Blueair

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I515A-010

Blueair

Installation and User's Manual

BLDN-280A

I515A-010
Ver.202304_01

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● Freight Claim Procedure(Important)

Inspect Immediately

This product has been carefully inspected and packed in accordance with the carrier's packing specifications. Responsibility for safe delivery has been assumed by the carrier. If loss or damage occurs, you as the consignee must file a claim with the carrier and hold the container for carrier's inspection.

Visible Loss or Damage

Any external evidence of loss or damage must be fully described and noted on your freight bill or express receipt and signed by the carrier's agent. The claim should be filed on a form available from the carrier.

Concealed Loss or Damage

Concealed loss or damage should be reported to the carrier and vendor within 24 hours of delivery.
After 24 hours the seller is not responsible for any freight damage incurred.
Keep the product as well as all of the original packaging material in a receiving area for carrier's inspection.

Warning

Connect to potable water supply only.
Adult supervision is required for safe use either by children under 8 years of age or the developmentally disabled.
The warranty does not apply to the followings.

- Repair or replacement of parts required due to misuse, improper care or storage, negligence, alteration, use of incompatible supplies or lack of specified maintenance.
- Regular maintenance items.
- Failures caused by improper or erratic voltages, adverse environmental or water conditions, improper drainage, interruption in electrical or water supply.
- Improper or unauthorized repair.
- Any ice machine that has been installed and/or maintained inconsistent with the instructions provided by Blue Air

1. General Information

1.1 Electrical and Refrigerant Data

Model	BLDN-280A
Rated Voltage	115V / 60Hz / 1Ph
Rated Ampere	7.0A
Compressor	115V, 16.7LRA, 4RLA
Gear Motor	115V, 1.44A
Agitator Motor	115V, 1.34A
Designed Pressure	HI 350psig, LO 220psig
Refrigerant	R-290, 145g (5.1oz)

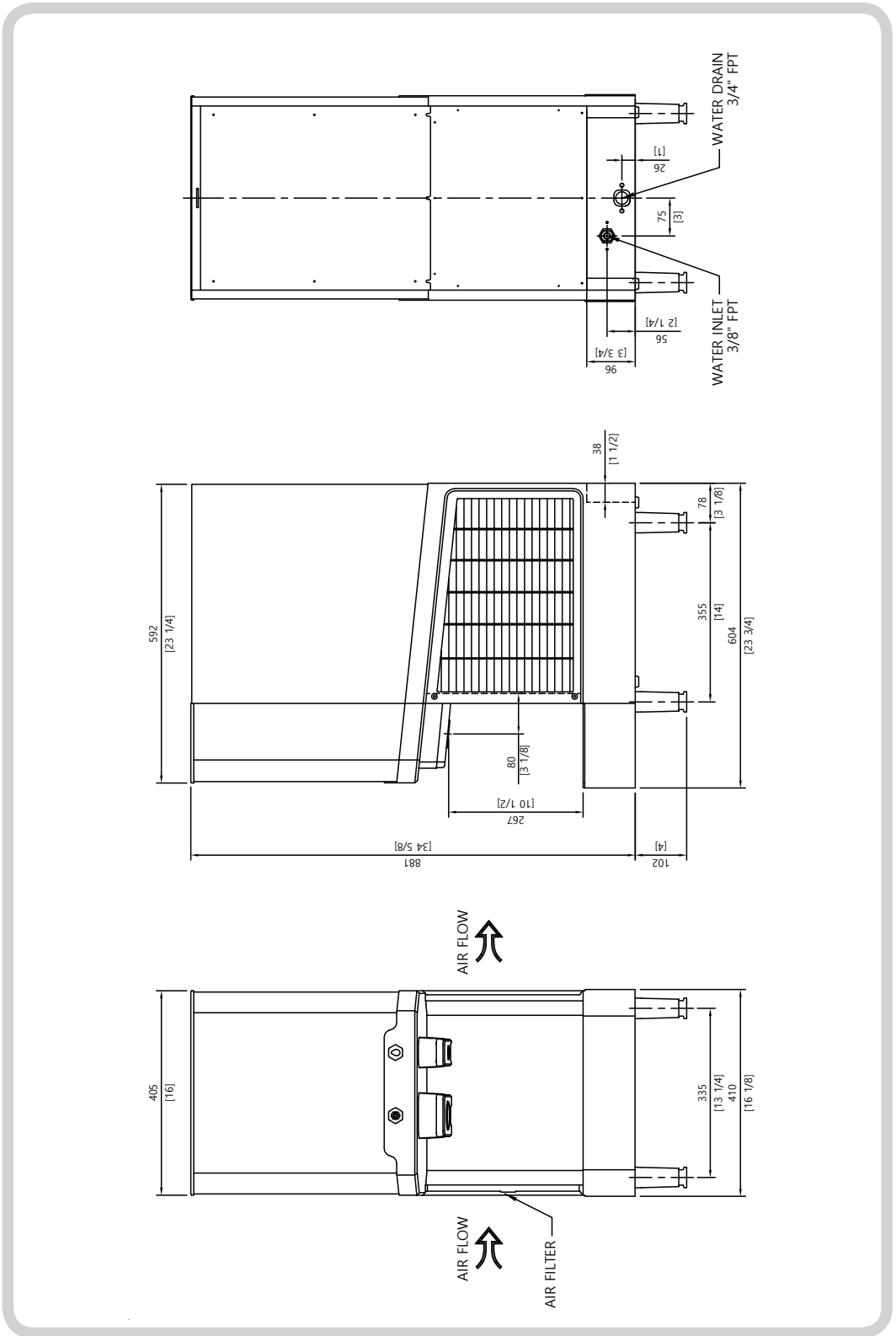
1.2 Approximate Ice Production

No.	Model	AT 70°F / WT 50°F (AT 21℃ / WT 10℃)	AT 90°F / WT 70°F (AT 32℃ / WT 21℃)
1	BLDN-280A	282.8lbs/day (128.3Kg/day)	230.6lbs/day (104.6kg/day)

1.3 Operating Limits

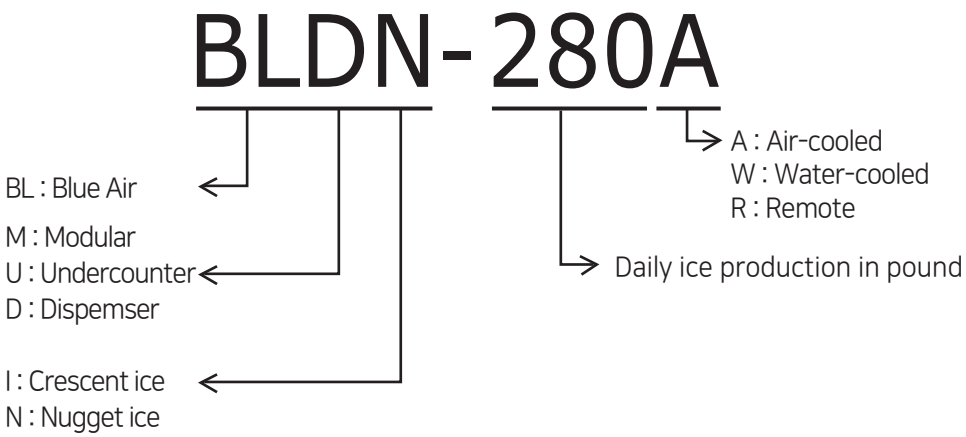
Ambient temp' range	45~100℉ (7~38℃)
Water temp' range	45~90℉ (7~32℃)
Water pressure	10~100psig (70~690kPa)
Voltage range	104~127V

1.4 Product Dimensions

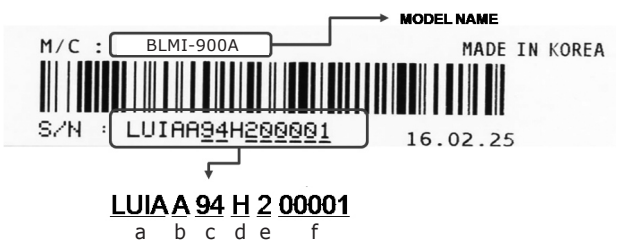


1.5 Model Names and Serial Number

● Model Names



● Serial Number



a (4 digits) : CIS code for specific model

b (1 digit) : Product group

c (2 digits) : Manufacturing site (supplier code)

d (1 digit) : Manufacturing year

e (1 digit) : Manufacturing month

f (5 digit) : Serial number (00001 ~ 99999)

Year	2020	2021	2022	2023	2024	2025
Mark	N	R	T	W	X	Y
Month	Jan.	Feb.	Mar.	Apr.	May.	Jun.
Mark	1	2	3	4	5	6
Month	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
Mark	7	8	9	A	B	C

2. Installation

WARNING

The ice machine contains Hydrocarbon (R-290). Read below:

- To avoid either damaging the refrigerant tubing or increasing the risk of refrigerant leak, the Ice machine should be handled, moved and used with a caution.
- The ice machine should be installed following the local regulations of the country, state, region and in accordance with the Safety Standard for Refrigeration Systems, ASHRAE 15.
- Read the manual thoroughly before installation. Incorrect installation may cause malfunction or bodily injury and death.
- Do not drop tools into the machine or the surface of the unit during installation. It may cause injury during routine operation of the machine.

2.1 Installation Site

The following conditions must be met to install the ice machine. If any of the following conditions are not met, please select a different site.

- The installation site should be indoors and well ventilated.
- The installation site shall not be in corridors or hallways of public buildings.
- Ambient temperature should be between 45-100℉ (7-38℃).
- Clear of heat source and away from direct sunlight.
- Accessible to sufficient water supply, drainage system and easy wiring.
- No obstacles blocking air circulation.
- Sufficient rear space for wiring and plumbing.
- Clean site with no food waste or any other contaminants nearby.
- Rigid enough to support the full weight of the ice machine filled with ice.

2.2 Installation Conditions

- The installation of ice machine must be leveled horizontally.
- The end of drain pipe should have a gap of 2 inches (5 cm) from the floor drainage.
- The drain pipe should have a horizontal gradient of 1/4" fall per foot (2 cm per 1 m) and an air vent should be installed.
- An anti-backflow device must be installed in accordance with the relevant laws and regulations of the area.
- For sufficient air circulation and maintenance, the following clearance should be ensured :
  - 6 inches to the left & right.
  - 2 inches upwards and an additional 10 inches to remove the auger if the ceiling is fixed.
  - 6 inches rearward.
- Installing ice machine on the site with the minimum requirements optimizes its performance.

2.3 Power Conditions

WARNING

Electrical wiring and grounding of the unit should be done in accordance with the applicable local, state, federal laws and regulations.
- The ice machine must be grounded in accordance with the law and regulations of the country, state and region.

Make sure to check the following:

- The ice machine must be grounded.
  The product is equipped with a NEMA 5-15 3-socket ground plug to reduce the potential risk of electric shock. The wall must have an independent, properly grounded 3-socket outlet. If a 2-socket outlet is installed, the user should be responsible for having it replaced with a 3-socket outlet by a qualified technician.
- Do not use an extension cord.

2.4 Items to Check Prior to Installation

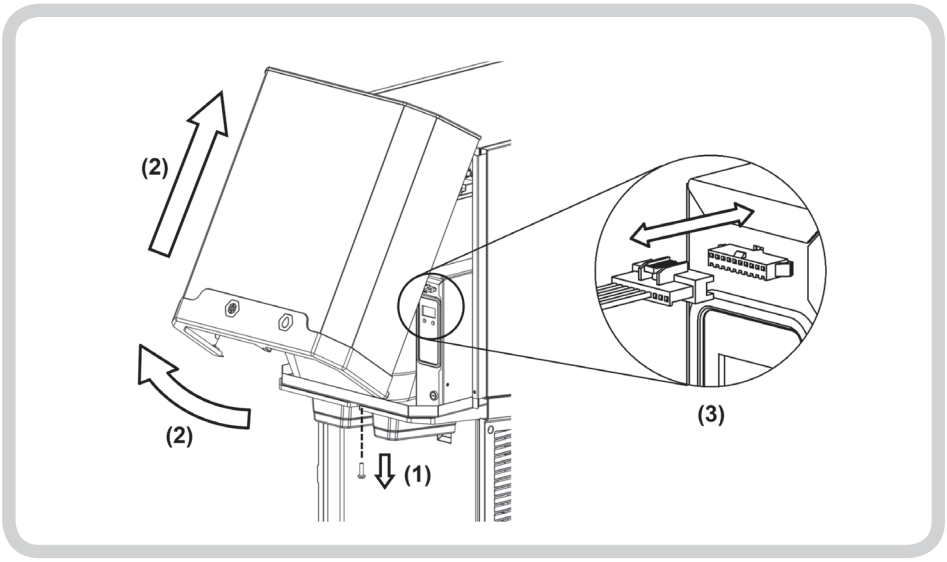
- Remove the packaging and check the exterior of the product. Contact the seller if any damage is found.
- Remove the box, tape and other packaging items. If the packaging is not removed before operations, the ice machine may not operate.
- Check the label for a model name and voltage that meet the installation conditions.
- Check the power supply of the installation site to ensure that sufficient power is supplied for the machine.
- Remove the protection film.
- Remove the panel according to [2.5 Panel Removal].

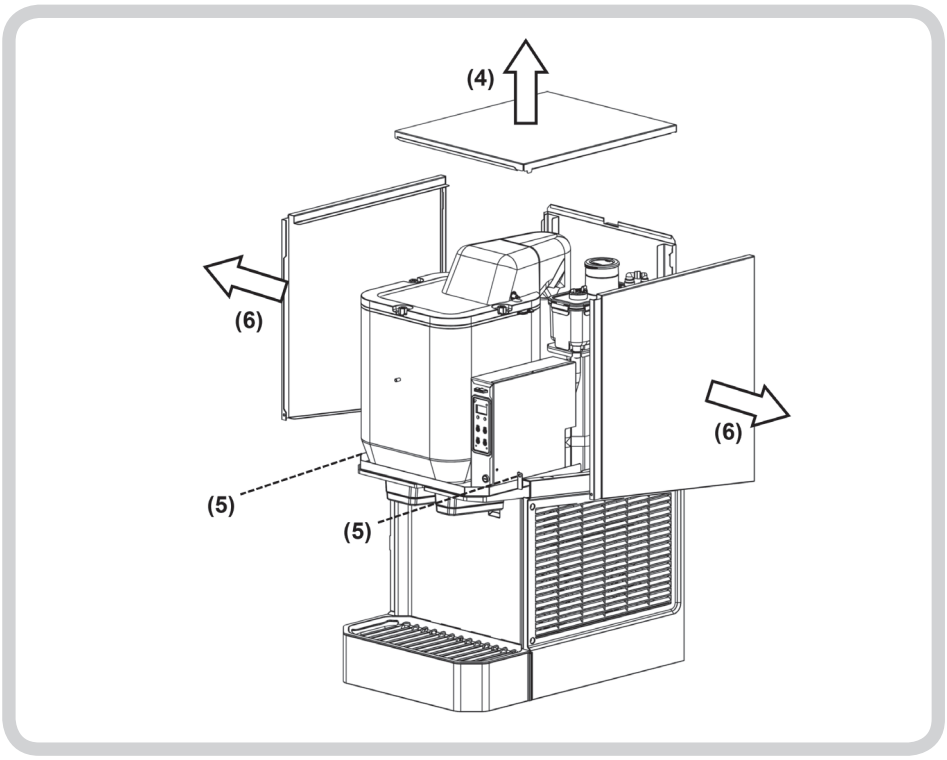
※ Contact the seller for further inquiries.

2.5 Panel Removal

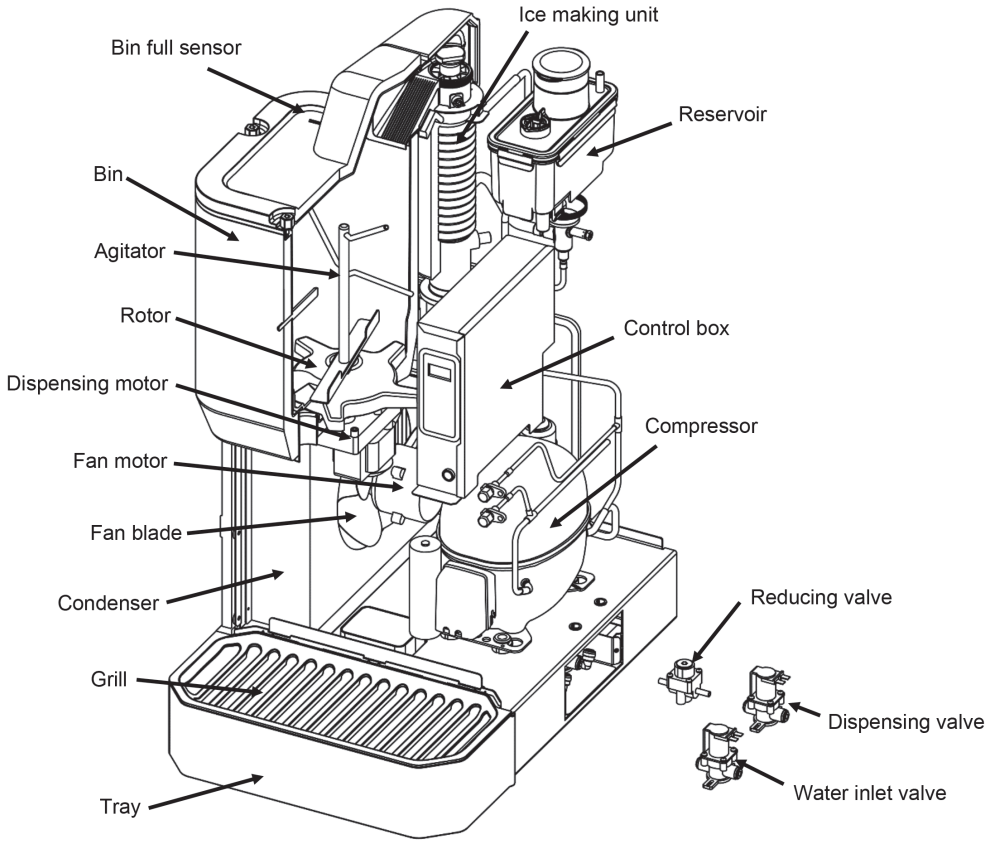
The front and upper panel must be removed before use to check any abnormalities in the product and to operate the machine. Remove the panel in the following order:

1) Remove the screw on the lower part of front panel by using a Phillips(+) screwdriver.
2) Pull the bottom of front panel forward and lift it up.
3) Disconnect the wires connecting the control box and the front panel buttons.
4) Lift the top panel and remove it.
5) Remove each screw on the left/right side panels.
6) Pull the left/right panels forward and slide it sideways.





2.6 Parts Configuration



2.7 Plumbing

WARNING

Installation of water supply and pipe system must be done in accordance with local, state, federal laws and regulations.

- The ice machine is to be installed with adequate backflow protection to comply with applicable local, state, federal laws and regulations.
- Water pipe work must be done by qualified service technicians.

Depending on the quality of water supply in the area where the ice machine is installed, additional treatments may be required to control scale generation, remove impurities and chlorine.

2.7.1 Water Supply Line

Follow the guidelines below when installing water supply pipe:

- Do not supply water other than portable water.
- Do not supply hot water.
- Optimum water pressure is 10~100psig (70~690kPa).
- Install a shut-off valve on the water supply line.

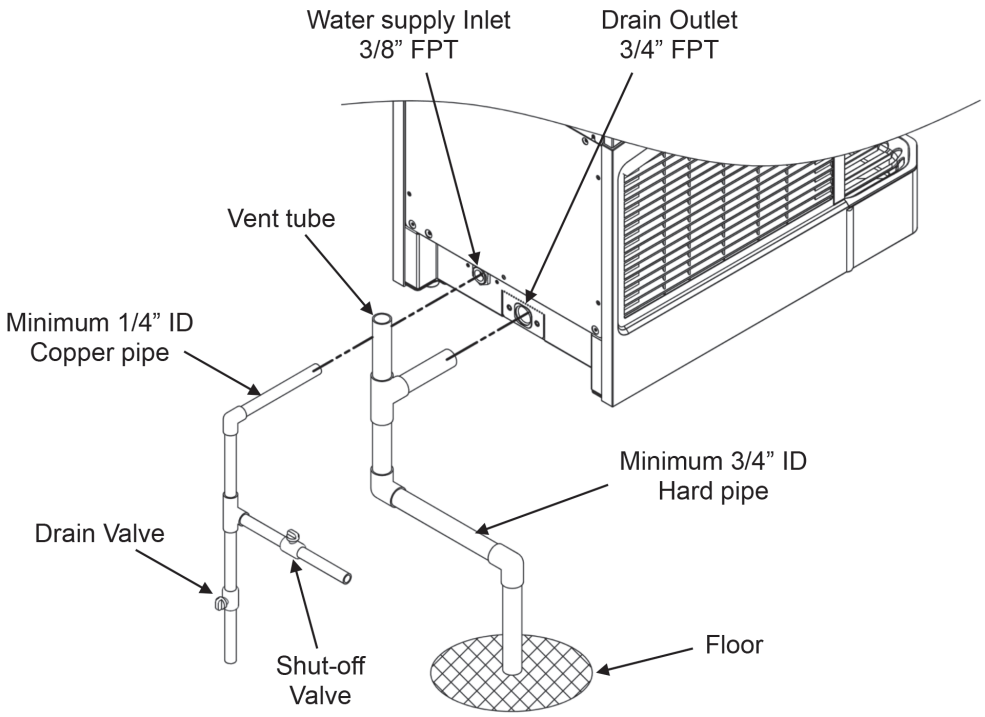
2.7.2 Drainage Line

Follow the guidelines below when installing drain pipe:

- A gradient of 1.5 inches per 5 feet (2.5 cm per meter) is required for fluid drainage.
- Do not install a trap.
- A minimum of 5 cm vertical space is required between the end of drain pipe and the floor drainage.
- The floor drainage must be large enough to drain all the water.
- Air vent pipe must be installed.
- This ice machine uses gravity drainage and does not have a separate backflow prevention device. If necessary, purchase and install one additionally.

▶ Conditions for water supply and drainage

Location	Water temperature	Water pressure	Connecting Fitting size	Connecting hose Size
Water inlet	45℉(7℃) Min. 90℉(32℃) Max.	10psig(70kPa) Min. 100psig(690kPa) Max.	3/8"FPT	ID 1/4"copper pipe (Min.)
Drain	-	-	3/4"FPT	ID 3/4"hard pipe (Min.)



* Leave a 2inch (5cm) vertical gap between the end of each pipe and the floor drainage.

2.8 Wiring

⚠ WARNING

Wiring must meet the local, state and federal standards where the machine is installed.
- Improper wiring may cause electric shock, injury, fire, or death.
- Wiring must be done by a licensed electrician.

- A dedicated power supply with sufficient capacity must be connected to the ice machine. Refer to the label for the required capacity.
- A lack of dedicated power supply with sufficient capacity may result in circuit breaker tripping, blown fuse and fire on wires or parts.
- The ice machine must be grounded. Failure of proper grounding may result in serious injury or death.
- The maximum voltage range is ±10% of the rated voltage.
- Do not use an extension cord.
- Do not use a damaged power cord.
- Do not modify, twist or tie the power cord.
- Do not pull the cord or press it down with heavy objects. Hold the plug when unplugging the power cord.
- The green ground wire of the power cord is connected to the device from the factory. When replacing the power cord, make sure to reconnect it.
- If the power cord is damaged, the cord must be replaced by the manufacturer, distributor or qualified personnel to avoid danger.

2.9 Final Check

WARNING

After installation, make sure that all components, fixture and thumb screws are securely connected. Ensure that no impurities have entered into the ice storage bin.

1. Is the ambient temperature appropriate (45-100°F)?
2. Is the supplied water temperature appropriate (45 - 90°F)?
3. Is the voltage appropriate (115V±10%)?
4. Is the water pressure appropriate (10-100psig)?
5. Is the sufficient space secured for air circulation?
6. Are all the packaging materials, including tape, etc., removed?
7. Is the ice machine leveled horizontally?
8. Are there any leaks on the water supply/drain fittings?
9. Are the water supply/drain fittings secured in the correct position?
10. Is the shut-off valve installed on the water supply line?
11. Is the water filter installed in a location that allows for easy replacement?
12. Are all the parts secured properly?

2.10 Test Run

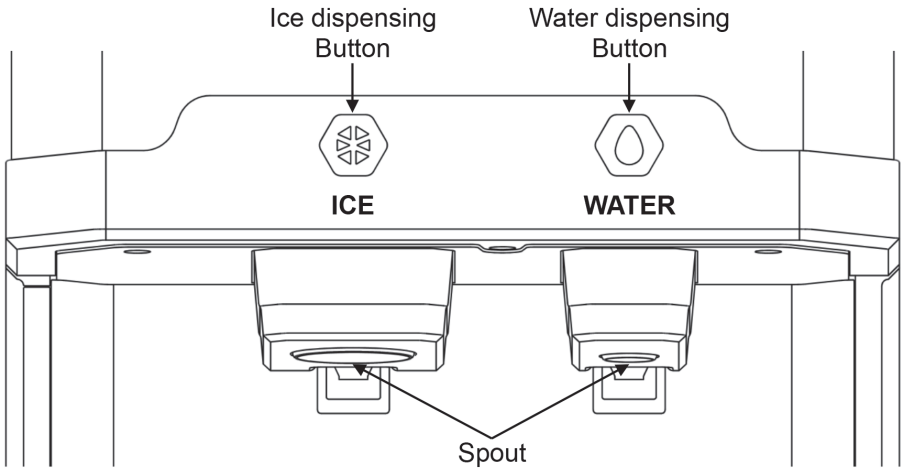
⚠ WARNING

The ice machine is factory-adjusted. In general, no additional setting is required after product installation. In cases of random modification, it may cause adverse influence on safety, function, component lifespan and warranty period.

1. Remove the front, left/right and upper panels.
2. Open the shut-off valve installed on the water supply line.
3. Press the "Power" button for 2 seconds to start up the ice machine.
4. As the ice machine starts up, Water is supplied to its reservoir. Check the water line for any leaks. If any leak is found, Press the "Power" button for 2 seconds to stop the machine and check the corresponding parts.
5. During operation, "ICE" is displayed on the front display of ice machine. For air-cooled models, warm air is discharged on the right side.
   In a few minutes, ice will accumulate in the storage bin. Place a cup on the tray and hold the "RUN" button down to verify the ice is dispensed properly. If the operation is working normally, ice is dispensed through the spout and it stops when releasing the button.
6. Place a cup on the tray and quickly press the "RUN" button twice and hold it down to verify the water is dispensed properly. If the operation is working normally, water is dispensed through the spout and it stops when releasing the button.
7. Press the “Power” button for 2 seconds to stop the machine and unplug the power cord.
8. Remove the accumulated ice in the ice storage bin.
9. Remove the 3 thumbscrews on the top of storage bin, disconnect the bin sensor and remove the ice storage bin cover.
10. Sanitize the interior of ice storage bin using a sanitizer approved in the area and let it dry by air.
11. After drying, reconnect the power cord.
12. Press the “Power” button for 2 seconds to start up the ice machine.
13. Reinstall all removed covers and panels.
14. Inform the customer about the product manual, how to operate the machine and when to replace parts.
15. Get the information about the service procedure and check how to receive the service for product malfunctions.

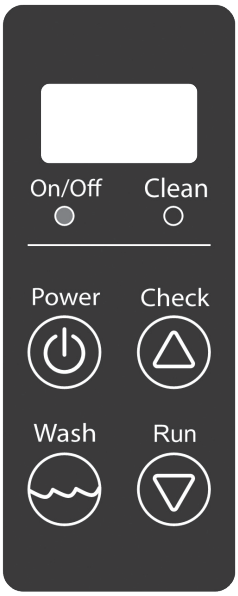
3. Operation

3.1 Ice/Water Operation



- On the front side of machine, there are two buttons and spouts for each ice/water dispensing.
- Holding down the left button activates the ice dispense motor and ice is dispensed through the spout. Once the required amount of ice has been accumulated in the container, release the button. The motor will stop and ice will stop being dispensed.
- Holding down the right button opens the water valve and water is dispensed. Once the required amount of water has been accumulated in the container, release the button.

3.2 Controller Operation



- It consists of 1 display, 4 buttons and 2 LEDs.
- **Power** : Used to turn Power the machine.
  Press and hold for 2 seconds to activate.
- **Wash** : Used to clean the machine.
  Refer to [4.2~3 Cleaning / sanitizing procedure]
- **Run** : Used to dispense ice or water.
  Holding the button dispenses ice. Quickly pressing the button twice and holding it dispenses water. Releasing the button stops the dispensing of ice or water.
- **Check** : Used for product servicing.
  Do not press the button while the machine is running normally. It may cause the machine malfunctioning.

3.3 Display

Display	Status
	Ice making cycle.
	Drainage cycle.
	**[Wash mode]** Ice machine is either cleaning or sanitizing.
	Indicates the storage bin is full of ice.
	**[Wash mode]** Indicates when to put detergent or sanitizer into the machine.
	**[Wash mode]** Cleaning or sanitization completed. (User need to press wash button to finish the wash mode.)

3.4 Troubleshooting

Before requesting service for a product issue, review the checklist below:

CODE	Details	Button blink	Possible cause
E01	Ice making time exceeded (30 mins)	Ice & Water buttons blink simultaneously at 1 second interval	Compressor not operating
			Fan motor not operating
			Gear motor not operating
			Refrigerant leaked or pipe blocked
			Level sensor not operating
			Ambient or water temperature too high
			Voltage too high or too low
E02	Compressor temperature too high	Ice button blinks at 1 second interval	Ambient or water temperature too high
			Fan motor not operating
			Condenser contamination, Needs filter cleaning
E03	Gear motor error	Water button blinks at 1 second interval	Gear motor not operating
			Icing within cylinder
			Water valve not operating
			Water pressure too low
E05	Low water level error	Ice & Water buttons blink alternately at 1 second interval	Water shut-off valve closed
			Level sensor not operating
			Water valve not operating
			Water pressure too low
E06	Hl. temperature sensor error	Ice button blinks twice per second	Sensor defect or disconnected
E07	EEPROM error	-	PCB Program error
E11	Bin full sensor error	Water button blinks twice per second	Sensor defect or disconnected

4. Maintenance

The ice machine must be maintained and inspected according to the manual and the attached label. Please consult with the seller for a better maintenance and inspection.

⚠ WARNING

Refer to the following table for guidance on maintenance period. It may become shorter depending on the environment and hygiene regulations of the installation area.
Component parts must be replaced with alike components.
To minimize the risk of possible ignition due to incorrect parts or improper service,
Replacing component parts should be done by factory authorized service personnel.

4.1 Maintenance Schedule

Refer to the table below for the maintenance schedule. Depending on the environment, water quality and hygiene regulations of the area, the cycle may be shorter.

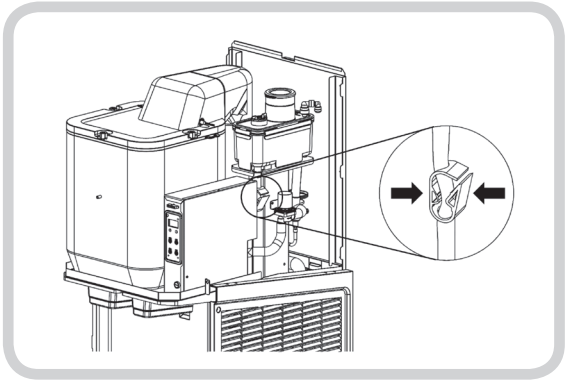
Cycle	Part	Procedure
Every 2 weeks	Air filter	Rinse with water when dirty.
Every month	Water supply filter	Check the water pressure and replace the filter if necessary.
	Ice machine exterior	Dampen a soft cloth with neutral detergent and clean off contaminants from the exterior.
Every 6 months	Ice machine	Clean and sanitize according to the manual.
	Gear motor, drain pan	Clean it using a clean cloth and warm water.
	Drain pipe	Check and clean if contaminants are found.
	Extruding head, Seal bolts	Check for leaks around seal bolts. If any leak is found, tighten or replace it. If new seal bolts are unavailable, use Loctite 263 or equivalent screw retainers and waterproof sealants ● Torque : 9.6 ft-lb / 13 N • m
	Condenser	Check and clean contaminants using a vacuum cleaner or brush.
Every year	Water hoses	Check and clean, replace the hoses if necessary.
	ice storage bin	Disassemble, clean and sanitize the bin according to [4.2 Cleaning Procedure]
After 3years, then Yearly	Upper bearing, Lower bearing, O-ring(bottom housing), Mechanical Seal, Evaporator Cylinder, Auger	Check the wear of parts and request service if necessary.

4.2 Cleaning Procedure

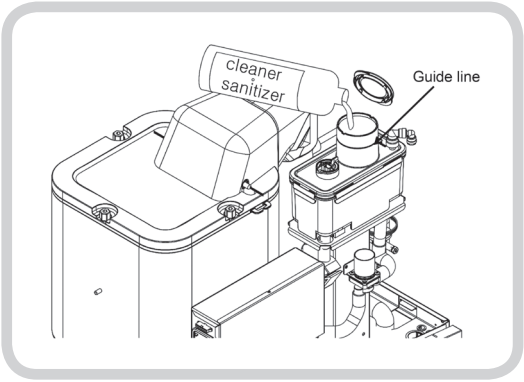
1) Remove the front panel then press the "Power" button for 2 seconds to turn off the machine.
2) Remove the left/right and top panels.
3) Refer to [Fig. 1], press the tube clamp and lock the hose.
4) Press the “Wash” button.
5) "drn" is displayed and water inside is drained.
6) Once the drainage is complete, "Add" is displayed.
7) Pour 1.2fl.oz of cleaner into the reservoir.
8) Use "Nu-Calgon Ice Machine Cleaner" as cleaner.
9) Pour warm water approximately 110-120℉(approximately 45℃) up to the guideline of the reservoir.
10) The gear motor operates and cleans the machine for approximately 30 minutes.
11) "Cln" is displayed during cleaning.
12) After 30 minutes, rinsing takes place for approximately 10 minutes.
13) Once rinsing is completed, [¯] blinks.
14) Press the “Wash” button again to complete interior cleaning.
15) Remove all parts that come in contact with ice. Refer to [4.4 Parts Removal] to remove parts.
16) Prepare a cleaning solution with 3fl.oz of cleaner per gallon of water.
17) Clean the ice chute cover, ice chutes, storage bin cover, inner parts of the storage bin, tray and grill with the prepared cleaning solution. When cleaning, use a soft nylon brush or a cleaning sponge.
    (You can also use kitchen detergent when washing.)
18) Rinse with clean water and dry it.
    ※ Do not clean the product exterior with detergent.
    ※ To proceed with sanitization, proceed to [4.3 Sanitizing Procedure].
    ※ To proceed with cleaning without sanitization, move to step 19 and 20.
19) Release the tube clamp locked in step 3.
    ※ The tube clamp must be released again. If not, defects such as abnormal operation and leaks in the machine will occur.
20) Reassemble the dried parts and press "Power" button for 2 seconds to start up the ice machine.
21) Assemble the removed front panel.

4.3 Sanitizing Procedure

1) Press the “Power” button for 2 seconds to turn off the machine.
2) Prepare a sanitization solution by diluting the sanitizer "Nu-Calgon IMS-III" with warm water at a ratio of 16fl.oz : 5gal.
3) Soak the parts removed from [4.2 Cleaning Procedure] in the prepared sanitization solution for 5 minutes.
4) Let the sanitized parts dry by air.
5) After drying, refer to [4.4 Parts Removal] and reassemble.
6) Refer to [Fig. 1], press the tube clamp and lock the hose.
7) Press the “Wash” button.
8) Once drainage is complete, "Add" is displayed. Pour 1.4fl.oz of sanitizer into the reservoir.
9) Pour additional warm water into the reservoir up to the guideline.
10) "Cln" is displayed and the sanitization takes place for approximately 30 minutes.
11) After sanitization, rinsing takes place for approximately 10 minutes.
12) Once sanitization is [_] complete, blinks.
13) Press the “Wash” button again to complete sanitization.
14) Release the tube clamp locked in step 6.
    ※ The tube clamp must be released again. If not, defects such as abnormal operation and leaks in the machine will occur.
15) Sanitize the empty interior by spraying the prepared sanitization solution made in step 2.
16) Press the “Power” button for 2 seconds to start up the ice machine.
17) Assemble the removed front panel.
    ※ Ice machine cleaner & sanitizer has to comply with 40 CFR §180.9403 or registered with the USEPA Office of Pesticides Program, Antimicrobials Division as a food contact ice machine cleaner & sanitizer.



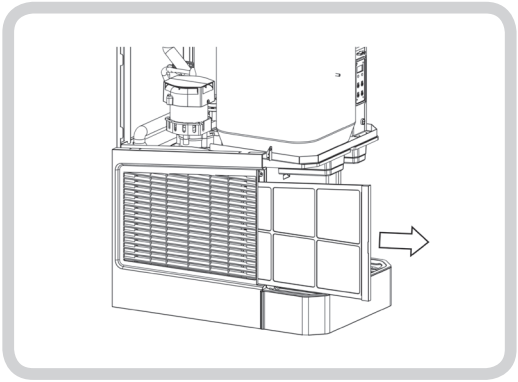
[Fig 1]



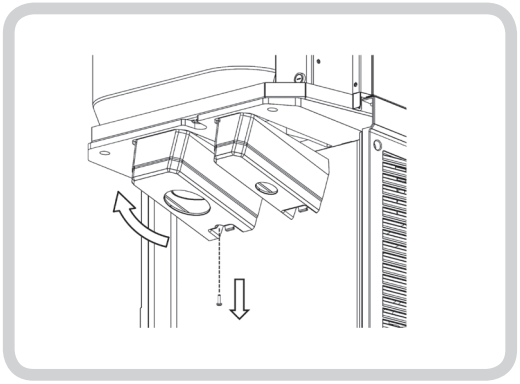
[Fig 2]

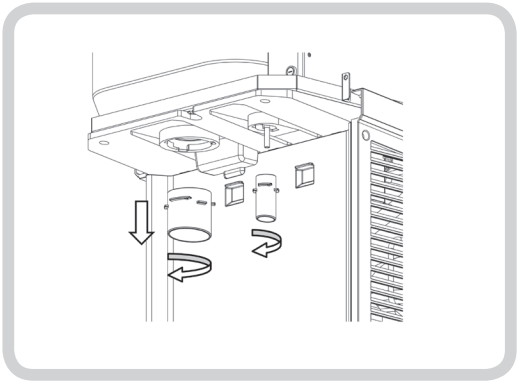
4.4 Parts Removal

1) Refer to [2.5 Panel Removal] to remove ice machine panels.

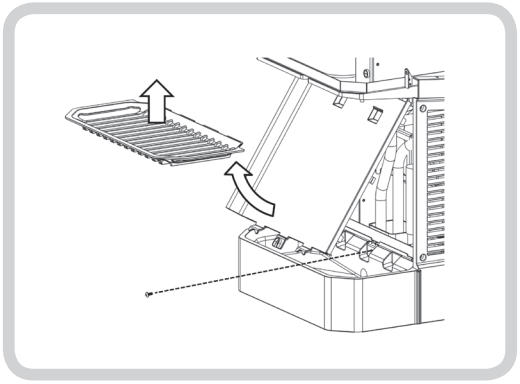


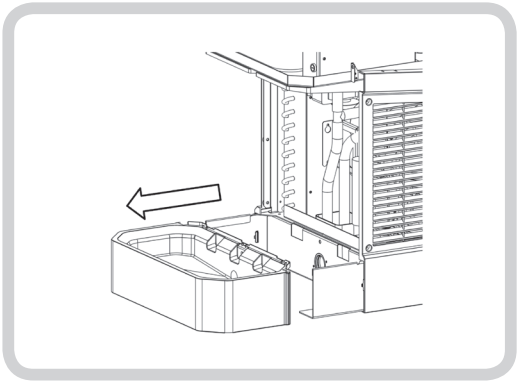
2) Remove the dust filter on the left side by pulling it out.



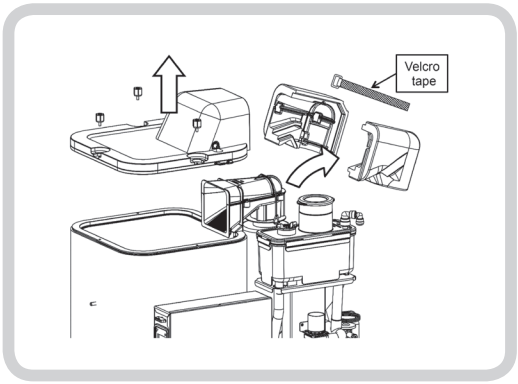


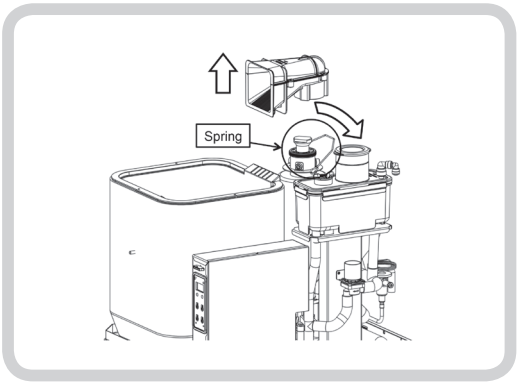
3) Remove the screw on the bottom of the chute cover and pull the chute cover out.
4) Remove the two chutes by turning it counterclockwise.



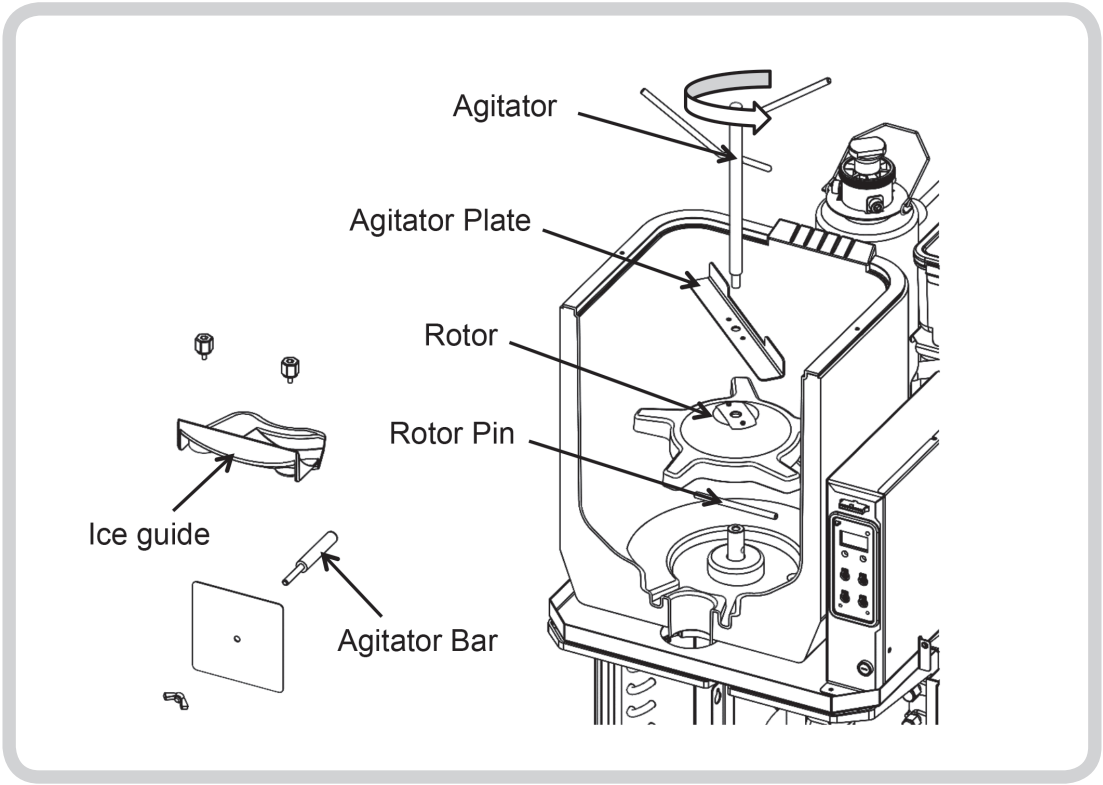


5) After removing the grill, remove the screw and pull the bottom of the splash panel out.
6) Pull the tray out.

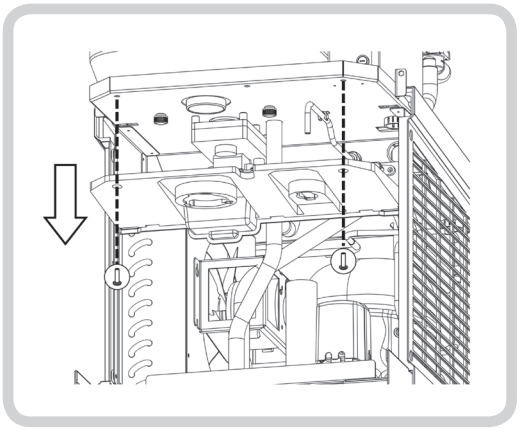


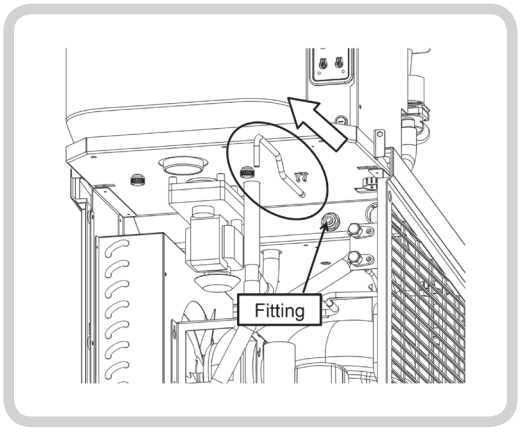


7) Remove the 3 thumbscrews on the bin cover and remove the bin cover
8) Release the velcro tape and remove the spout insulation.
9) Push the securing spring back and pull the spout up to remove it.

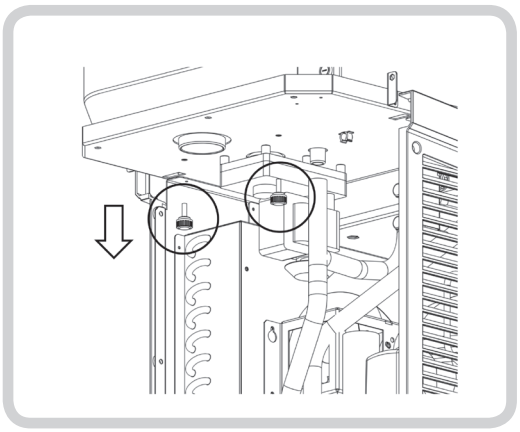


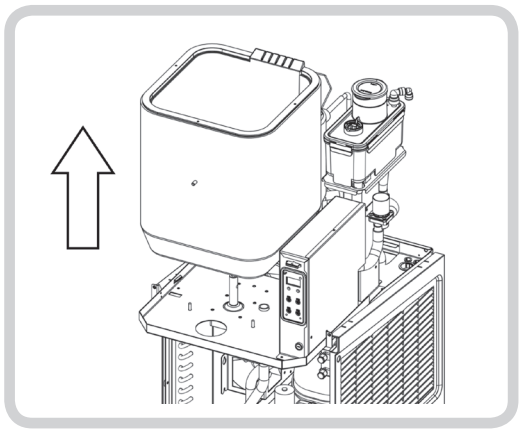
10) Remove the 2 thumbscrews in the storage bin to remove the ice guide and remove the agitator bar from the bin.
11) Remove the agitator by turning it counterclockwise, then remove the agitator plate, rotor and rotor pin.



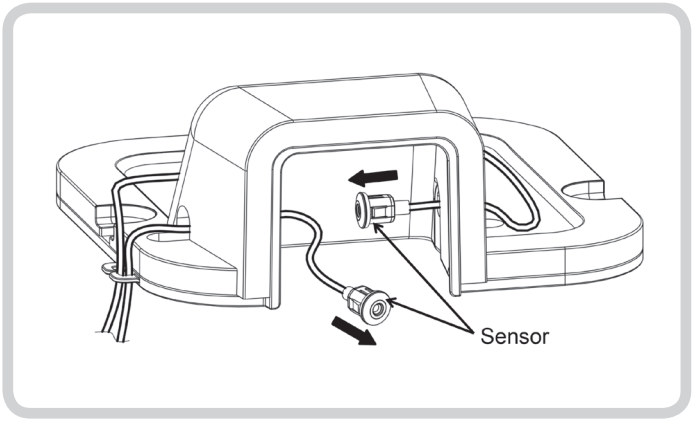


12) Remove the 2 screws of the chute holder from below and remove it.
13) Press the indicated fitting and pull the dispensing pipe out to remove it.





14) Remove the 2 thumbscrews under the plate and lift the bin up to remove it.



15) Press the hook on the bin sensor and push it inward to remove it.

4.5 Long-term Storage

If the ice machine is not operated for a long time, remove all water and ice and clean the ice machine.
The water from the water supply line must also be drained to prevent freezing. Keep the product turned off.

1) Remove all ice from the storage bin.
2) Press the “Wash” button to clean and sanitize the ice machine.
   Refer to [4.2~3 Cleaning / sanitizing procedure].
3) If step 2 is not performed, press the "Wash” button to drain the water from the ice machine.

※ If step 2 is not performed, the cleaning and sanitizing process must be performed before reuse.

4) Press the “Wash” button again when “Add” is displayed.
5) Close the shut-off valve on the water supply pipe.
6) Unplug the power cord.
7) Spray the sanitization solution on the surfaces that come in contact with ice and dry it by air.
8) Place the product in a suitable location.

4.6 Product Disposal

The product contains refrigerant and must be disposed in accordance with applicable national, state and local regulations. Refrigerant must be recovered by a qualified service technician.

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