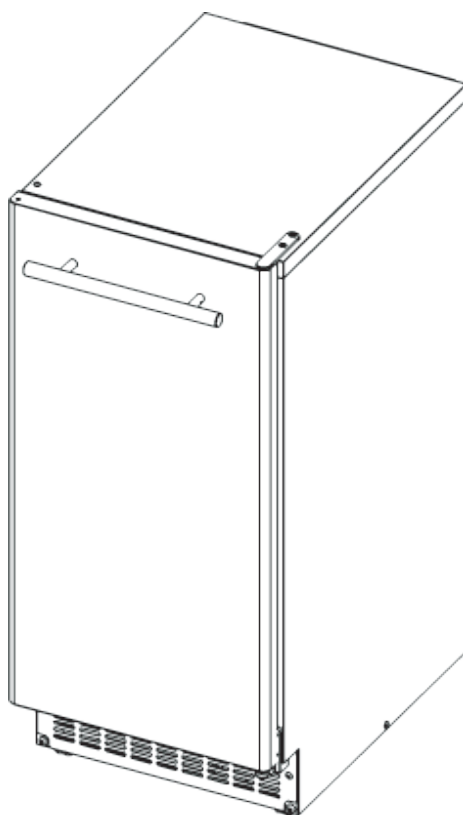


ICE Maker User's Manual

IU-0070-Series, A25B15-Series, A25O15-Series, 3597

-
- Do not use where the supply voltage is different from the unit's requirements.
 - This product is designed for indoor/outdoor use.
 - The external appearance, design, color, and components of this machine may be changed without prior notice.





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1. Safety Cautions

To prevent any safety-related accident and to ensure convenient usage of this product with better understanding, cautions and warnings are accompanied by symbols and figures. Make sure you understand the symbols and figures below before proceeding.



Danger

Using the product without taking careful note of this symbol may cause death or serious injury to the user or fire.



Warning

Using the product without taking careful note of this symbol may cause death or serious injury to the user or fire.



Caution

Using the product without taking careful note of this symbol may cause injury to the user or property damage.

- ※ Injury includes wound or burn that requires long-term outpatient treatment.
- ※ Property damage means damage or loss of one's house or furniture.
- ※ Label: If the caution label is corrupted, or its text is not legible enough, contact the customer service center or the store where the product was purchased.

Each figure has the following meaning:



Must be followed



Must be grounded



Contact not allowed



General prohibition



Disassembly not allowed



Danger of electric shock



The power cord must be disconnected from the outlet.



Danger

- This unit contains R600a (Isobutane) which is a flammable hydrocarbon. It is safe for regular use. Do not use sharp objects to expedite defrosting. Do not service without consulting the "R-600a Handling" section included in the User Guide. Do not damage the refrigerant circuit.
- Before you throw away your old appliance, take off the doors and leave cases in place so children may not easily climb inside

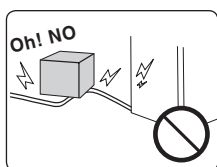


Warning

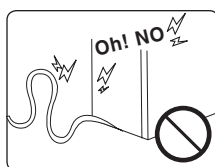
- Service must be done by factory authorized service personnel. Any parts shall be replaced with like components. Failure to comply could increase the risk of possible ignition due to incorrect parts or improper service.
- This appliance uses flammable gas cyclopentane as a blowing agent for its insulation. Please check and obey all federal, state, and local regulations regarding the environmentally safe disposal of this product.

- ※ This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
- ※ Children should be supervised to ensure that they do not play with the appliance.

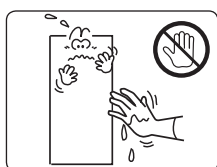
■ Power supply related items ■



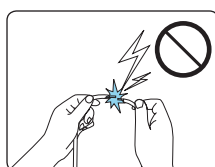
Avoid putting any object on the power cord and make sure that the cord does not get tangled or tied.
It may cause fire or electric shock.



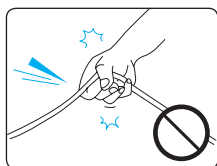
Stop using the product if the power cord is damaged.
It may cause fire or electric shock.



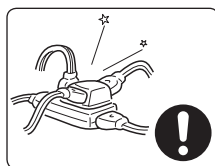
Do not touch any electrical component or the power cord with wet hands.
It may cause electric shock.



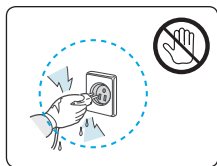
Do not alter the power cord or arbitrarily modify it to connect to an unauthorized power source.
Failure to do so may cause electric shock or fire.



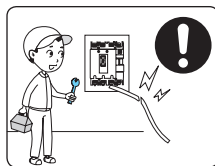
Do not pull the power cord.
Failure to do so may cause electric shock or fire.



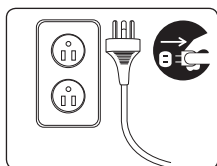
Do not plug too many appliances into one outlet; only one appliance per outlet is recommended.
Otherwise, there is danger of fire.



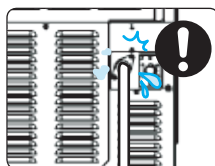
Do not touch the power cord with wet hands.
Failure to do so may cause electric shock or fire.



To replace or repair the power cord, contact a professional technician or our customer service center.



Close the water supply valve and unplug the product if it is not to be used for an extended period of time.
It may cause electric shock or fire.



If water got inside the power components, immediately unplug the cord and completely dry the product before using it.
Failure to do so may cause electric shock or fire.

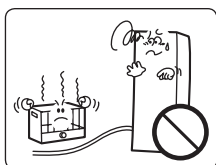


Clear the pin of the power plug of any substance including water or dust.
Failure to do so may cause fire or electric shock.

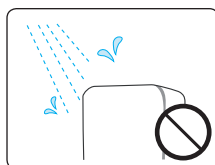


If the power plug or cord is damaged, do not try to replace it arbitrarily; contact the customer service center.
Failure to do so may cause fire or electric shock.

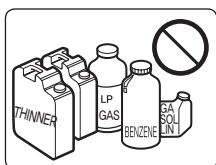
■ Installation related items ■



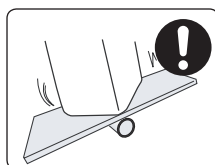
Keep away any heating appliance from the power cord. It may melt the coating of the cord, causing fire or electric shock.



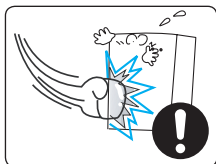
Do not install the product at a place where moisture or dust gathers easily or where rain or water spatters. It may cause electric shock or fire.



Combustible gas or flammable material (benzene, gasoline, thinner, LP gas, etc.) must be kept away from the product and should never be put on the product. It may explode or cause fire or injury.



Do not install the product on a tilted surface. It may cause injury to the user or damage to the product.



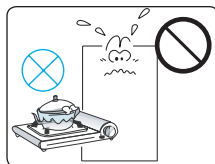
Do not apply excessive force or shock to the product. It may damage the product.



The ice maker provides optimal functionality at room temperature of 50~68°F and supplied water temperature of lower than 50°F. It may damage the product.



Make sure no water comes into contact with any electric part or inside the product. If the product has been immersed in water due to causes such as flood, be sure to contact the customer service center. Otherwise, the product may short circuit and cause fire or electric shock.



Do not store or use combustible gas or flammable material near the product. It may cause electric shock or fire.



Do not disassemble or modify the product. It may cause electric shock, fire, or injury.



Contact a professional service supplier to repair the product. Incomplete repair may cause electric shock, fire, or injury.



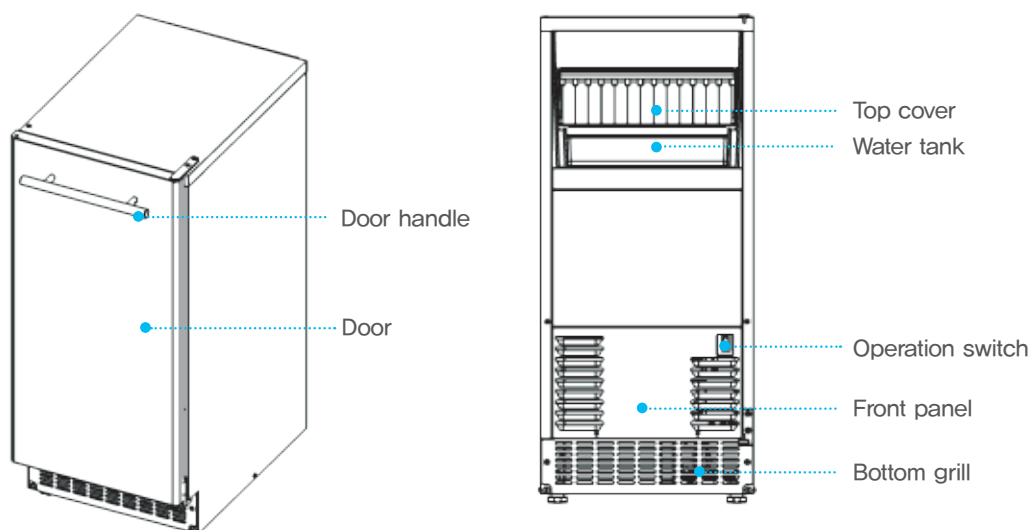
Warning

• Keep clear of obstruction all ventilation openings in the appliance enclosure or in the structure for building-in.

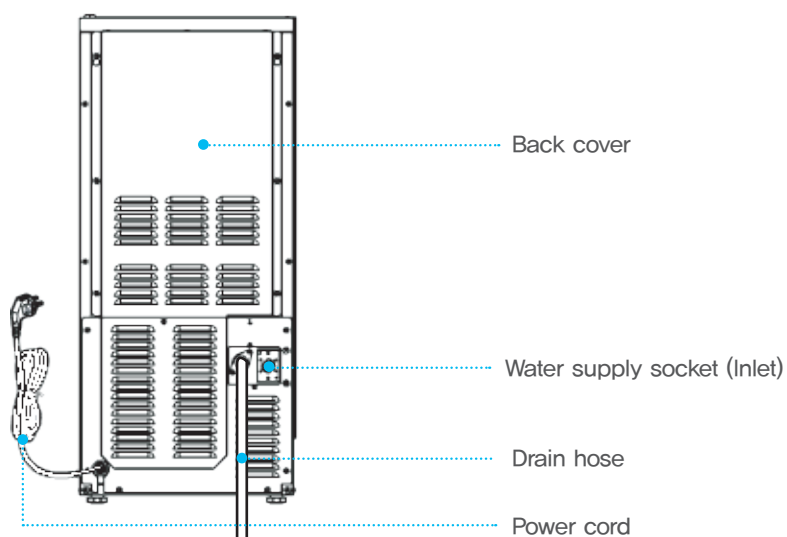
- Do not use mechanical devices or other means to accelerate the defrosting process, other than those recommended by the manufacturer.
- Do not use electrical appliances inside the food/ice storage compartments unless they are of the type recommended by the manufacturer.

2. Part names

【 FRONT 】



【 BACK 】



3. Installation specifications

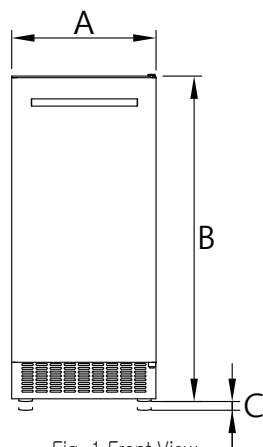


Fig. 1 Front View

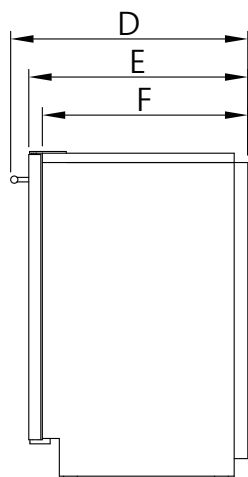


Fig. 2 Side View

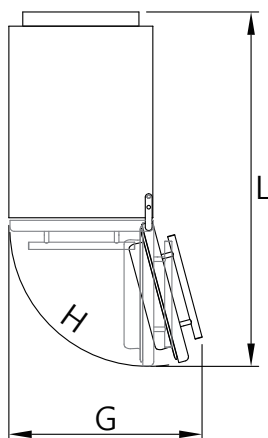


Fig. 3 Top View

Space requirements for installation

When moving the ice maker, check whether the prepared opening dimensions, electric rating, and piping position are correct.

Refer to the installation specifications and drawings shown on pages 9 and 10.

Figures 4, 5, 6 and 7 show the entire dimensions of the product.

This product is a gravity drain pipe model that requires a drain pipe to run from the exhaust hole at the back of the product to appropriate drain pipe.

The optional drain pump to be installed an raised water to a drainage point such as a neighboring sink.

Refer to the specifications shown on pages 9 and 10.

Important Information : If the ice maker is installed at a corner, the lever may be attached to a wall or the front side of a cabinet, thereby limiting the opening of the door.

The bottom of the ice maker should be leveled.

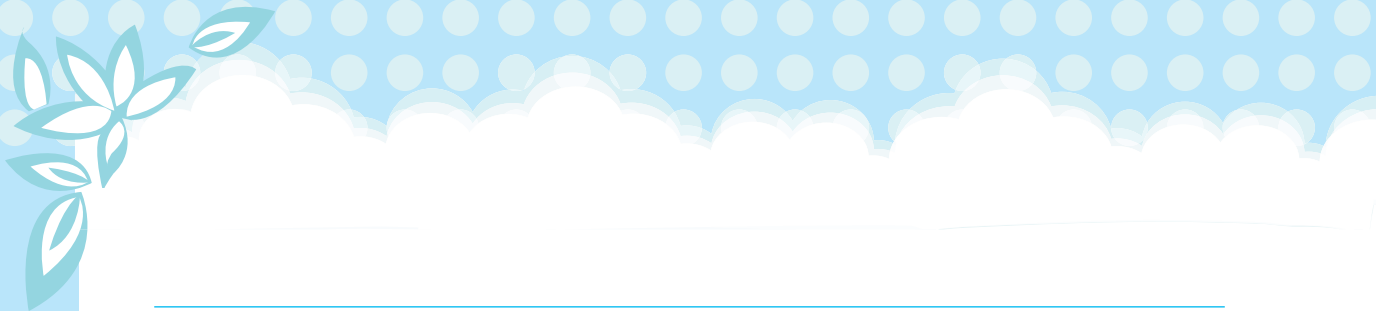
When moving the product using a hand truck or dolly, place the dolly at the side of the product and shut or fix the door tightly to avoid possible opening during movement.

Notification

The finished bottom should be protected with a suitable material to avoid possible damage when moving the product

Important Information : The provisions of the National Electric Code as well as any local laws and instructions should be observed when installing the product.

A	Width (door closed)	380mm	15"
G	Width (maximum, door fully open)	507mm	20"
H	Angle (maximum, door fully open)	105°	105°
B	Height	857mm	33 3/4"
C	Height (maximum leveling)	25.4mm	1"
D	Depth (body and door with handle)	625mm	24 5/8"
E	Depth (body and door w/o handle)	578mm	22 3/4"
F	Depth (body only)	540mm	21 1/4"
L	Depth (maximum, door open 90°)	930mm	36 5/8"



Requirements for plumbing

Plan the arrangement of the water supply pipes. Connect to potable water supply only.

Connect a 1/4" diameter copper cable with the tap water pipe.

Install a shutoff valve between the tap water pipe and the product so that the user can operate the valve. Do not install the shutoff valve at the back of the product.

"Do not use a self-piercing valve. If the tap water has a high level of minerals, a pipeline filter will be required.

The pressure of the tap water should be maintained at a level between 0.14MPa (1.4bar) and 0.55MPa (5.5bar). The tap water and drain pipeline should be planned and prepared at the place of installation. If an electric outlet is available just at the back of the ice maker, installation may be easier. The electric power, tap water pipeline and drain pipeline should satisfy all the provisions under the local laws and regulations. For the position of the tap water, refer to the installation specifications and drawings on pages 7 and 8.

Important Information : The product is designed for use in a fixed condition but it may be required to draw the product near for service. Therefore, do not install any material at the front, upper or lower end of the product which may act as an obstacle when drawing the product.

When preparing the bottom after installing the ice maker, place shims equivalent to the thickness of the bottom under the product to keep the ice maker and bottom horizontal. The lateral side should have at least 1/6" (4) of space for projection of the screw head.

Installation of a slab : Draw up the water to the drain position using the model with a built-in drain pump. The drain pump model may raise the water up to about 8ft (2.4m) in height. The more bent parts the pipeline has, the lower the raising height is.

Installation in a narrow or underground place : A gravity drain model or drain pump model may be used. If there is no space for drainage/sewage at the back of the ice maker, the drain tube should be placed under the bottom.

Important Information : Piping should be carried out in accordance with all the provisions laid out under the local laws and regulations.

Hose-set must be new and not reused.



Gravity Drain Pipe Model

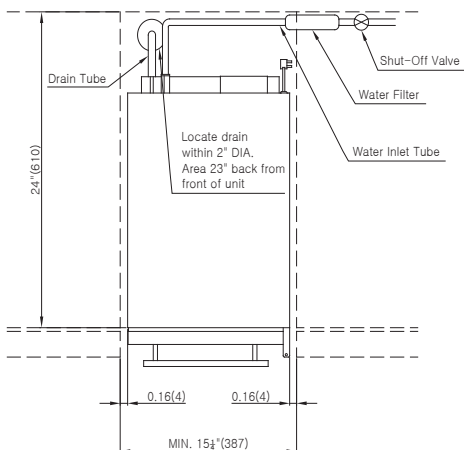


Fig. 4 Top View

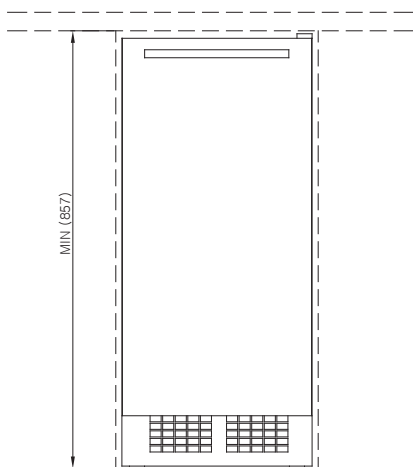


Fig. 5 Front View

Before connecting the drain tube and the water supply pipe with the ice maker, pipes should necessarily be arranged.

The horizontal distance of the drain tube should be 1/4" at every 12" (305) distance.

An air gap is required between the drainage tube of the ice maker and the drain pipe or sewage container. A stand pipe fitted with a trap at the lower part may be used as a drain pipe or sewage container.

Important Information : Installation of an incorrect drainage pipe causes the ice in the ice container to melt rapidly.

- 1) Arrange the ice maker at the front of the opening of installation.
- 2) Adjust the horizontality leg so as to meet the height.
- 3) Install the inlet pipe (1/4" diameter copper pipe) on the wall and connect the water supply valve.
- 4) Connect the drain pipe from the wall to the ice maker.
If the horizontal distance is 5' (1.5m) or longer, the drain pipe should be arranged by drilling the wall to the rear of the product.
- 5) If the electric outlet is at the back of the product, insert the plug in the electric outlet.
- 6) Install the product so that the front of the product is facing forwards.
- 7) Use the inlet pipe after cutting it to the required length.
- 8) Wash the inlet pipe. Connect the inlet pipe with the copper pipe using the flare nut.
- 9) Connect the inlet pipe with the water-supply valve of the product using the flare nut.
- 10) Cut the required length of drain tube.
- 11) Connect the drain nipple (with a diameter of 3/4" FPT(NPT))
The drain tube should be placed at the upside passing the drain fitting.
- 12) Turn on the tap and check for any leakage.
- 13) Adjust the horizontality of the product.

Drain Pump Model

- 1) Arrange the ice maker at the front of the opening of installation.
- 2) Adjust the horizontality leg so as to meet the height.
- 3) Install the inlet pipe (copper pipe with a diameter of 1/4") on the wall and connect the water supply valve.
- 4) Connect the drain pipe from the wall to the ice maker.

Important Information : An air gap may be required between the drain tube of the ice maker and the container of the drain pipe under the provision of local laws and regulations. Refer to the drawing below.

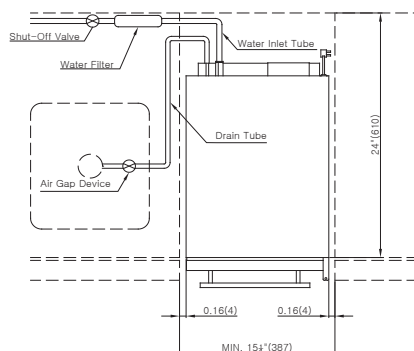


Fig. 6 Top View

- 5) If the electric outlet is at the back of the product, insert the plug into the electric outlet.
- 6) Install the product so that the front of the product is facing forwards.
- 7) Use the inlet pipe after cutting the required length.
- 8) Wash the inlet pipe. Connect the inlet pipe with the copper pipe using the flare nut.
- 9) Connect the inlet pipe with the water-supply valve of the product using the flare nut.
- 10) Cut the required length of drain tube.
- 11) Connect the drain tube (with a diameter of 5/8") with the drain pipe at the back of the product and fix them together using a hose clamp. If required for easy installation, immerse the drain hose in warm water just before connection with the fitting.
- 12) Turn on the tap and check where there is any leakage.
- 13) Pour 3 quarters of the water into the ice container. The drain pump should work and pump the water upwards. Check whether the drain pump works or not. Check for any leakage.
- 14) Turn the switch to the "ICE" position. The compressor starts working 3-5 minutes.
- 15) Pour 3 quarters of water into the ice container and block the drain tube while the drain pump is operating. At this time, check whether the operation has stopped and that the drain pump works continuously.
- 16) Adjust the horizontality of the product.

Important Information : Piping should be carried out in accordance with all the provisions laid out under the local laws and regulations.

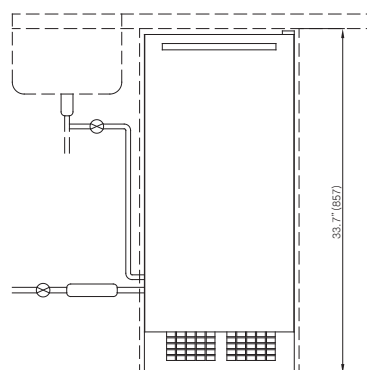


Fig. 7 Front View

Drain pump kit

You may order the ice maker with or without a drain pump. In the case of the model with no drain pump, water is drained by gravity.

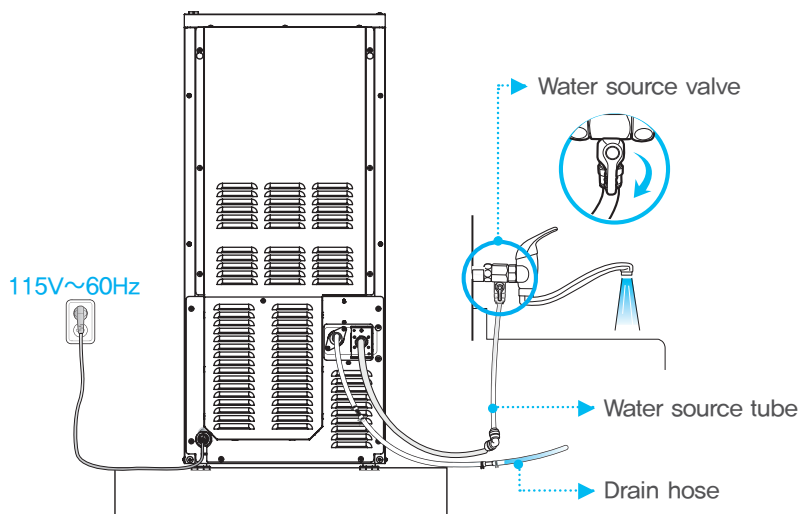
However, it is possible to install a drain pump kit on the gravity drain pipe model if you wish convert the model to a drain pump model.

You may obtain the necessary parts for conversion from the distributor. You may obtain information on the local agencies and distributors in the store section of the company's website, .

A detailed description of installation is included in the kit.

4. What to check prior to installation

■ Follow this process! ■

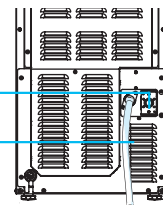


- The water supply valve may have different shapes depending on the installation condition.
- The filter may be located close to the water source or back of the product depending on the situation.

Avoid uneven surface or any place with too much moisture, direct sunlight, too much dust, or spattering water.

Water inlet: Ice making water supply 3/8" FPT(NPT)

Drain connect: 3/4" FPT(NPT)



Connecting water piping

	Appropriate water temperature	Water pressure	Appropriate piping / hose size
Ice making water supply	50 ~ 90 °F	0.098~0.49 MPa	3/8" FPT(NPT)
Ice making water drain	—	—	3/4" FPT(NPT)

- Too high temperature of the ice-making water will decrease the amount of ice produced; too low pressure will prevent ice from being made at all. Install an auxiliary pressure pump in this case.



For your information

- In order to guarantee optimal operation of the product, consult with our technician on how to install the product. (Contact our authorized technician in case of moving the product after the initial installation.)
- Be sure to connect the water supply adaptor to the cold water drainage pipe.
- The ice maker provides optimal functionality at room temperature of 50~68°F and supplied water temperature of lower than 50°F.

There may be some water inside the product, which is from the test procedure of the manufacturing process. It does not mean that the product has been used prior to installation, so rest assured that you have a new product.

5. Installation of the Product

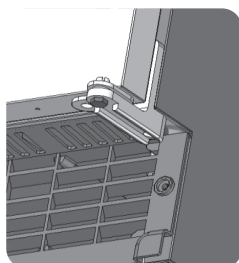
Changing Door-opening Method

The direction in which the door fixed with hinges opens may be changed.

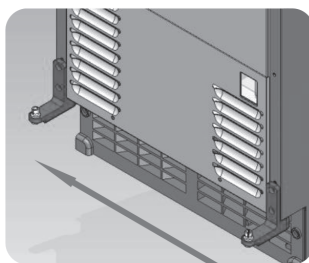
The hinges are attached to the right-hand side of the door when the product is shipped from the factory.

However, the ice maker is designed so that the hinges may be installed on either side.

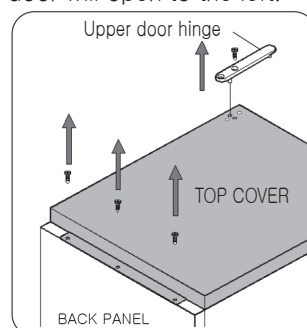
If the hinges are moved to the holes on the left-hand side, the door will open to the left.



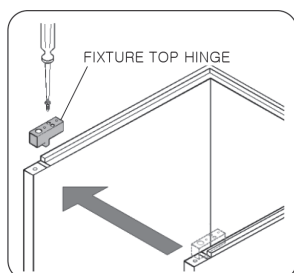
- ① Loosen the anchor screws on the lower hinge of the door and separate the door.



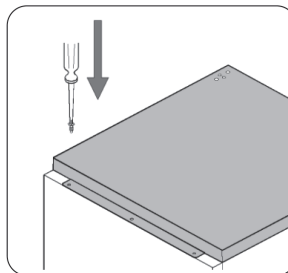
- ② Loosen the anchor screws on the lower hinge and insert the hinge into the hole on the left.



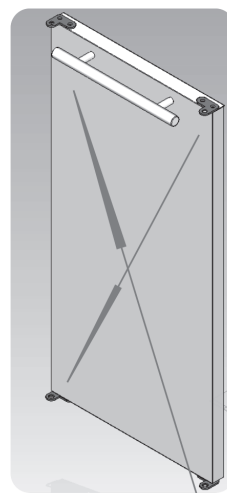
- ③ Release the screws to remove the upper door hinge and upper cover.



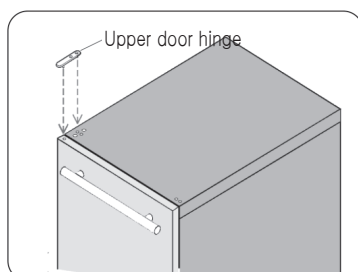
- ④ After removing the fixture top hinge on the right, move it to the left and fasten the screws as shown in the above figure.



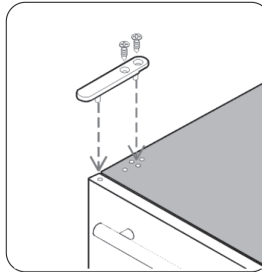
- ⑤ Place the upper cover again and fasten the screws. (three parts on the back panel)



- ⑥ Move the "L" shaped door hinges of the upper and lower parts of the door to the left.



- ⑦ After moving the upper door hinge to the left and inserting it into the hole on the front door, fix it in the hole on the upper cover and fasten the screws (two parts).



- ⑧ Check the movement of the door by opening and closing it.

Installation Checklist

Important Information : The installation engineer should check whether any installation part has been omitted and follow the check list below to ensure safe and proper installation.

If you have any questions or problems regarding installation, address your queries to the distributor or dealer. You may also seek information on the company's website.

■ Does the ice maker work properly?

If the ice maker does not work, check whether the plug has been inserted properly.

■ Did you remove all the packing materials and tapes from the inside of the ice maker?

■ Did you observe the instructions on installation?

■ Did you level the unit?

■ Is the front of the kick plate/grill adequately ventilated?

■ Did the user sufficiently understand the operation of the ice maker?

Notification

■ Be sure to follow any safety instruction for storing or disposing of an old ice maker.

Remove the door or fix the door firmly if the door is closed. If a child gets inside the ice maker, and the door is closed, he/she may get injured.

◆ Be sure to observe the following:

■ Since the product makes use of water, proper water supply and draining facility are required.

■ Be sure to use the product with a properly functioning drainage, since water may leak due to diverse causes during installation or usage. Leaks may cause electric shock due to moisture, so make sure that the following are always observed:

1. When installing the product indoors, be sure to have a natural drainage facility and make the floor waterproof, especially if the floor gets damaged due to leaks.
2. A draining outlet must be available at the installation site; be sure to connect the drain hose.
3. Make sure that the floor is sloped so that the leaking water may get drained away even if the drain hose gets dislodged or damaged. Install a water overflow prevention wall to prevent damage.

※ The manufacturer will not be liable for any issue arising from failure to comply with the abovementioned warnings, dislodged / damaged water supply hose, or inappropriate drain facility.



6. Specific Features

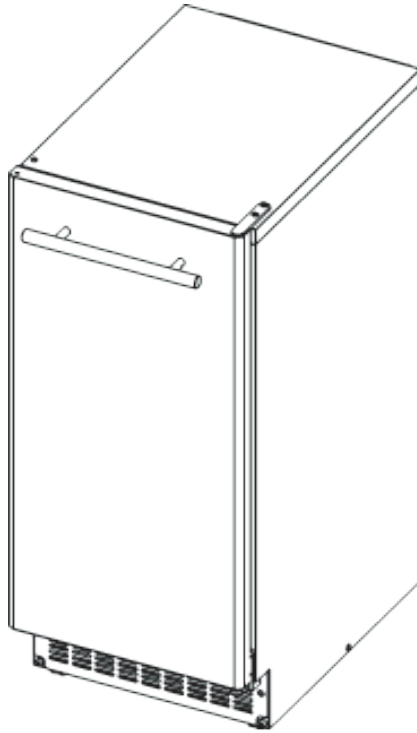


Fig. 9 Solid figure

- Sink-Mounted Ice Maker
- The gravity drain-type naturally drains water, whereas the drain pump-type drains water to an adjacent sink using a built-in pump.
- A perfect and unified design system with 24.6" (625) of depth.
- A decorative door panel may be installed.
- The product supplies good-quality transparent ice.
- The maximum capacity of the ice container is 26 lb(12 kg).
- Automatic ice-removal function.
- Left/Right opening door system.
- Front ventilation is possible using the attachable kick plate/grill in front of the ice maker.
- The product incorporates a magnetic door attachment / detachment structure and gasket, and an insulator foam system is used for insulation of the door.

7. Guide to Operating the Ice Maker

Initial operation

- ① Open the water supply valve connected with the ice maker.
- ② Insert the plug of the ice maker into the electric outlet.
- ③ Open the door and turn the switch at the lower end of the product to the “ICE” position.”
- ④ Discard the first batch of ice.
- ⑤ Good-quality ice is produced 1–2 hours later.

Using the ice maker

Use of the ice maker is very simple. Simply turn the switch at the lower end of the product to the “ICE” position. The product automatically starts ice production, which continues until the ice container has been filled with ice. Remove the ice using an ice gourd and insert the gourd into the holder on the inside of the container (If you place the container in the ice, it may be covered over by ice).

The ice maker produces 24 pieces of ice every 30 minutes. Also, the produced ice drops down into the ice container; water is supplied to the ice maker and the water is also drained.

Important Information : Do not put anything other than ice in the ice container. Wine or beer bottles are unsanitary and a detached label may block the drain pipe.

Ice

The ice has a rectangular bell shape (refer to the figure). Newlyproduced ice is clear and transparent. The inside of the ice is sometimes cracked; however, such cracks commonly occur in the production process and disappear with time. Ice stored in the container for a long time may gather frost on the outside and look muddy. This is normal ice and, once water is poured on the ice, such frosting disappears.

Ice container

The product continues making ice until the level of ice reaches the temperature sensing tube(right side). It then ceases operation. The model with a drain pump drains away melted ice when the ice maker is turned off. The pump works for only several seconds.

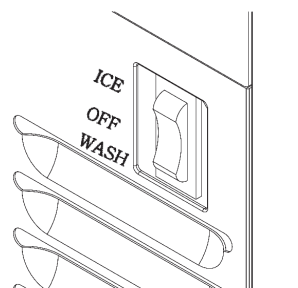


Fig. 10 Switch

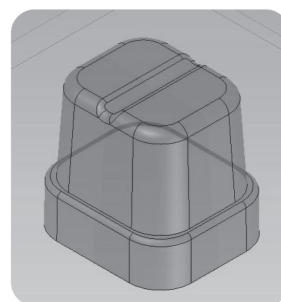
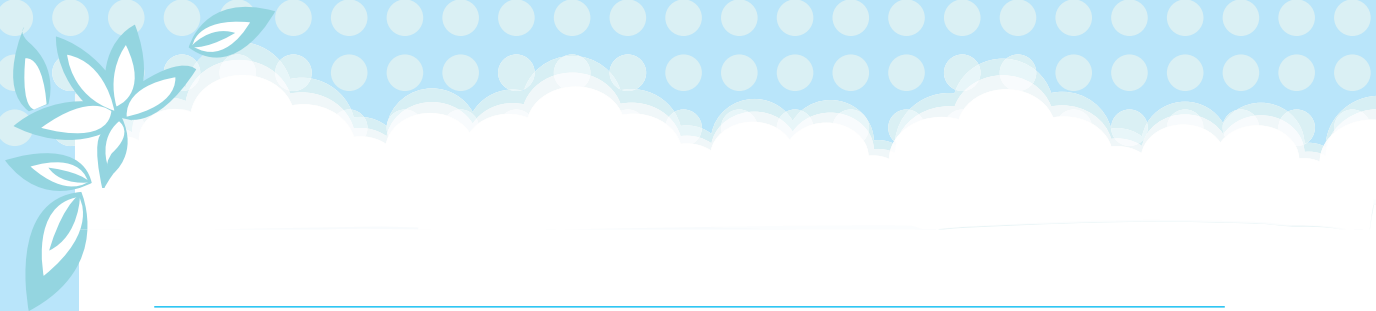


Fig. 11 Ice cube



Operation time

It takes about 20–35 minutes to produce a set of 24 ice pieces. The length of one cycle of the ice maker (ice production and ice removal) differs depending upon the cleanness of the ice maker, the surrounding temperature, and the temperature of the water supplied to the ice maker. It takes about 10–12 hours to fill the empty ice container with ice.

Ice production

The ice production process largely consists of two cycles—ice production and ice removal. 24 pieces of ice are produced with each cycle of ice production and ice removal. When water is sprayed on to the surface of the frozen iceforming mold, the ice production cycle is started. When ice is removed and water is supplied to ice maker, the ice removal cycle is started. The time taken for both cycles together is about 20–35 minutes.

Ice production cycle

As the ice production cycle progresses, the compressor exhausts the refrigerant, the fan motor circulates the air, and the pump motor circulates water. When the surface of the ice-forming mold absorbs the heat from the water, the heat moves to the part to which the fan supplies water. The heat is transferred to the air and the heated air is removed from the ice maker. At the same time, ice is produced on the surface of the ice-forming mold (at the upper end of the ice maker). When the surface of the ice-forming mold has sufficiently cooled, the ice production cycle stops and ice removal is started by the program installed in the ice maker.

Ice removal cycle

The compressor works during the progression of the ice removal cycle, but the pump motor and fan motor are stopped. The hot gas valve and water supply valve work. When the two valves are opened and the frozen surfaces are heated, ice drops down into the container. Then the ice removal cycle is stopped and the ice production cycle is started again by the program installed in the ice maker.

How to use water for ice maker

The ice maker starts its work with the fixed quantity that has been fed into the water container. When water is sprayed on to the surface of the ice-forming mold, the water not containing mineral impurities freezes and attaches to the ice-forming mold. The water containing impurities drops down into the water container. During the progression of the ice production cycle, the mineral impurity level in the water in the water container rises. During the progression of the ice removal cycle, water is fed to the ice maker, thereby diluting the water in the container, and washes a part of the concentrated minerals through the drain pipe.



[Cautions for cleaning the external panel(stainless steel)]

※ How to remove rust

How to clean rusted parts

1. Rust spots in early stage

- Rust spots in early stage mean that the stainless steel itself is not severely affected, thus mild detergent or any commercially available cleaning agent will restore original state. Rust will be removed with ease and at low cost if regular cleaning is done at appropriate intervals.

2. Red rust

- Rust spots that are not removed after a short period of time will turn into thick reddish –brown rust and will damage the surface of the stainless steel. These are much harder to remove and the surface will not be fully restored; thus, it is important to remove rust spots early on.

If commercially available cleaning agents do not work, use sandpaper or a stainless steel brush to remove the rust before applying the agent for easier removal.

This process requires treatment, such as refurbishment after cleaning.

3. Rust from iron

- Rust from coming into contact with welding spatter, rust from the metal bar above the stainless steel part, or contact between the stainless steel parts and general metal parts are caused galvanic corrosion. This causes the metal to rust first, and it will eventually cause the stainless steel to rust too if it is not removed. As such, make sure to clean and remove rust immediately with a mild detergent. However, when the rust has gotten really bad, it must be removed with 15% nitric acid solution or commercially available stainless steel cleaner.

4. Rust from exhaust gas or acid rain

- In environments, such as a factory complex or heavy transport sites, the product will become contaminated in a short amount of time due to exhaust fumes or acid rain and rust spots will quickly form. Light rust can be washed off with a mild detergent or soapy water, but heavy rust will require 15% nitric acid solution or commercially available stainless steel cleaner.

5. Rust from salt deposit

- In environments, such as windowsills or pipes on the porches of an apartment complex, that are close to the seashore where the product may be directly exposed to the sea winds, STS304 or STS316 will get rusted in no time, and this will occur much faster than in other types of environments. These cases require special treatment, such as using painted stainless steel or regular cleaning.

6. Rusts from disinfectants or cleaning agents

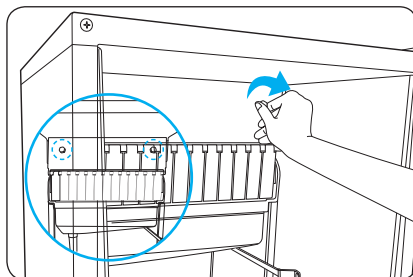
- Sites, such as pools or public baths, that use chlorine–based agents to sterilize the water, especially those for cleaning bathrooms, contain chlorine content that attaches to and rusts the stainless steel surface. Thus, it is important to thoroughly wash off such agents after using them, and a 15% nitric acid solution or commercially available stainless steel cleaner are required for removing this type of rust.



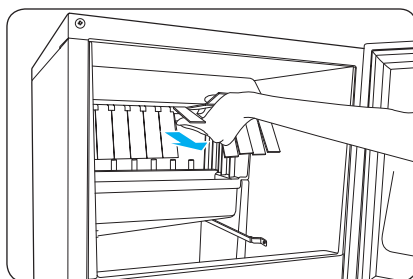
8. Washing the Ice Maker

■ Cleaning the nozzle / ice slide / water tank ■

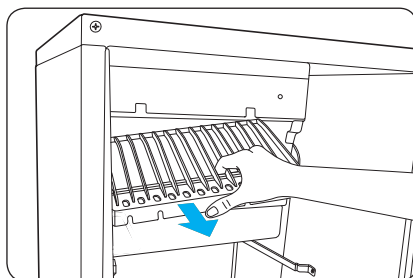
1. Open the door and remove two front injection bolts on the top cover.



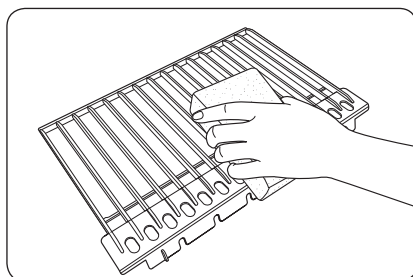
2. Pull the top cover to remove it.



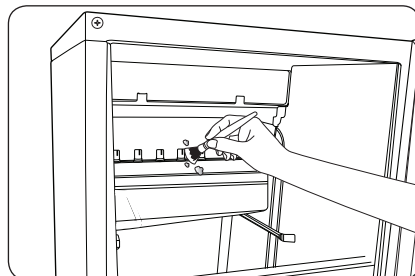
3. Slightly lift the ice slide to remove it.



4. Clean the slide with soft plastic brush or sponge.

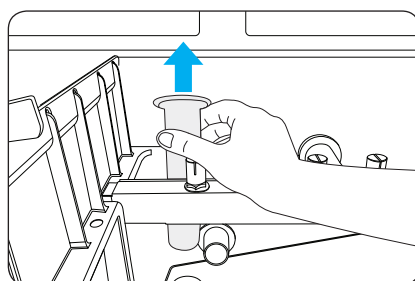


5. Clean the gap of the nozzle frame fixed on the vessel sheet (water tank).



6. Lift the drain projectile inside the vessel sheet (water tank), clean it, and drain the water.

* Make sure that the drain projectile is assembled back in the correct position after cleaning; otherwise, draining will not stop, with the product rendered unable to make ice cubes.



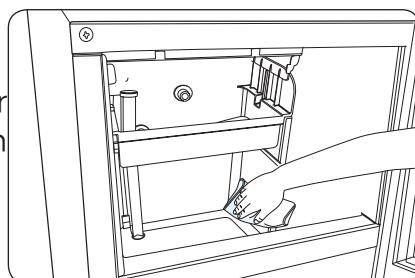

For your
information



Cleaning the nozzle / ice slide / water tank
– Cleaning at least once a month after turning off power

■ Cleaning the filters of the water tank and ice tank ■

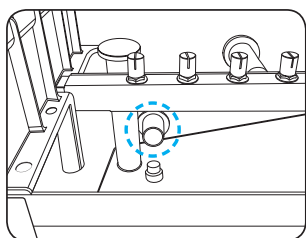
1. Empty the ice tank and prepare a cleaning solution by distilling 30g of neutral dishwashing detergent with 8L of warm water (35~45°C). Soak a clean cloth in the solution and clear the inside of the ice tank. Pour an appropriate amount of the solution into the draining pipe, and then wait until it dries naturally.



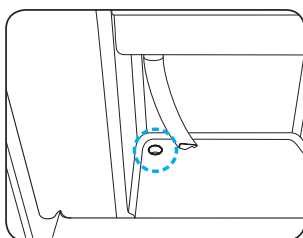
* Press the switch to set it to “II” (WASH) when cleaning the product; this will repeat the process of supplying water for about 2 minutes and operating the circulation pump 3 times, enabling easier cleaning.



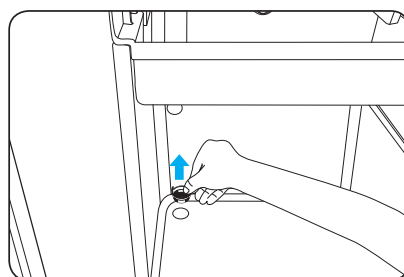
2. Open the front door and remove the filter screens from the bottom of the ice tank and water tank,



< Water tank >

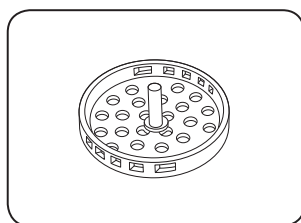


< Ice tank >



3. Rinse the screen with running water, and then assemble them back to the tanks.

* Otherwise, the water nozzle will get clogged, or dregs inside the ice tank may damage the product by clogging the draining part.



< Bottom filter screen >



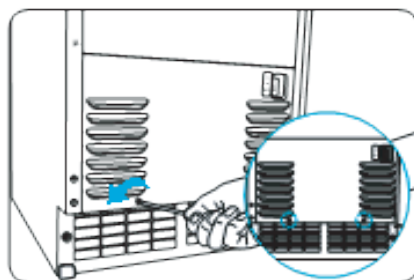
For your
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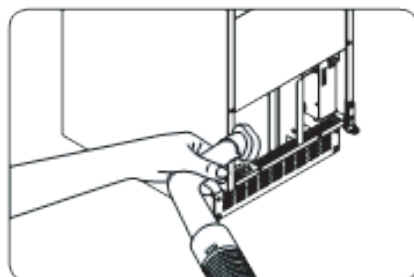
Cleaning the filters of the water tank and ice tank
– Cleaning at least once a month after turning off power

■ Cleaning the condenser ■

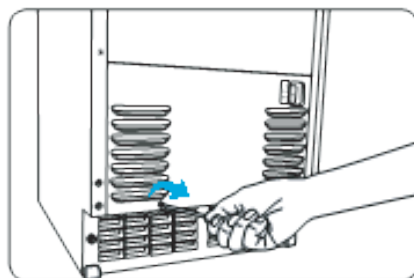
1. Remove two screws on the front panel at the center of the inside.



2. Remove dust from the surface of the condenser with a vacuum cleaner for home use or a portable cleaner.



3. Reassemble the screw to the panel after cleaning.




For your
information



Cleaning the condenser — Cleaning at least once a month after turning off power



■ Ice Machine cleaning and sanitizing ■

The type and concentration of sanitizing agent(Ice Maker Cleaner, Sanitizer, mild or neutral detergent, and so forth)recommended

Comply with 40 CFR 180.9403 or

Be registered with the USA Office of pesticides program Antimicrobials Division

As a food contact sanitizer and

- If produced by a device, as defined per 40 CFR 152.5003, be demonstrable to be efficacious per USEPA performance. The device shall maintain a USEPA Site manufacturing device establishment number and
- If produced by a device, as defined per 40 CFR 152.5003, have in place and readily discernable to the operator a monitor or indicating device that the device is producing adequate amounts of sanitizing agent during the sanitization operation.

• General

The end user is responsible for maintaining this ice maker according to the instructions in this manual.

The maintenance procedure is not covered by insurance.

Basic sanitation and maintenance of the ice maker will increase the reliability and performance of your ice maker and also reduce the consumption of water and electricity.

Managing the ice maker according to our instructions will minimize unwanted repairs that might occur while in use.

The table below shows the maintenance activities and their frequencies that the end consumer and the service technicians shall perform.

These figures are minimum requirements. If the water is supplied to the ice maker in poor quality, the evaporator must be cleaned more frequently. If the condenser air filter is completely clogged, it should be cleaned more frequently on a weekly basis.

- ※ Warning: If you do not fully understand essential safety regulations and procedures, please contact the distributor to carry out the necessary repair.

[Cleaning and Sanitizing Inside]

• General

Clean and sanitize the ice maker every six months for efficient operation.

If the ice maker needs to be cleaned and sanitized more frequently, consult a certified service company for water quality testing and take appropriate action.

If the internal condition of the ice maker is poor, it is necessary to disassemble major parts of the ice maker for cleaning and disinfection.

- ※ Caution: Use only the certified ice-maker detergent and disinfectant. (The detergent can be purchased through us or our distributor.) Please read the label printed on the container before use before cleaning or Sanitization. Do not mix the detergent and the disinfectant.

- ※ Warning: Wear rubber gloves and goggles (or face cover) when using the detergent or the disinfectant.

• How to Wash

Ice maker detergent is used to remove mineral deposits such as lime marks. It cannot be used to remove fur or adhesive mucus. Mix 4 liters of water and 150 ml of detergent in a plastic or stainless steel container.

Detergent (Nickel Safe Cleaner)	Water
150 ml (5.1 oz)	4 Liter
Disinfectant (5,25% Sodium Hypochlorite)	Water
200 ml (6.7 oz)	5 Liter

Step 1: After the ice falls off the evaporator, turn off the switch at the end of the ice separating cycle.

Or turn the switch to OFF so that the machine will automatically complete make and separate ice and stop.

- ※ Caution: Do not remove ice from the evaporator by using excessive force. It can damage the evaporator.

Step 2: Remove all ice inside of the tank. (If you wish to use the ice again, keep it in a suitable separate container.)

- ※ Warning: Before proceeding, shut down the power to the icemaker in the electric switch box.

(Leave the earth leakage breaker OFF or leave the ice maker switch OFF)

Step 3: Our ice makers are generally divided into two types. Take cautions when disassembling parts as they are disassembled differently and the different parts are disassembled depending on the type.

- Wash the ice scoop regularly. Wash it with other food containers.
- The handle of the ice scoop can be easily exposed to germs by hands and so forth.

Caution

- The detergent may cause burns.
- If you accidentally drink the detergent, do not force yourself to vomit.
- Instead, drink large amount of water or milk and contact your doctor immediately.
- If the detergent gets on the skin, wash with water.

Warning

- Keep the detergent out of children's reach.

- ① Cubic Type: If necessary, remove the top cover and disassemble the evaporator cover, water curtain (piano keys shaped part – for some products, it is necessary to remove the screws on the front side), ice guide(the part that guides ice to slip into the tank), and nozzle frame (the part to which the water spraying nozzle is attached).
- ② Vertical Type: If necessary, remove the top cover and disassemble the water curtain (the cover that prevents water splash on the front side – push to the right completely to pull out the trapping on the leftside to disassemble). The thickness sensor and water supply pipe do not need to be disassembled.

Step 4: Put all components in a 1 liter (3 liters for cubic type) of the detergent/water mixture and rinse with a soft nylon brush. Disassemble the spray bar (remove the left and right silicone plugs) and separate the nozzles and inserts and immerse for 5 minutes (cubic type). Particularly, if too much lime has built up, immerse in the solution for 15 to 20 minutes. It would help if you shake the components from time to time and use lukewarm water. For cubic type, use a toothbrush to clean the nozzle area. When the cleaning is complete, rinse all parts with clean water.

Step 5: While immersing the components in the cleaning solution, clean the inside of the ice container with a soft brush. Rinse every corner of the inside door, door rails, reservoir, and evaporator frame with clean water.

For cubic type ice maker, clean the upper pipe part of the evaporator.

Step 6: Place the cleaned parts back in place and put the remaining 3 liters (1 liter for cubic type) into the water container.

Step 7: Turn on the ice maker. (At this time, the switch of the ice maker is OFF)

Step 8: To start automatic cleaning, turn the switch to WASH.

Step 9: After the automatic cleaning is completed (21 minutes for cubic type and 30 for vertical type), set the switch to OFF. If there is cleaning solution still remains in the water tray, use the drain plug to remove the cleaning solution. For cubic type ice maker, install drain plug again, put 1 liter of water into the container, turn the switch to WASH, and circulate water again for 10 minutes. (Rinse function) The vertical type ice maker with water supply/drain valve automatically rinses and replenishes water.

Step 10: Once the washing is complete and subsequently the rinsing is complete, it will remove the calcareous substance in the internal piping. If bubbles and so forth are not fully rinsed inside the water tray, repeat Step 9.

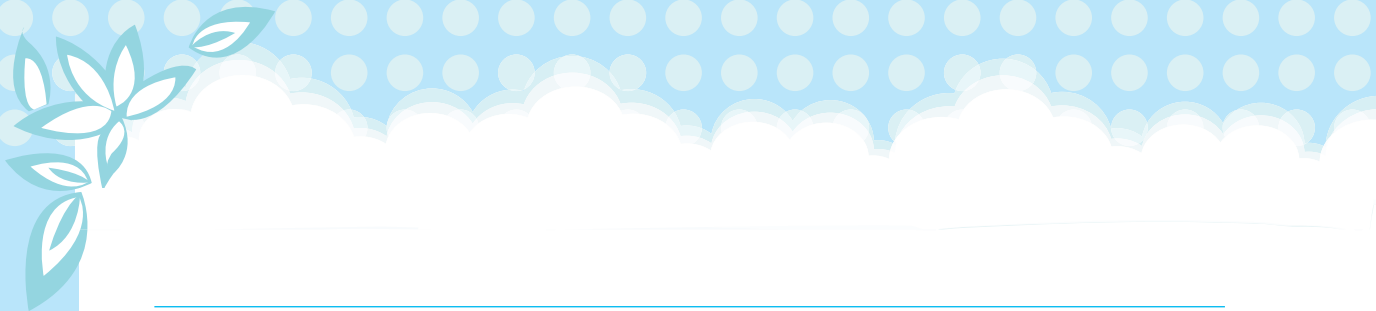
Step 11: Washing ends in Step 10. Step 11 is sanitization. Sanitization should be performed at least once a month. Immerse all components in Step 3 in 2 liters of disinfectant/water mixture for 10 minutes to Sanitize. If the parts are large, pour or spray the disinfectant/water mixture on the surface. When the Sanitization is completed, rinse all components with the clean water (use the water directly from the tap to prevent cross-contamination).

Step 12: Using the disinfectant/water mixture and a soft brush, rub and clean the inside of the ice container. Rinse every corner of the inner door, door rails, tank, evaporator frame and rinse with clean water (use the water directly from the tap to prevent cross contamination).

Step 13: Reassemble the components disassembled in Step 11 and leave the switch on OFF.

Step 14: Before proceeding with the sterilization cycle, pour 3 liters of disinfectant/water mixture into the water tray. Turn the switch to the WASH to perform the automatic Sanitization cycle. The disinfectant/water mixture will automatically run inside the piping to Sanitize.





Step 15: After the automatic cleaning is completed (21 minutes for cubic type, 30 minutes for vertical type), turn the switch to OFF. If the disinfectant remains in the water container, use a drain plug to remove the disinfectant. For cubic type ice maker, place the drain plug and pour 1 liter of water into the tank, turn the switch to WASH and circulate the water again for 10 minutes. (Rinse Function) The vertical type ice maker with water supply/drain valve automatically rinses and replenishes water. After the Sanitization is completed, remove the drain plug to discharge the remaining disinfectant mixture, gently rinse with tap water, and dry naturally. To avoid cross contamination, do not wipe the inside with dry cloth, and so forth.

Step 16: Turn the switch to ICE to start the ice maker. The ice maker will turn to normal ice making cycle. Discard the first ice and use from the second ice.

※ The equipment is to be installed with adequate backflow protection to comply with applicable federal state and local codes.

9. Maintenance of the Ice Maker

Management in the coldest season

- ① Clean the ice-production system.
- ② Turn off the power.
- ③ Empty the water container. Remove the pump hose.
The pump hose may be removed after removing the back panel from the ice maker.
- ④ Separate the inlet pipe connected with the water supply valve.
- ⑤ Turn on the power and turn the switch to the “WASH” position to open the water supply valve and to remove the water from the inlet pipe inside the ice maker.
- ⑥ In the case of the drain pump model, pour 1/2 gallon of RV anti-freeze mixture (propylene glycol) into the ice container.

Important Information : Do not use an anti-freeze product intended for automobiles.

- ⑦ Turn off the ice maker and pull the plug out of the electric outlet.
When using the ice maker after winter, re-connect the pump hose and other hoses. Repeat the initial starting steps described on page 13.

Adjusting the ice maker

Three items may be adjusted: the detection temperature of the evaporator, the delay time of the ice-production cycle, and the water supply time.

To adjust the three items, an inspection kit is required.

If the ice maker is adjusted by the user at his/her discretion, a serious incident may occur.

Important Information : The three items mentioned above should be adjusted by the engineer of an A/S center designated by ICETRO.



10. Specifications

CATEGORY		UNIT	U-0070-Series, A25B15-Series, A25O15-Series, 3597
Maximum Manufacturing Capacitor		kg/day	25
		lb/day	55
Dimension		WxDxH (mm)	380 x 625 x 857 (Include Handle, Leg, Hinge)
		WxDxH (inch)	15 x 24.6 x 33.7 (Include Handle, Leg, Hinge)
Quantity of Ice		EA	24
Electrical rating		V/Hz/A	115 V / 60 Hz / 3.7 A
Weight	Before Box	lb	103.6
	After Box	lb	119
Cooling UNIT	Refrigerant	—	R-600a
	Capacity	kcal/hr	723(at 45°F)
	Cooling Method	—	Air Cooled
Cont rolling the size of ice		—	Controlling the temperature with EVA SENSOR
Cont rolling the detection of full ice		—	Controlling the temperature with electronic sensor
			Differential application per ambient temperature (automatic PCB control)
Refrige rant Cont rolled by		—	MICOM Control
Power Consumption		W	340
Water Supply Condition		°F	50~90
Water supply pressure		MPa	0.098~0.49
Ambient temperature		°F	50~100

※ The maximum ice capacity is based on 68°F ambient / 50°F water temperature but may vary depending on the installation condition ; high temperature in summer may severely affect the capacity .



11. Troubleshooting guide

PROBLEM	POSSIBLE CAUSE	POSSIBLE SOLUTION
Ice maker does not operate	Ice maker is unplugged	Plug ice maker in.
	Breaker tripped	Reset breaker – if it happens again, call a authorized service center.
	Switch turned to “OFF”	Turn switch to “ICE” .
	The ice tank is full.	The ice maker has stopped since the ice detection sensor inside the tank is activated. The ice maker will not resume operation immediately after removing ice — wait for 15~30 minutes.
Ice cubes are too large	The ambient temperature is too low.	The lower the ambient temperature, the bigger the ice will be and vice versa.
	Ice thickness control does not work.	Contact the customer service center for details on how to control the thickness of ice.
Ice cubes are too small	The ambient temperature is too high.	The lower ambient temperature is, the bigger the ice will be, and vice versa.
	Too little water in the water tank.	Check the water supply.
	The water nozzle does not eject water.	Check the water supply and see if the nozzle is clogged with foreign object.
	Ice thickness control does not work.	Please contact customer service center for controlling thickness of ice.
Ice is fragmented.	Water is not accurately sprayed from the nozzle to the center of the vaporizer cube.	Clean the ice maker – the nozzle may be clogged with foreign object.
The tank is not fully filled with ice cubes.	Check the operation time.	The ice tank will be filled with ice after about 12 hours of operation.
	There is water in the ice tank.	Make sure the drain pipe of the water tank is properly connected and clean the drain.
	Hot air is blown to the tank.	Check the site where the product is installed.
The ice cubes are white.	Too little water in water tank.	Check the water supply as well as whether water leaks from the tank.
The ice maker is operating, but no ice is made.	Too little water in water tank.	Check the water supply. Check the water supply valve..
	Ice cubes are stuck on the vaporizer.	Check the water supply. Check the water supply valve. Check the hot gas valve.
	The water does not get cold.	Check the water supply valve. Contact the customer service center if the valve is fine.
	Water is not sprayed.	Check the water in the water tank. Check if the circulation pump is working.
	Condensing is not done.	The condenser has too much dust. Clean the condenser. Check the fan motor of the condenser.
	The condenser does not work.	The ambient temperature is too high. Check the conditions where the product is installed or contact the customer service center.
	Hot gas leaks.	Contact the customer service center.
	Refrigerant needs to be refilled.	Contact the customer service center.

12. R-600a Handling

REQUIREMENT FOR SERVICE AND INSTALLATION OF APPLIANCES USING FLAMMABLE REFRIGERANTS



Danger

- Never apply a torch to a charged R-600a refrigeration system. R-600a is considered non-toxic but is flammable when mixed with air.
- Under no circumstances shall the potential sources of ignition be used in the searching for or detection of refrigerant leaks. Do not pierce or burn.
- The appliance shall be stored in a room without continuously operating ignition sources.



Warning

- Only skilled and well-trained service technicians permitted to service R-600a equipped products.
- Replace components only with parts specified by the manufacturer. Other parts can result in the ignition of refrigerant in the atmosphere from a leak.
- Prior to beginning work on systems containing FLAMMABLE REFRIGERANTS, safety checks are necessary to ensure that the risk of ignition is minimized.
- Work shall be undertaken under a controlled procedure to minimize the risk of a flammable gas or vapor being present while the work is being performed.
- If any hot work is to be conducted on the refrigerating equipment or any associated parts, appropriate fire extinguishing equipment shall be available on hand. A dry chemical or CO2 fire extinguisher should be adjacent to the charging area.
- Gloves and Eye Protection must be used.
- Use only a refrigerant grade R-600a from a properly labeled container.
- Do not remove or alter any R-600a labeling on the product.
- During repairs to sealed components, all electrical supplies shall be disconnected from the equipment being worked upon prior to any removal of sealed covers, etc.
- If the evaporator is cold prior to service, it must be thawed prior to service.
- When using a vacuum pump, start pump before opening refrigeration system. Vacuum pump and recovery equipment should be at least 10 feet from the work area.



R-600a SPECIFICATION

R-600a is considered non-toxic but is flammable when mixed with air.

R-600a is heavier than air, do not allow any leakage/migration to low areas such as basements and stairs. Work in confined spaces shall be avoided.

Be aware that refrigerants may not contain an odor and color.

LEAK DETECTION

The area shall be checked with an appropriate refrigerant detector prior to and during work, to ensure the technician is aware of potentially toxic or flammable atmospheres.

Ensure that the detector is not a potential source of ignition and is suitable for the refrigerant used.

Electronic leak detection or soap solution can be used to check for nitrogen/helium leaks.

If a leak is suspected, all naked flames shall be removed/extinguished.

If a leakage of refrigerant is found which requires brazing, all of the refrigerant shall be recovered from the system, or isolated (by means of shut off valves) in a part of the system remote from the leak.

The high side of the refrigeration system (compressor discharge to outlet of drier) must be leak tested with the compressor running.

The low side of the refrigeration system (evaporator, compressor and suction line) must be leak tested with the compressor off (equalized pressure).



Warning

- Only skilled and well-trained service technicians permitted to service R-600a equipped products.

NO IGNITION SOURCES

All possible ignition sources, including cigarette smoking, should be kept sufficiently far away from the site of installation, repairing, removing and disposal, during which refrigerant can possibly be released to the surrounding space.

Prior to work taking place, the area around the equipment shall be surveyed to make sure that there are no flammable hazards or ignition risks. “No Smoking” signs shall be displayed.

VENTILATED AREA

A degree of ventilation shall continue during the period that the work is carried out. The ventilation should safely disperse any released refrigerant and preferably expel it externally into the atmosphere.

CHECKS TO THE REFRIGERATING EQUIPMENT

Where electrical components are being changed, they shall be fit for the purpose and to the correct specification. At all times, the manufacturer’s maintenance and service guidelines shall be followed. If in doubt, consult the manufacturer’s technical department for assistance.

CHECKS TO ELECTRICAL DEVICES

Repair and maintenance to electrical components shall include initial safety checks and component inspection procedures.

If a fault exists that could compromise safety, then no electrical supply shall be connected to the circuit until it is satisfactorily dealt with.

Initial safety checks shall include:

- that capacitors are discharged: this shall be done in a safe manner to avoid possibility of sparking;
- that no live electrical components and wiring are exposed while charging, recovering or purging the system;
- that there is continuity of earth bonding.



Warning

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REFRIGERANT CHARGING

No air is ever to be allowed inside the refrigeration system (R-600a refrigerant or dry nitrogen only).
Ensure that contamination of different refrigerants does not occur when using charging equipment.
Hoses or lines shall be as short as possible to minimize the amount of refrigerant contained in them.
Cylinders shall be kept in an appropriate position according to the instructions.
Ensure that the REFRIGERATING SYSTEM is earthed prior to charging the system with refrigerant.
Prior to recharging the system, it shall be pressure-tested with the appropriate purging gas.
The system shall be leak-tested on completion of charging but prior to commissioning.
A follow up leak test shall be carried out prior to leaving the site.

REFRIGERANT RECOVERY

R-600a has been exempted from recovery/reclaiming requirements by the US EPA.

Recovery/Reclaiming equipment must be approved for use with R290/R600a.

When transferring refrigerant into cylinders, ensure that only appropriate refrigerant recovery cylinders are employed.

Do not mix refrigerants in recovery units and especially not in cylinders.

Do not overfill cylinders (no more than 80 % volume liquid charge).



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SYSTEM REPAIR

- Be aware that malfunction of the equipment can be caused by refrigerant loss and a refrigerant leak is possible.
- Discharge capacitors in a way that won't cause any spark.
- When brazing is required, Safely remove the refrigerant following local and national regulations. Take care that the drained refrigerant will not cause any danger. Take special care that drained refrigerant will not float back into the building.
- Carry out a leak test before charging with refrigerant.

DECOMMISSIONING / DISPOSAL

If the unit is being removed from service for disposal, check and obey all federal, state, and local regulations regarding the disposal and recycling of refrigeration appliances, and follow these steps completely:

- Remove all consumable contents from the unit.
- Unplug the electrical cord from its socket.
- Remove the door(s)/drawer(s).
- The REFRIGERANT CHARGE is to be removed before decommissioning.
- Ensure sufficient ventilation at the equipment location.
- Discharge capacitors in a way that will not cause any spark.
- Put a label on the equipment that the refrigerant is removed.
- Cut out the compressor and drain the oil.

COMPRESSOR REPAIR



Danger

- Failure to follow electrical safety measures may result in serious injury, fire or death.

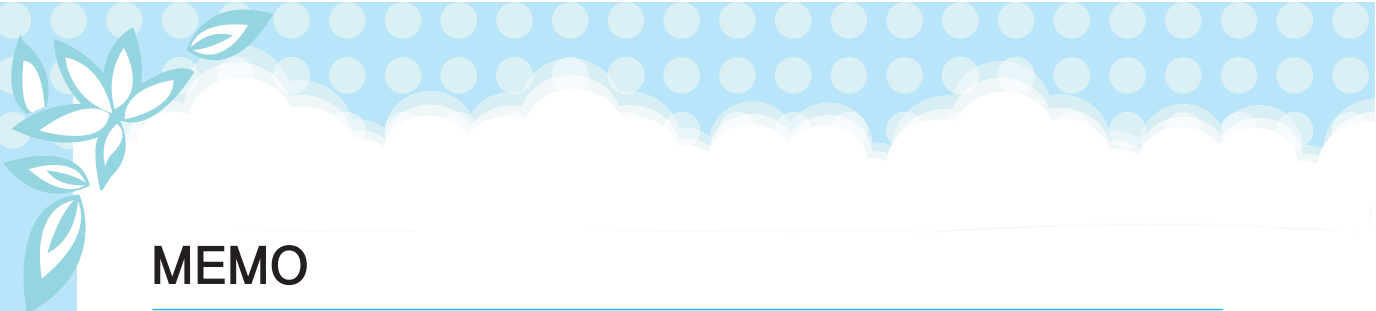
- Never handle the unit in wet conditions as this can pose a severe danger of electric shock.
- Burns from hot or cold surfaces can cause serious injury.



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