenting function.

※ To select the “Fermentation of the Old Kimchi, makes the kimchi which has much higher acidity level than the general fermentation of a Kimchi (Cabbage Kimchi, Radish Kimchi, Broth Kimchi). Please select the step what you want.

3

Press the Lock/Unlock button again.

- Press the Lock/Unlock button when you are done with the setting.

The letter below the lock changes from "Unlock" to "Lock" to start fermenting the Old Kimchi.

After Fermentation of the Old Kimchi or the Chungkukjang...

- Because the Old Kimchi or the Chungkukjang is, in general, fermented much more than a general fermented food, during or after fermenting, it can smell of the Old Kimchi or the Chungkukjang. So, After fermenting, please clean containers (Kimchi boxes, Chungkukjang tray, etc.) and wash the inside of the drawer with detergent to reduce smell.
Using method of operating control parts

Storing Chungukjang

To store Chungukjang in drawer left compartment

1. Press the Lock/Unlock button for more than 2 seconds.
   - The letter below the lock changes from "Lock" to "Unlock" to enable other functions.

2. Press the Store button.
   - Select the desired storing stage of Chungukjang by pressing the "Store" button.
   - Every time you press the button, the menu will switch as follows.

3. Press the Lock/Unlock button again.
   - The letter below the lock changes from "Unlock" to "Lock" to start storing Chungukjang.

※ The button shape of display could be changed for the better performance.
Storing the Old Kimchi

To store the Old Kimchi in drawer left compartment

※ The button shape of display could be changed for the better performance.

1. Press the Lock/Unlock button for more than 2 seconds.
   - Press the Lock/Unlock button for more than 2 seconds.
   - The letter below the lock changes from "Lock" to "Unlock" to enable other functions.

2. Press the Store button.
   - Select the desired storing stage of Chungukjang by pressing the 'Store' button.
   - Every time you press the button, the menu will switch as follows.
     - Kimchi : Mid ➔ Max ➔ Min
     - Broth Kimchi : Mid ➔ Max ➔ Min
     - Chungukjang : Mid ➔ Max ➔ Min

3. Press the Lock/Unlock button again.
   - Press the Lock/Unlock button when you are done with the setting.
   - The letter below the lock changes from "Unlock" to "Lock" to start fermenting the Old Kimchi.
How to make delicious Chungukjang and general knowledge about Chungukjang

How to make delicious Chungukjang

1 Prepare ingredients (soybeans)

Domestic soybeans (raw, Baktae) 500g, large cooker, Chungukjang tray

※ Some imported or old soybeans with preservatives may not be fermented.

2 Soak soybeans

Wash the beans in clean water for one or two times.
Be careful not to damage the beans when washing.
Put 500g of soybean in the large cooker and put in 3-4 times the water.
The soaking time may differ depending on the water temperature.
Chungukjang is fermented better when boiled after soaking for a certain time.

<table>
<thead>
<tr>
<th>Season</th>
<th>Winter</th>
<th>Spring/Fall</th>
<th>Summer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water temperature</td>
<td>0~5℃</td>
<td>10~16℃</td>
<td>18~25℃</td>
</tr>
<tr>
<td>Soaking time</td>
<td>12 Hours</td>
<td>9 Hours</td>
<td>6 Hours</td>
</tr>
</tbody>
</table>

<What are well cooked beans?>

◆ When the soybeans are well cooked, the color turns to dark brown and the water will be sticky.
◆ Even though the shape of the bean is maintained, it will be easily crushed once pressed.
◆ Boiled beans are very tasty.

3 Boil beans

Boil hard in strong fire for 30 minutes and with the lid slightly open, boil another 5-6 hours in weak fire until water becomes sticky. If more water is needed during the boiling process, add some warm water.

※ If the beans are not completely cooked to the inside, the bacillus will not act and not ferment the beans.
When the beans are well cooked, turn off the fire and leave it for about 20 minutes. At this time mix the beans until some bubbles form on the top.

4 Cool the soybeans and ferment Chungukjang

Drain the soybeans on the tray and cool it in room temperature for about 15 minutes (bean temperature of 40 ℃). After shaking and mixing for 2 to 3 times, pour them in the drawer left compartment of the Kimchi refrigerator. (When you try to ferment hot soybeans, it will not work because they have too much moisture.)

At this time, have the Kimchi container removed from the drawer left compartment of the Kimchi refrigerator and set it to Chungukjang storage. When you pour the soybeans in the compartment, immediately change the setting to fermenting Chungukjang.
**5 Store Chungukjang**

When the Chungukjang is fermented (35 to 42 hours), the remaining time will be shown as "0 hours", and it will automatically switch to Chungukjang storing in "Mid" temperature. When the fermenting process is complete, store the Chungukjang in the storage container and leave it in the drawer left compartment. When Chungukjang is done, wash the tray and basket, and wipe the inner part of the drawer with a neutral cleaner to reduce the Chungukjang smell. If you want to store Chungukjang for a long period of time, wrap the Chungukjang in a wrap and keep it at Freeze.

**Caution**

- If you open the drawer during fermenting, it can affect the temperature and humidity, and the soybeans may not be fermented.
- When open/closing the drawer, be careful not to shake the tray. (When the dew drops from the cover of the tray falls on the beans during the fermenting process of Chungukjang, the sticky resin (bacterial) on the Chungukjang melts, to stop the fermenting process.)
- If the soybeans are not cooked well, the bacillus will not penetrate deep inside the beans and may be ferment the beans. Refer to General knowledge about Chungukjang below for the condition of well cooked soybeans.

**General knowledge about Chungukjang**

**Effective Chungukjang diet**

As the function of Chungukjang is highly evaluated, people are eating more Chungukjang. But as the old saying goes, less is better than too much. It is recommended that you eat an appropriate amount. On a daily basis, 1 to 2 large spoonful of Chungukjang (10-20g) is an appropriate amount to eat. Even though there are many ways to cook Chungukjang, it is most effective to eat raw Chungukjang as it is. When making Chungukjang soup, only put in half while boiling and put the rest after you turn off the heating so that the bacillus stays alive.

**Condition of completely fermented Chungukjang**

The condition of the completely fermented Chungukjang differs by the quality of soybean, cooked level and fermenting process. Successfully fermented Chungukjang has the following characteristics.

- There is no resin but the surface of the bean turned white.
- Where there is resin that forms strings and disappear
- When the resin is sticky like pizza cheese
1 **Preparation of materials**

Please prepare basic materials such as Cabbages for winter reservation, red pepper powder, mashed garlic, mashed ginger, green onion, pickled anchovies (a little), pickled shrimps, salt, etc. The ratio of subsidiaries is according to the table on the right. Basically, the Old Kimchi should be made more saltily than the general Kimchi.

**Caution**

- You should use the cabbage for winter reservation. If you use the summer cabbage, you can not taste the Old Kimchi because the cabbage gets flabby.
- To put too much subsidiaries such as red peppers, etc. can hinder lactobacillus’ growth and the Kimchi can be unripe.

<table>
<thead>
<tr>
<th>Material</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cabbage</td>
<td>130 (pickled cabbage 100)</td>
</tr>
<tr>
<td>Red pepper powder</td>
<td>4.5</td>
</tr>
<tr>
<td>Mashed garlic</td>
<td>2.5</td>
</tr>
<tr>
<td>Mashed ginger</td>
<td>0.7</td>
</tr>
<tr>
<td>Green onion</td>
<td>2.0</td>
</tr>
<tr>
<td>Pickled anchovies</td>
<td>5.0</td>
</tr>
<tr>
<td>Pickled shrimps</td>
<td>4.0</td>
</tr>
<tr>
<td>Salt</td>
<td>0.6</td>
</tr>
</tbody>
</table>

The Salinity of pickled anchovy: 25% (Degree of Salinity)

2 **How to make the Old Kimchi**

1) **To pickle cabbages with salt (Salinity after pickling: 2.0-2.2%)** – same as the way of making the general Kimchi.

   ① Cut cabbages into two equal parts
   ② Using water twice as heavy as cabbages, make the salt water including 8% of salt (amount of general salty water)
   ③ Immerse the cabbages equally divided in salt water for 12~15 hours and scatter some salt in the inner part of the cabbages.
      (Please use more salt to scatter in the inner part of the cabbages than that that for the general Kimchi.)

2) **To make Kimchi**

   ① Wash the pickled cabbages with water and remove water from the cabbages for 1 hour.
   ② Make the other materials except cabbages and leave them for around 10 minutes. (Fermenting process of seasoning)
   ③ Apply evenly the seasoning to all the corners of the cabbages.
   ④ Put them in the Kimchi container of the left section of the drawer. Arrange the cutting side up to prevent the seasoning from flowing out from the cabbages. (press firmly because the less room the better)
   ⑤ Cover the Kimchi with cabbage leaves salted not long before eating.

3) **Fermentation of the Old Kimchi (ripening)**

   ① Put the Kimchi container in the left section of the drawer and select the “Fermentation of the Old Kimchi”.
   ② When completing the fermentation of the Old Kimchi, the remaining time becomes to “0” and the status is automatically changed to under the “storage of the Old Kimchi”.
   ③ If you think that the Old Kimchi is unripe, you can execute the fermentation of the Old Kimchi once more.

What is the Old Kimchi?

This is the Kimchi which is fully ripened in the pot at least for one year up to 5 years. It tastes of nicely salty, acidulous, bitterish, and deeply flavorous. And, the acidity level is around 1.0% which is much higher than the general Kimchi.
**Proper food storage**

**Set the proper temperature for food storage.**

If you select Fresh, Standard and Mature function for the Kimchi storage, it will turn sour fast. When setting the storage temperature to “Max”, it can make some types of Kimchi to freeze. Therefore you check it frequently depending on the type of Kimchi. If you store other types of food with Kimchi in one compartment, there are cases when the other type of food freezes.

**Keep Kimchi in the Kimchi container**

When using the Kimchi container, fill it up to the line so that the juice does not get spilled over and before sure to close the lid tightly to reduce any exposure to air. This will help prevent Kimchi from turning sour and forming molds on the surface. Also you can prevent this by covering the surface of the Kimchi by using the outer cabbage leaves or clean plastic wrap.

**Store vegetables and fruits in the designated container.**

Because some vegetables and fruits can be damaged by the coldness, store them in the designated container. Because washed vegetables can turn bad faster, do not wash the vegetables before storing.

Do not store tropical fruits (banana, pineapple etc.) which can go bad at low temperature.

**Cool down hot food before putting it into the appliance**

If you put hot food into the appliance, it will raise the temperature and accelerate the seasoning of the Kimchi, and also increase the electricity consumption.

**To store the Kimchi for a long period of time**

Put the Kimchi in the Kimchi container right after making it and use the storage function to store. Depending on the type of Kimchi and saltiness, Set the storing temperature among "Min", "Mid" and "Max". When storing the Kimchi for a long time, keep the Kimchi submerged.
General knowledge about Kimchi

The seasoning process begins with adding salt.
Fermentation begins when salt is added to the Kimchi. Various substances within the cabbage and other vegetables begin to ferment and proteins are decomposed in the process. Thus, Kimchi will ferment and be seasoned even at low temperature. This is how Kimchi is slowly seasoned during the cold winter time.

Kimchi depending on the types of spices
The integrated taste of Kimchi is from the different types of spices, such as leek, garlic, ginger, pepper powder etc.

Everything in Kimchi affects the seasoning speed
Garlic, seafood (oyster, lobster, croaker, fish etc.), onion, pepper powder, cucumber, thin leeks etc. accelerates the seasoning process. Especially, if you add oyster, rice paste or salted shrimp, the seasoning speed will increase rapidly. Conversely, adding leek, leaf mustard, ginseng etc., will cause the seasoning process to slow down.

Kimchi begins to season as soon as it is made
Kimchi will turn sour if it is in contact with air and mold will form on it. This occurs when the Kimchi is not soaked in juice or when it is not salty enough. You can prevent this by making the Kimchi soak below the juice or block the exposure to air.
The effect of temperature on making Kimchi

The ambient temperature affects the seasoning process. Kimchi stores well and keeps its taste well at temperature below 10°C.

To store Kimchi for a long period of time

Because Kimchi is a live food, it will go bad after a long period of time, but scientifically to extend the storage of Kimchi, you need to store it in low temperature (near 0°C) and make it saltier. And if you store the Kimchi submerged in the juice and cover it with a clean plastic wrap or with fresh vegetables on top of it, you can extend the period of storing the Kimchi by reducing oxidation.

Selecting cabbages for Kimchi

There are over 50 varieties of cabbage. Round heads make better Kimchi than the long, thin heads. The soft, white inner leaves and soft outer leaves of light green and light blue colored are the most desirable.

Select the right type of radish

There are many types of radish Kimchi. For a radish used to spice a cabbage Kimchi, Chosun radishes are superb. Select a radish that has a large root and is moist. To make Chonggak Kimchi, use a Seoul (Nehrubak) radish. They should be thick near the tips, round, small, and hard. Many types of radish can be sliced and added to any Kimchi to improve the flavor. The radish of which the upper part is white is more desirable than blue.

For Broth Kimchi, use a conventional radish. Select radishes with smooth leaves whose upper parts are white.
Cleaning instructions

● Before cleaning
For safety always unplug the appliance before cleaning it.

● Cleaning the outside
Wipe with a damp cloth. Use a neutral, non-abrasive detergent. Always wipe with clean cloth after using neutral detergent. Don’t use abrasive, petroleum-based cleaner, benzene, lacquer thinner, hydrochloric acid, boiling water or a stiff or wire brush. These and similar items will damage the outer case of your appliance.

● Kimchi container lids
Clean it after removing the rubber packing within the lid. Re-install the rubber packing after cleaning. Do not boil the kimchi bowl or the cover in water at 50°C or hotter.

● Cleaning the inside
Do not use a sharp object to remove ice. If ice forms inside the appliance and you cannot get the containers loose, remove as much as you can and then turn the appliance off. Leave the door open and the ice will melt very quickly. Then proceed with cleaning. Wipe the inside with a dry cloth to remove all moisture.

Do not use other measures or instrument to defrost the inside of the refrigerator. It may cause risk such as fire.

● Cleaning the door packing
The door packing can be damaged easily from juice from food, fruit juice and Kimchi juice. Wipe the packing and its sealing surface regularly with a damp cloth.
How to reuse the deodorizer

Press the back latch of the deodorizer cover and pull up the cover. Open the cover and remove the deodorant block. Dry it with a hair dryer or leave it in the sun for a couple of hours. Replace the deodorant block into the hold and close the cover. (The odor leaves the deodorizer block and it can be reused.)

After cleaning

Plug the power plug. Check if there is any damage to the cord or if there is any heating on the plug.

After Fermentation of the Old Kimchi or the Chungkukjang...

Because the Old Kimchi or the Chungkukjang is, in general, fermented much more than a general fermented food, during or after fermenting, it can smell of the Old Kimchi or the Chungkukjang.
So, After fermenting, please clean containers (Kimchi boxes, Chungkukjang tray, etc.) and wash the inside of the drawer with detergent to reduce smell.
Kimchi flavor

Kimchi freezes

The storing temperature of Kimchi is around 0°C. The freezing temperature changed according to type of Kimchi, spices, amount of salt etc. At this time, low the storing temperature of the Kimchi.
- If the storing temperature is "Max", set to "Mid" or "Min".
- If the storing temperature is "Mid", set to "Min"

Kimchi turns sour fast

If you select rhythm fermenting function for Kimchi storage, it can turn sour fast. At this time cancel the rhythm fermenting and select storage or flavor keeping function. Kimchi also turns sour fast if the storing temperature is high. At this time, adjust the temperature. The storing temperature is lower from Min → Mid → Max. Also the seasoning speed can differ by the type of Kimchi, spices, temperature of the day Kimchi was made etc.

Kimchi is soft

If you put too little salt in the Kimchi, the color of the Kimchi may look good but from the yeast effect, the Kimchi becomes soft. Also the seafood sauce can accelerate the seasoning speed and make the Kimchi softer.

The color of Kimchi is dark

If you store Kimchi for a long period of time, Kimchi starts to turn darker due to oxidation. To maintain the color of Kimchi for a long time, put a clean plastic wrap to cover the Kimchi within the container.

White mold forms on the surface of and the outer cabbage of Kimchi.

If you do not close the container lid tightly, it will be exposed to air to form white yeasts on the Kimchi or on the outer cabbage of Kimchi. You can prevent this by putting a plastic wrap or bag on the surface of the Kimchi.
Icing, dew, ice, water, mold

There are dew drops forming outside the refrigerator.

This is the same effect as water forming on a cold glass of water. If the refrigerator is installed at a humid location or during the rainy season when it is hot and humid, sometimes the dew drops form on the outer side of the refrigerator. This happens when it is very humid, so just wipe it out with a dry cloth.

There are dew drops or icing on the inner side of the refrigerator and water is collected below the refrigerator.

- This happens when icing or dew drops are formed from the difference between the internal and external temperature, and it is a natural phenomenon of direct cooling type. Just wipe it off with a dry cloth from time to time.
- When removing the icing, do not use any sharp objects (ex, ice pick, and knife).
- If the icing is blocking the way to take out the container, turn off the power, empty the compartment and leave the door open to quickly melt the icing.

Ice is formed on the lid of the Kimchi container.

Running the refrigerator at optimal temperature to store Kimchi for a long period of time can sometimes make the water drops freeze on the lid. Be safe because it is not a problem.

There is some moisture inside the Kimchi refrigerator that was delivered.

The moisture or dew drops formed inside the delivered Kimchi refrigerator is from the production process and performance test. It has no relevance to whether the product was used or whether there is a performance issue.
When the boiled soybeans are heated, moisture within the soybean comes out to form water drops on the cover, which is normal. Dew drops form on the cover of the Chungukjang tray. This is a unique smell of the Chungukjang when being fermented by the bacillus. This smell can easily be spread on the fermenting container and inside the refrigerator drawer. Therefore to prevent this, cleanly wash the tray and basket after fermenting, and remove the moisture. Wipe inside the drawer of the refrigerator with a neutral cleaner.

**Temperature**

**Kimchi freezes**

Heat comes out from the top of the refrigerator. Heat pipe goes around the rim of the front side to prevent dew drops forming. It can feel a bit heated during first use or during the summer, but it is not a problem.

**Chungukjang**

**Dew drops form on the cover of the Chungukjang tray.**

When the boiled soybeans are heated, moisture within the soybean comes out to form water drops on the cover, which is normal.

**There is a weird smell.**

This is a unique smell of the Chungukjang when being fermented by the bacillus. This smell can easily be spread on the fermenting container and inside the refrigerator drawer. Therefore to prevent this, cleanly wash the tray and basket after fermenting, and remove the moisture. Wipe inside the drawer of the refrigerator with a neutral cleaner.

**There is no resin with string like shape**

The condition of the completely fermented Chungukjang differs by the quality of soybean, cooked level and fermenting process. Successfully fermented Chungukjang has the following characteristics:

- There is no resin but the surface of the bean turned white.
- Where there is resin that forms strings and disappear
- When the resin is sticky like pizza cheese

---

**Noise**

**When you hear "dreruk", "dulkuk" or "woong" sound.**

This is the noise coming from the compressor or fan when the refrigerator starts or ends operating just like a car makes a noise when starting or ending the engine.

**When you hear "tuk tak", "krook", "shik" or "shoo" sound**

This is the sound of operating the refrigerator from parts moving or refrigerant flowing. So be safe because it is not a problem.

---

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**Kimchi freezes**

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The Old Kimchi

It takes too long time to ferment the Old Kimchi.
The Old Kimchi is the Kimchi which is fully ripened in the pot at least for one year up to 5 years. It tastes of nicely salty, acidulous, bitterish, and deeply flavorful. And, the acidity level is around 1.0% which is much higher than the general Kimchi. It takes a long time before you can eat the Old Kimchi. This is the function to be able to eat it within one month. The terms of the fermentation of the Old Kimchi depends on fermentation degree (Low ripe, Ripe, and High ripe) and ambient temperature and it takes around 23~30 days.

It tastes of high acidulous
The Old Kimchi has higher acidity than the general Kimchi. That is, it is a sour Kimchi. It tastes of more sour than the general kimchi fully ripened. The fermentation of Kimchi is slowly progressed even under the storage state after completion of ripening. As the acidity is continuously becoming higher, you had better eat early.

It does not taste of deeply flavorful (acidulous).
How the Old kimchi is to the taste would be different by an age range and a region, and by what kinds of subsidiaries are used when making the Old kimchi. As the fermentation of the Old kimchi is slowly progressed even after completion of fermentation, the acidulous taste will be stronger a few days later. If it tastes of much weaker acidulous, you can execute the fermentation once more.

The color of the kimchi is not like the one of the Old kimchi.
The Old kimchi is the kimchi which is fully ripened in the pot at least for one year up to 5 years. The color of cabbage’s leaves is changed to dark red. As the Old kimchi ripening function of a kimchi refrigerator is to make the taste of the Old kimchi in a short period of time, the color can be lighter red comparing the Old kimchi made in the traditional way but the taste should be the same.

The kimchi smells too strong
As the Old kimchi has higher acidity than the general Kimchi, it has strong kimchi smell due to acidulous smell. To close tightly the cover of the container after putting the kimchi in the container and wrapping the upper part of it can reduce the smell leaked out.
## Checkpoints before requesting for service

### When the cooling does not work at all

**Check**
- Is the power shut-down?
- Is the power plug unplugged from the outlet?
- Is the installed location too hot or cold?

**Resolution**
- Check the power of the other product.
- Connect the power cord properly to the outlet.
- Install the refrigerator where the external temperature is between 5 and 43°C.

### When the cooling is not working well

**Check**
- Did you store hot food without cooling it down?
- Is the door completely closed?
- Does it receive direct sunlight or is near a heating device?
- Is there an appropriate clearance around the refrigerator?
- Does the temperature of the installed location go below 5°C?
- Did you set the storing temperature to “Min”?

**Resolution**
- Cool down the hot food before storing the food.
- Make sure the stored food or the Kimchi container does not touch the cover, and close the cover tightly.
- Check the installed location.
- Leave an appropriate clearance around the refrigerator.
- Refer to the installation method and install where the surrounding temperature is above 5°C.
- Set the storing temperature to “Mid” or “Max”.

### When you hear a weird noise

**Check**
- Is the floor of the installed location soft or is the refrigerator installed on an unstable floor? (It can make noises on the wooden floor.)
- Are there any objects on the top or on the back of the refrigerator?

**Resolution**
- Install the refrigerator where the floor is firm and leveled.
- Set the object properly.
When the refrigerating food is freezing (over cooling condition)

Check
- Is the storage set to the correct food type?
- Is the storing temperature set to "Max"?
- Are you storing the food in a storing container?

Resolution
- Check the storing button by the food type.
- Change the storing temperature to "Mid" or "Min".
- Put the food in the storing container for storage.

When there is a bad smell in the refrigerator

Check
- Have you sealed the food with a strong smell?
- Is the Kimchi container tightly closed?

Resolution
- Store food with strong smell in a sealed container.
- Tightly close the Kimchi container.

When there is icing or dew drops forming

Check
- Did you cool down the hot food before storing it?
- Did you keep the door open for a long time?
- Did you put food with moisture in the container without tightly closing the lid?
- Did you put too much food within the refrigerator?

Resolution
- Cool down the hot food before storing the food.
- The dew drops will naturally disappear if you keep the door closed but it is better to wipe them off with a dry cloth.
- When storing the food, keep it in a container with a lid or a seal.
- Keep an appropriate clearance around the refrigerator for good air circulation.

When the door does not close well

Check
- Is the food touching the door of the refrigerator?
- Is there any ice on the floor of the refrigerator?

Resolution
- Store the food so that it does not touch the door.
- Remove the ice on the bottom of the refrigerator floor.
### Checkpoints before requesting for service

<table>
<thead>
<tr>
<th>Chungukjang is not fermented</th>
<th>Check</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Did you adequately soak the soybeans in water and boiled them completely?</td>
<td>Soak the soybeans (Baktae) in the water for 10 to 14 hours and then completely boil them for 5 to 6 hours until the water becomes sticky. Completely boiled beans maintain the shape but will be easily crushed. (Refer to page 34 for details on How to make delicious Chungukjang)</td>
</tr>
<tr>
<td></td>
<td>Did you cool down the soybeans before putting them in the drawer left compartment of the refrigerator?</td>
<td>If you put in the boiled beans without cooling them down, they will be too humid to be fermented and will cause an irritating smell. Cool down the boiled beans in room temperature for about 15 minutes and then mix them by shaking the tray before putting them in the compartment.</td>
</tr>
<tr>
<td></td>
<td>Did you open the door during fermenting?</td>
<td>If you open the door during fermenting, the humidity and temperature can change affecting the fermenting process.</td>
</tr>
<tr>
<td></td>
<td>Did the water drops from the cover of the tray fall?</td>
<td>When the dew drops from the cover of the tray falls on the beans during the fermenting process of Chungukjang, the sticky resin (bacteria) on the Chungukjang melts. Therefore when open/closing the drawer or when removing the tray, be careful not to shake it.</td>
</tr>
<tr>
<td></td>
<td>Did you use imported or old soybeans?</td>
<td>Some imported or old soybeans are processed with preservatives. If you use these soybeans the bacillus will not be active to start fermenting the beans. Use domestic soybeans (Baktae).</td>
</tr>
<tr>
<td></td>
<td>Did the resin (bacteria) form?</td>
<td>The condition of the completely fermented Chungukjang differs by the quality of soybean, cooked level and fermenting process. Successfully fermented Chungukjang has the following characteristics.</td>
</tr>
</tbody>
</table>

- There is no resin but the surface of the bean turned white.
- Where there is resin that forms strings and disappear
- When the resin is sticky like pizza cheese
When completely boiling the soybeans, put them in the tray and drain/cool them. If the beans have too much moisture, it can smell sour and if too little moisture, the surface can dry off to block the fermenting. Drain for about 15 minutes while cooling down. When cooling the beans shake to mix them about 2 to 3 times.

If you put in the boiled beans without cooling them down, they will be too humid to be fermented and will cause an irritating smell. Cool down the boiled beans in room temperature for about 15 minutes and then mix them by shaking the tray before putting them in the compartment.

When there is bad smell from Chungukjang

- Did you drain the boiled soybeans?
- Did you adequately cool down the soybeans before putting them in the drawer left compartment of the refrigerator?

When the Old kimchi is not ripened well

- Did you put subsidiaries too much? (red pepper power, Garlic, etc.)
- Does the color of kimchi look unripe?
- Doesn’t it taste of ripe enough?

- To put too much subsidiaries such as red peppers, etc. can hinder lactobacillus’ growth and the Kimchi can be unripe. In this case, please ripen the Old Kimchi once more.
- The Old kimchi is the kimchi which is fully ripened in the pot at least for one year up to 5 years. The color of cabbage’s leaves is changed to dark red. As the Old kimchi ripening function of a kimchi refrigerator is to make the taste of the Old kimchi in a short period of time, the color can be lighter red comparing the normal Old kimchi but the taste should be the same.
- How the Old kimchi is to the taste would be different by an age range and a region. If it tastes of less ripe, you can ferment once more.
The kimchi smells too strong

- Is the drawer closed completely?
- Is the cover of the kimchi container closed completely?
- In case that the drawer is not completely closed, the smell comes out from the refrigerator. Please close it completely.
- Because the period to ripen the Old Kimchi is longer and acidity is higher than generally ripe Kimchi, it has the stronger smell of its own. Please close the container supplied. And, to wrap the upper part of kimchi’s surface can reduce the smell leaked out.
Customer rights

When a problem occurs to the product, the customer has a valuable right to receive free service for 1 year warranty period from the date of purchase. But problems occurring from customer fault or natural disaster as below can be paid by the customer even within the free service period.

Responsibility of paid service (Paid by customer)

When requesting for service, the following cases will be paid by the customer even within the free service period.

1. When a problem occurred from an alien object to the product (water, drink, coffee, toy etc.)
2. When the product is damaged or a problem occurred from dropping the product or from an impact
3. When the external part of the product has been damaged from using oil solvent such as thinner, benzene etc.
4. When a problem occurred from mistakenly connecting to a wrong voltage
5. When a problem occurred from using parts or supplies not from LG Electronics.
6. When parts are missing or the product is damaged from customer’s disassembly
7. When there is a problem from repairing or remodeling the product by a person other than the repair technician of LG customer service center.
8. When a problem occurred from not following the Safety Precautions(p. 4–p. 8) within the User Manual. If you follow the Safety Precaution, you can use the product longer.
9. When a problem occurred from natural disaster (lightening, fire, salt water, gas, storm & flood, earth quake etc.
10. When a problem occurred from a customer’s fault.

Service guide

For service request, consulting and service center inquiry,
Service center Address: P.O. Box240007 201 James Record Road Huntsville, AL 35824
Call: 1-800-243-0000 Web: http://www.lgservice.com
The details (external shape and product specification) indicated within this manual are subject to change without notification to improve the quality of the product.

<table>
<thead>
<tr>
<th>Classification</th>
<th>Model name</th>
<th>GR-K243UG</th>
</tr>
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<tr>
<td><strong>Capacity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total capacity</td>
<td>242.6L</td>
<td></td>
</tr>
<tr>
<td>Lid left compartment</td>
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<td></td>
</tr>
<tr>
<td>Lid right compartment</td>
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<tr>
<td>Drawer left compartment</td>
<td>27L</td>
<td></td>
</tr>
<tr>
<td>Drawer right compartment</td>
<td>27L</td>
<td></td>
</tr>
<tr>
<td><strong>Product size</strong></td>
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<tr>
<td>Height</td>
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<tr>
<td><strong>Rated voltage and frequency</strong></td>
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</tr>
<tr>
<td><strong>Weight</strong></td>
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<td></td>
</tr>
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</table>