



Installation and User's Manual

BLMI-300A

BLMI-500A

BLMI-650A

BLMI-900A



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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 following.

- 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. Specifications

1.1 Technical Specification

● Electrical & Refrigerant Data

	300A		
Condenser	Air Cooling		
Rated Voltage	115V/60Hz/1Ph	220-240V/50Hz/1Ph	220V/60Hz/1Ph
Rated Ampere	8A	6A	6A
Compressor	115 V 37 LRA 6.35RLA	198-254V 18.6LRA 4.04RLA	187-254V 23.4LRA 4.46RLA
Pump	115V 0.53FLA 59.9W	220-230V 0.16FLA 35.9W	220-230V 0.2FLA 41.3W
Fan	115V 0.68FLA 75.2W	220-230V 0.16FLA 35.9W	220-230V 0.29FLA 62.2W
Maximum Breaking Capacity of Fuse Size	15A	-	-
Designed Pressure	HI -580 / LO -320 psig	HI - 380 / LO - 195psig	HI - 380 / LO - 195psig
Refrigerant	R-410A 400g (14.1OZ)	R-404A 450g (15.8OZ)	R-404A 650g (22.9OZ)
Safety Approval	UL	N/A	N/A
Sanitation Approval	ETL	N/A	N/A
Energy Star	Certified	N/A	N/A
CE	N/A	Certified	N/A
KC	N/A	N/A	Certified

	500A		
Condenser	Air Cooling		
Rated Voltage	115V/60Hz/1Ph	220-240V/50Hz/1Ph	220V/60Hz/1Ph
Rated Ampere	14A	7A	7A
Compressor	115 V 57 LRA 11.4RLA	198-254V 18.6LRA 4.04RLA	198-254V 30.0LRA 4.35 RLA
Pump	115V 0.53FLA 59.9W	220-230V 0.16FLA 35.9W	220-230V 0.2FLA 41.3W
Fan	115V 0.68FLA 75.2W	220-230V 0.33FLA 56.9W	220-230V 0.29FLA 62.2W
Maximum Breaking Capacity of Fuse Size	25A	-	-
Designed Pressure	HI - 580 / LO -320 psig	HI - 380 / LO - 195psig	HI - 380 / LO - 195psig
Refrigerant	R-410A 450g (15.8OZ)	R-404A 650g (22.9OZ)	R-404A 600g (21.1OZ)
Safety Approval	UL	N/A	N/A
Sanitation Approval	ETL	N/A	N/A
Energy Star	Certified	N/A	N/A
CE	N/A	Certified	N/A
KC	N/A	N/A	Certified

	650A		
Condenser	Air Cooling		
Rated Voltage	208-230V60Hz/1Ph	220-240V/50Hz/1Ph	220V/60Hz/1Ph
Rated Ampere	9A	6A	6A
Compressor	208~230 V 29LRA 6.8 RLA	198 ~ 264 V 24 LRA 5.9RLA	208~230 V 29LRA 5.6 RLA
Pump	115V 0.55FLA 63.5W	230V/50Hz 0.29FLA 61.7W	220V/60Hz 0.28FLA 61.0W
Fan	115V 0.68FLA 75.2W	220-230V 0.33FLA 56.9W	220-230V 0.29FLA 62.2W
Maximum Breaking Capacity of Fuse Size	15A	-	-
Designed Pressure	HI -580 / LO -320 psig	HI -580 / LO -320 psig	HI -580 / LO -320 psig
Refrigerant	R-410A 700g (24.6OZ)	R-410A 700g (24.6OZ)	R-410A 700g (24.6OZ)
Safety Approval	UL	N/A	N/A
Sanitation Approval	ETL	N/A	N/A
Energy Star	Certified	N/A	N/A
CE	N/A	Certified	N/A
KC	N/A	N/A	Certified

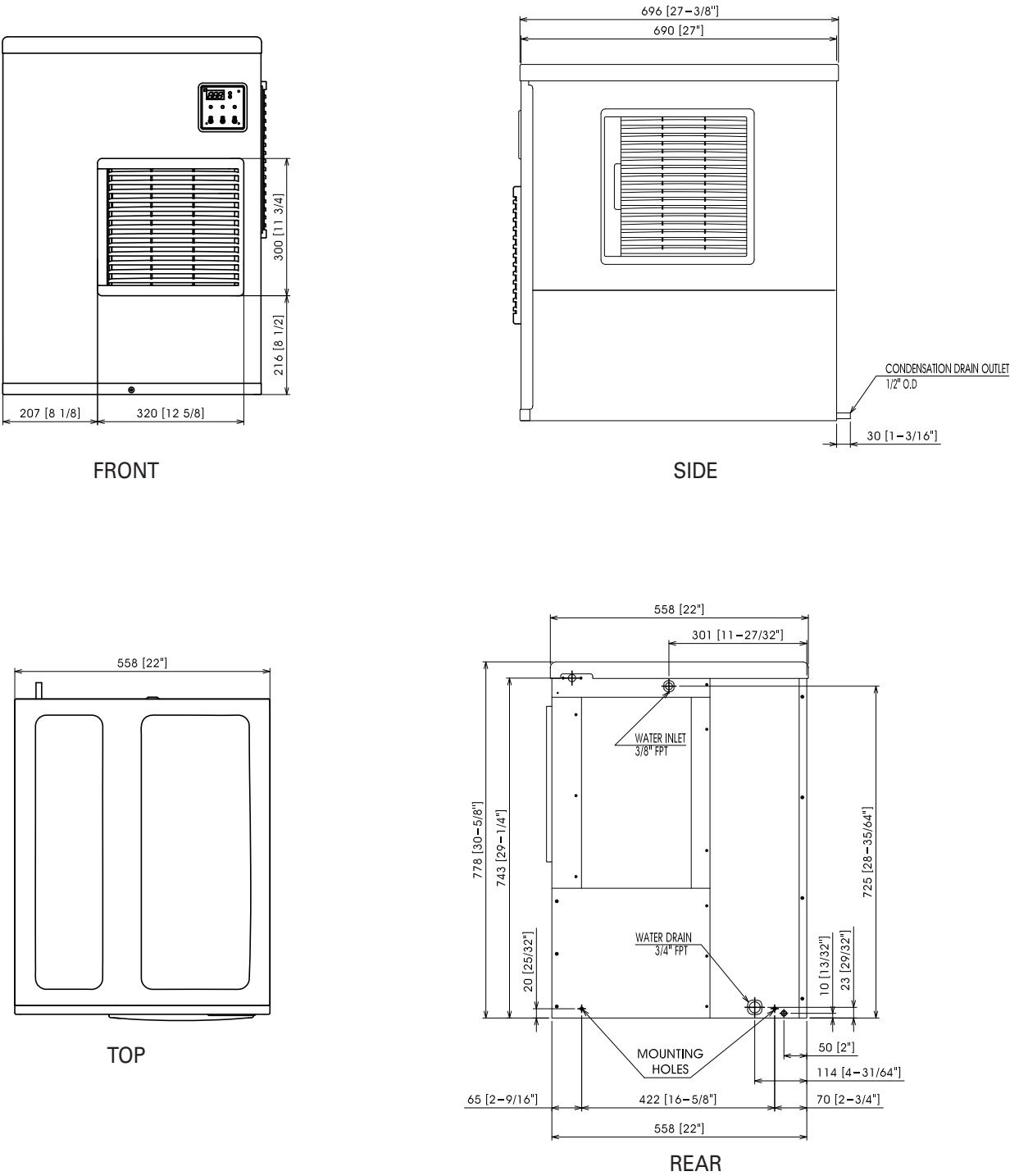
	900A		
Condenser	Air Cooling		
Rated Voltage	208-230V/60Hz/1Ph	220-240V/50Hz/1Ph	220V/60Hz/1Ph
Rated Ampere	9A	9A	9A
Compressor	208~230V 41LRA 7.6RLA	220V 50LRA 9.4 RLA	208 ~ 230 V 48 LRA 8.8RLA
Pump	115V 0.55FLA 63.5W	230V/50Hz 0.29FLA 61.7W	220V/60Hz 0.28FLA 61.0W
Fan	115V 0.68FLA 75.2W	220-230V 0.33FLA 56.9W	220-230V 0.29FLA 62.2W
Maximum Breaking Capacity of Fuse Size	15A	-	-
Designed Pressure	HI -580 / LO -320 psig	HI -580 / LO -320 psig	HI -580 / LO -320 psig
Refrigerant	R-410A 1100g (38.8OZ)	R-410A 900g (31.7OZ)	R-410A 1100g (38.8OZ)
Safety Approval	UL	N/A	N/A
Sanitation Approval	ETL	N/A	N/A
Energy Star	N/A	N/A	N/A
CE	N/A	Certified	N/A
KC	N/A	N/A	Certified

● Approximate Ice Production

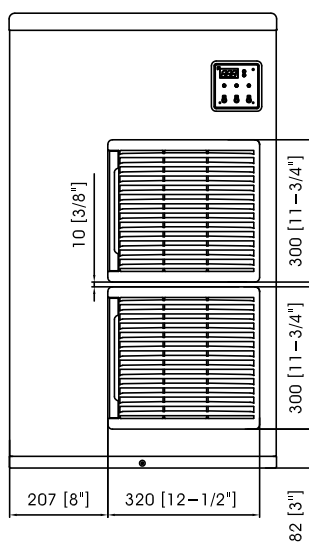
No	Model	Rated Voltage	AT 70 °F / WT 50°F AT 21 °C / WT 10°C
1	300A	115V/60Hz/1Ph	323lbs/day (146 kg/day)
2	300A	220-240V/50Hz/1Ph	303lbs/day (137 kg/day)
3	300A	220V/60Hz/1Ph	337lbs/day (153 kg/day)
4	500A	115V/60Hz/1Ph	517lbs/day (235 kg/day)
5	500A	220-240V/50Hz/1Ph	463lbs/day (210 kg/day)
6	500A	220V/60Hz/1Ph	457lbs/day (208 kg/day)
7	650A	208-230V60Hz/1Ph	625lbs/day (283 kg/day)
8	650A	220-240V/50Hz/1Ph	726lbs/day (329 kg/day)
9	650A	220V/60Hz/1Ph	643lbs/day (292 kg/day)
10	900A	208-230V60Hz/1Ph	890lbs/day (404 kg/day)
11	900A	220-240V/50Hz/1Ph	858lbs/day (389 kg/day)
12	900A	220V/60Hz/1Ph	915lbs/day (415 kg/day)

1.2 Product Dimensions

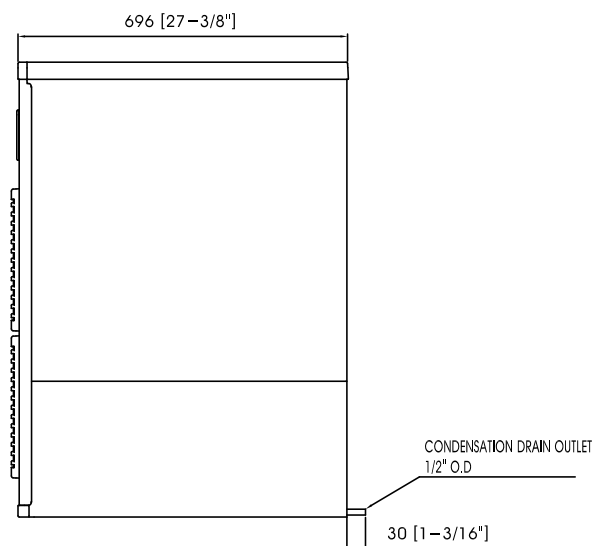
● 300A/500A



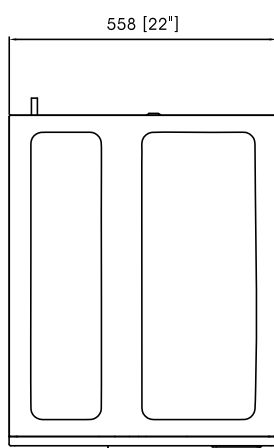
● 650A



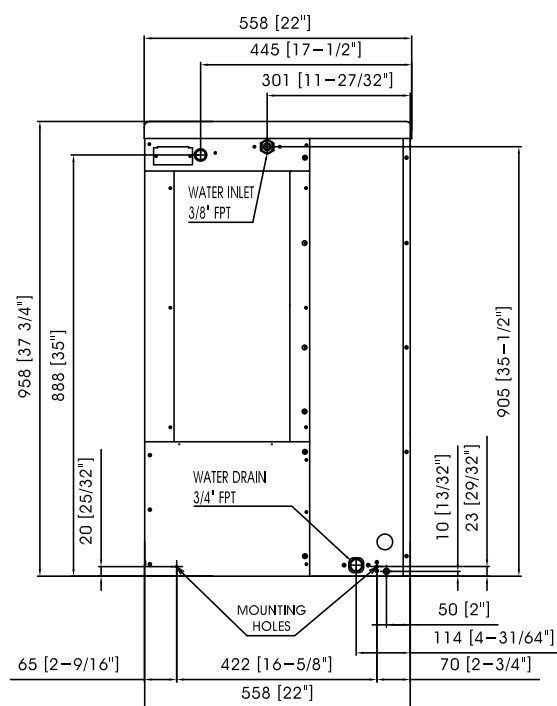
FRONT



SIDE

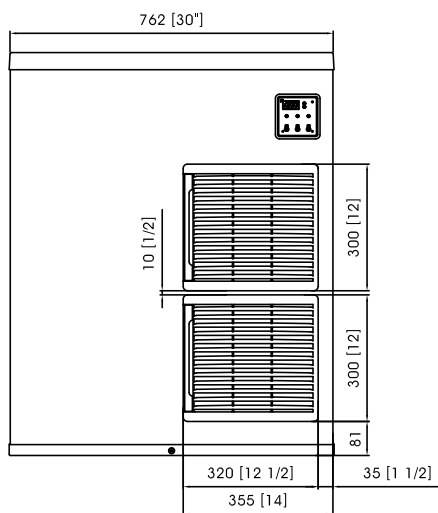


TOP

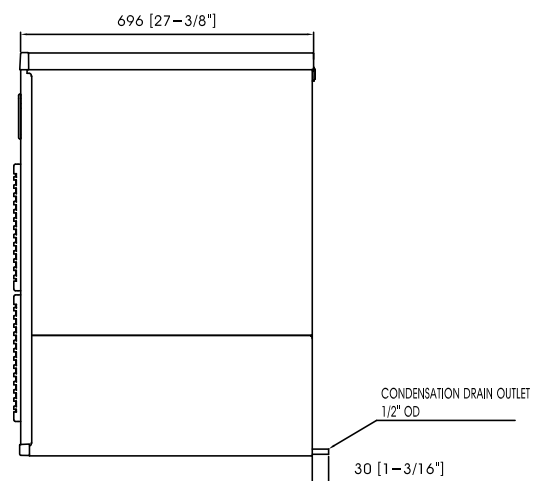


REAR

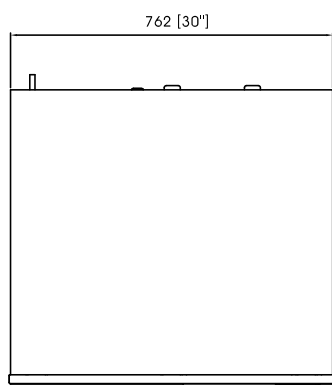
● 900A



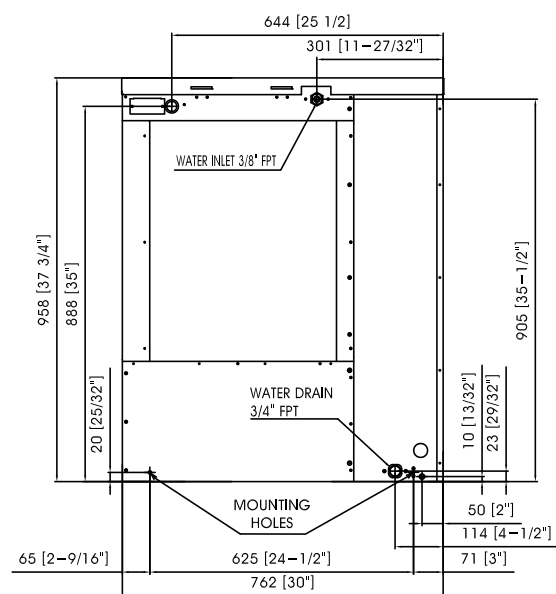
FRONT



SIDE


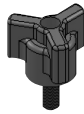


TOP



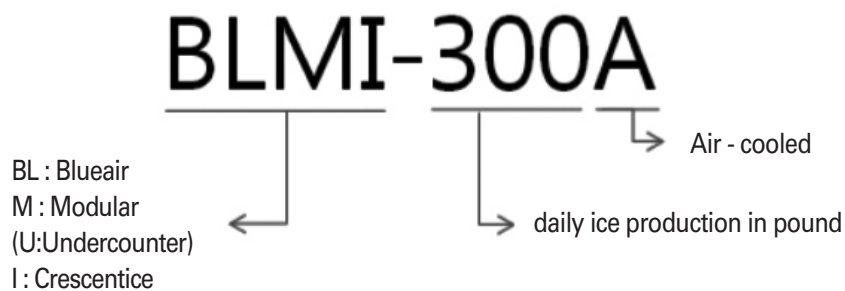
REAR

1.3 Accessories Included with the Unit


No	Name	Picture	Quantity
1	Bin switch		1
2	M5 Bolt		4
3	Screw M6		2
4	Earth Screw		1
5	User Manual		1

1.4 How to determine model names and serial numbers

1.4.1 Model names



1.4.2 Serial number



LUIAA 94 H 2 00001

a b c d e f

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	2015	2016	2017	2018	2019	2020
Mark	G	H	J	K	M	N
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 & Operation Guide



WARNING

- The ice machine should be installed, following the local regulations of the country, state and region.
- Read the manual thoroughly before installation. Incorrect installation may cause malfunction, or bodily injury and death.
- Do not drop tools into the bin or the floor of the unit during installation. It may cause injury during routine operation of the machine.
- Do not operate unit with enclosure removed. This is marked by a sticker labelled "CAUTION or WARNING - Parts. Do Not Operate Unit With Enclosure Removed."
(When disassembly for cleaning or similar servicing exposes moving parts.)

2.1 Location Requirements

The installation location of the ice machine should satisfy following conditions.

If the location does not satisfy these conditions, do not install the machines in that location.

The installment location must be changed to meet following conditions.

- The location should be in indoors and have good ventilation
- The location should not be near a heat source and should not be in direct sunlight
- The operating temperature at the location should be between 45°F- 100°F(7°C- 38°C).
- The location should have access to a water supply, drainage and an easily connected source of electricity
- The location should not have any obstacles, disturbing air circulation(heat exchange)
- The location should have enough clearance for wiring and plumbing on the rear.
- The location should have no food waste nor food contaminant.
- The location should support the full weight of the machine filled with ice.

2.2 Installation Requirements

- The head and bin should be level.
- The vent of the of ice machine and drain of the bin should be separated.
- The drain tip of the bin should have an air gap.
- The ice machine and bin should be completely cleaned after installation.
- The drain line should be easily separated from the ice machine.
- There must be minimum of (8 inches (20 cm))of clearance, around, above and below the machine for enough air circulation and maintenance.
- Carefully align the ice machine with the bin to ensure a secure seal.

● Installation condition

Condition		Minimum	Maximum
Ambient Temperature	°F	45	100
	°C	7	38
Water temperature	°F	45	90
	°C	7	32
Water pressure	psig	30	100
	kPa	206.8	689.4
Voltage	115V	100	130
	220V	208	230

2.3 Electrical Requirements



WARNING

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

Please read the following warnings

- The Ice machine must be grounded.
- The Ice machine must be connected to an exchangeable fuse or circuit breaker.
- Decide the appropriate size of the wire based on the length, thickness, and position of the wires.
- Electrical wiring and ground must be done by a qualified electrician.

2.3.1 Voltage

- When operating the ice machine (with maximized electrical load) range of variation in maximum voltage allowed is $\pm 10\%$ of the rated voltage.
- Main voltage transformer tab switch must be set to the same input voltage for single phase models, BLMI-650, 900A.

2.3.2 Fuse / Circuit Breaker

- The ice machine must be wired to an exclusive fuse/circuit breaker
- The circuit breaker must be installed in accordance with applicable local, state and federal regulations.

2.3.3 Power Connection

- Permanently connect : Wiring must be greater than 12AWG.
- Cord connection: Refer to "1.1 Technical Specification" to check details of cable size requirements for the power supply.

2.4 Checklist before Installation

- After unpacking, please check the product appearance. If there is damage to the product, contact your place of purchase.
- Remove packing box, tape and other packing components. If these things are not removed, the ice machine may not function properly.
- Check the name plate for minimum electrical requirement for operating the machine. Ensure there is sufficient electricity to operate the machine.
- To avoid any damage during installation, remove all panels.
Please refer to "2.5 How to Remove Panel"
- Remove all accessories, enclosed with the ice machine.
- Remove protective plastic film on the panel.
- Check whether a compressor is secure and the fan blade turns freely.
- The ice machine must be installed onto the bin. The available bins are as below.

- LB-300S: 30 inch(762mm)
- LB-220S: 22 inch(558mm)
- For further information, contact the seller.

2.5 How to Remove Panel

To avoid any damage during installation, please remove all panels. Please remove them in the following order by referring to Fig 1.

1. Unscrew the bottom screw of the front panel and store it securely.
2. Remove the front panel by firmly grasping the bottom edge and pulling it up and away from the unit.
3. Store the front panel securely.
4. Remove the top panel by firmly grasping the front edge and pushing back.
5. Store the top panel securely.
6. Unscrew the Side Panel(R), and store it away securely.
7. Grasp the front of the right panel and pull it forward.
8. Store the right panel securely.
9. The left and back panels cannot be removed.
10. Remove the insulation panel by pushing it up.
11. Unscrew the ice cover and remove the cover by pushing it up.

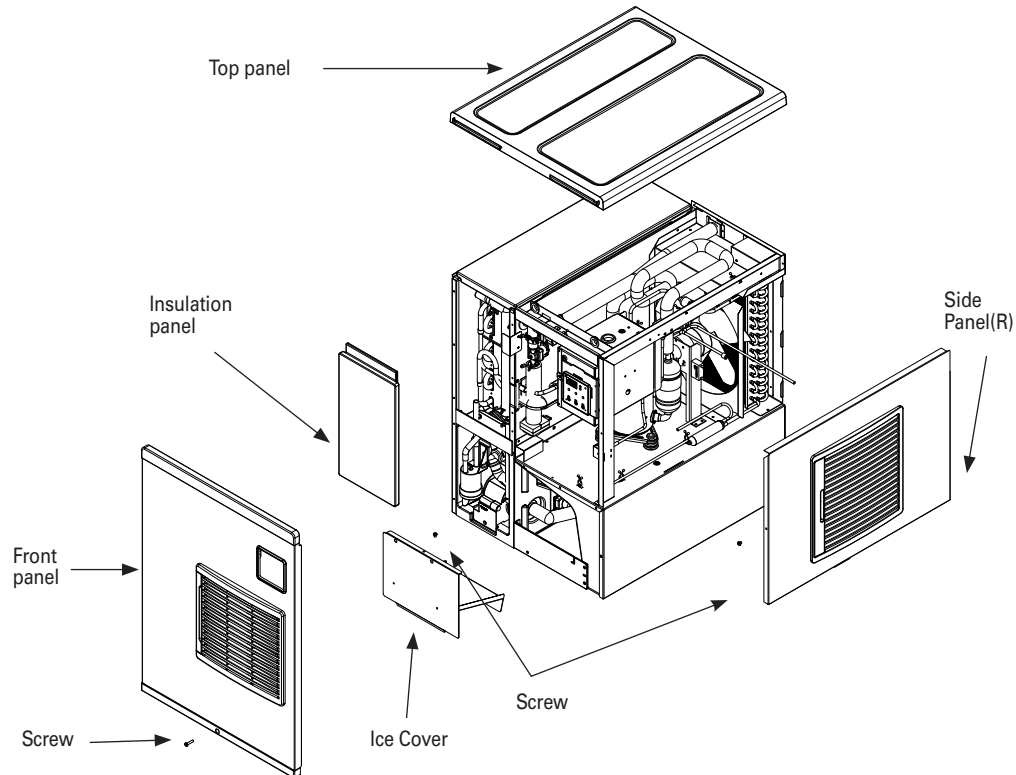


Fig 1

2.6 Bin Installation



WARNING

- Please check whether the ice machine and ice storage bin are compatible before installation. The ice machine and bin should be properly attached together.

Install the bin in the following order by referring to Fig 2.

1. Position the ice storage bin in the the installation location.
2. If needed, a TOP KIT will need to be installed. For further information, please contact the seller.
3. Ensure the bin is level by adjusting the legs on the bin.
4. Attach the ice machine head onto the bin.
5. Attach the ice machine head to the bin at two points on the back with the enclosed brackets and screws.

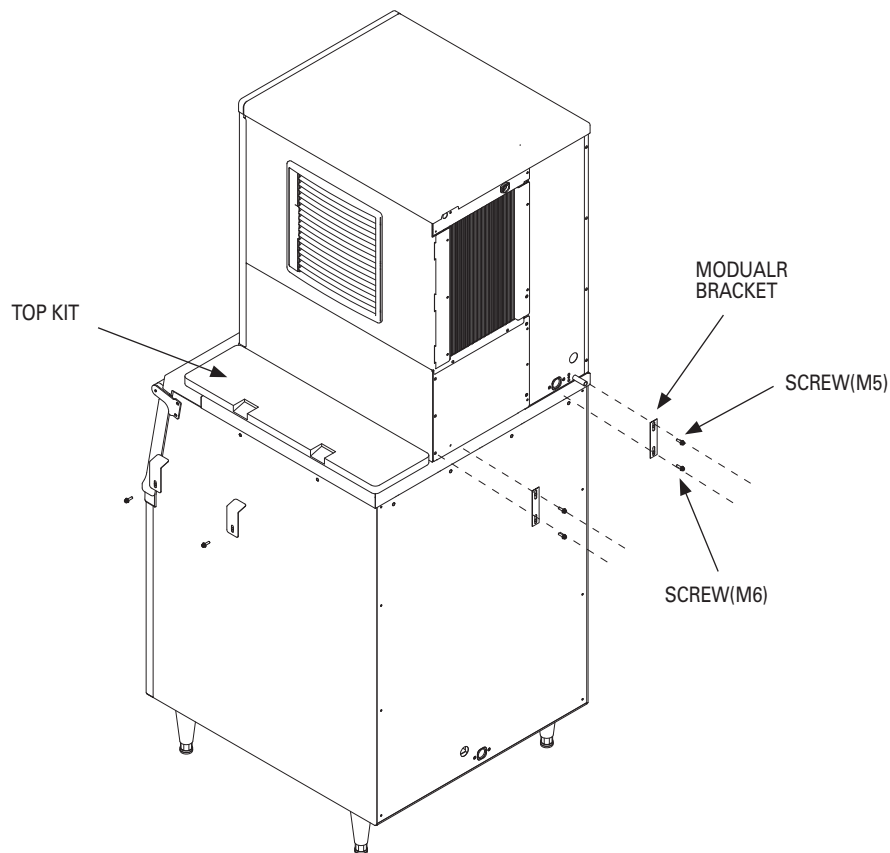


Fig 2

2.7 Bin Switch Installation



WARNING

- Bin switch should be equipped before operating the ice machine.
If it is not properly equipped, it might cause a breakdown or malfunction during ice storage.

Install bin switch in the following order by referring to Fig 3.

1. When the front panel is removed, enclosed within the machine will be a bin switch, packed in a plastic.
2. To remove the front panel, refer to "2.5 How to Remove Panel"
3. Affix the bin switch to the right bottom of the ice machine with four thumbscrews, enclosed with the switch.
4. Position the cable of bin switch into the "J"-type slot of the front supporter by releasing it. While installing the cable ensure it is not blocking any ice are dropping into the bin.
5. After affixing the cable alongside the Pump motor harness connect it to the blue connector at the top frame.

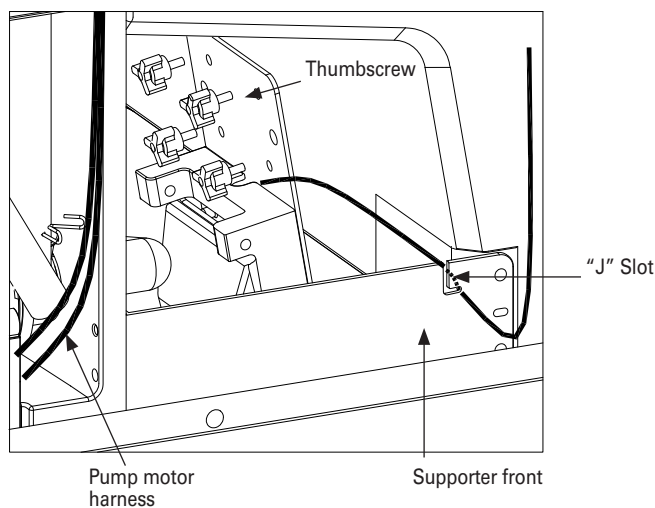


Fig 3

2.8 Water Supply & Drain Connections



WARNING

- Installation of water supply and pipe system must be done in accordance to local, state and federal laws and regulations.
- The ice machine is to be installed with adequate backflow protection to comply with applicable local, state and federal laws and regulations.
- Water pipe work must be done by a qualified service technicians.

2.8.1 Water Supply

- Depending on the location where the ice machine is installed, the machine it may require a water filtration system to prevent formation of scale and removing impurities and chlorine from the water supply.

2.8.2 Water Supply Line

Refer to the following instructions for installing the water supply line.

- Do not connect a hot water system to the ice machine.
- Water pressure must be between 30 ~ 100 psig (206.8-689.4kPa).
- Water supply line must have a shut off valve.
- Water supply line must be insulated to prevent condensation.

2.8.3 Drainage Line

To prevent backflow of the ice machine and storage container, please refer to the following instructions for install a drainage line.

- For adequate drainage, a gradient of 1 inch for every 3.3 feet (2.5cm per meter) is needed.
- Do not install any trap.
- Do not connect drainage pipe directly into the sewage pipe.
- There must be a minimum of a 2 inch (50cm) air gap vertically between end of the drainage pipe and the drain hole.
- Must install a vent.
- Do not combine drain lines for the machine head and the ice storage bin.
- The machine applies gravity drains and does not prevent counter-flow. If you want parts for preventing it, they must be purchased separately.

● Conditions for water supply and drainage

Location	Water temperature	Water pressure	connecting fitting size	Size of connecting hose
Water inlet	7°C (45°F) Min. 32°C(90°F) Max.	30 psig(206.9kPa) Min. 100 psig(689.4kPa) Max.	3/8" FPT	ID 1/4" copper pipe(Min.)
Drain	-	-	3/4" FPT	ID 3/4" Hard pipe(Min.)

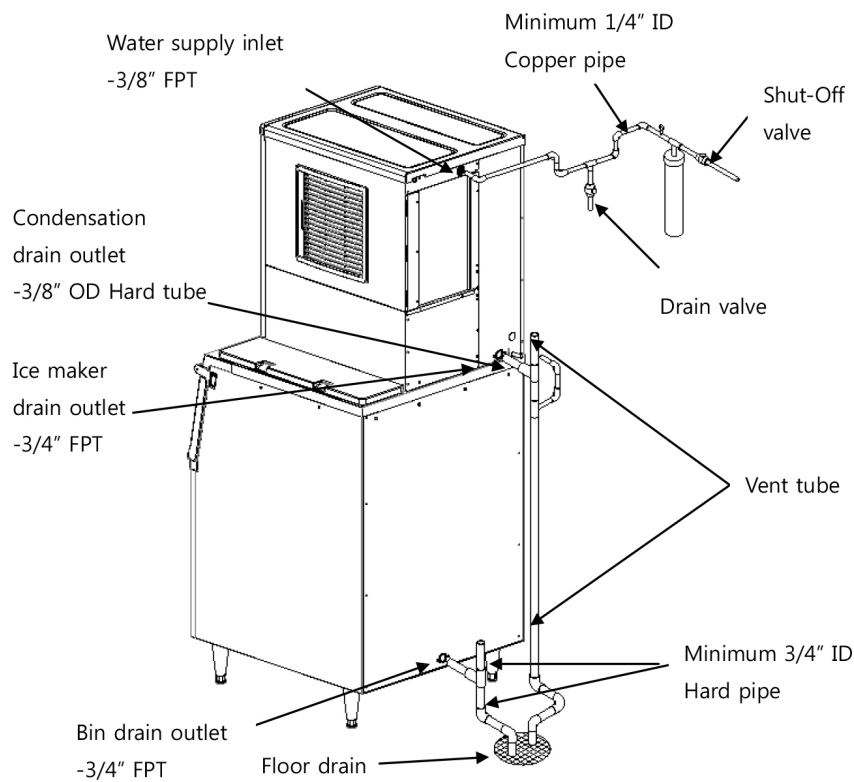


Fig 4

* Leave a 2"(50mm) vertical air gap between the end of each pipe and the drain

Fig 7

2.9 Wire

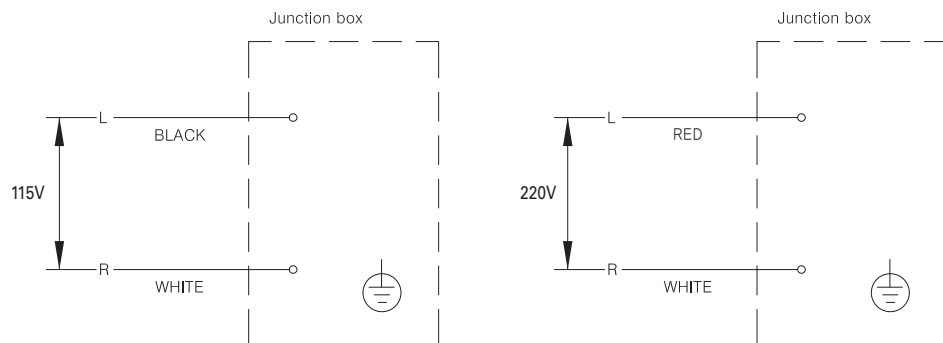


WARNING

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

- The machine requires an independent power supply. Check the nameplate for proper voltage and breaker/fuse size.
- Improper electrical supply may cause fuse cutout, damage to cords/wiring or parts, or fire.
- The machine should be properly grounded. Otherwise, there is the possibility to cause injury or death.
- Wiring must be done by a licensed electrician.
- Allowable voltage range is $\pm 10\%$ of standard voltage.
- Do not use extension cords.
- Touching the control box with a wet hand might cause an electric shock.
- Do not use broken power cords. Do not tie nor convert power cords.
- Do not pull out power cords recklessly or lay heavy objects on them. Always pull out power cords, by firmly grasping the plug.
- Power connection should be at least 7/8" diameter, and have a 1/2" screw size conduit. (Permanently connect)
- The green ground wire in the factory-installed power cord is connected to a screw on the bracket where the cord enters the machine. If it becomes necessary to remove or replace the power cord, be sure to connect the power cord's ground wire to this screw upon reattachment. (Cord connection)
- In case a power cord is broken, its manufacturer, distributor or a qualified person should replace it for safety reason. Do not operate a unit with a broken power cord.

● 300 / 500



● 650 / 900

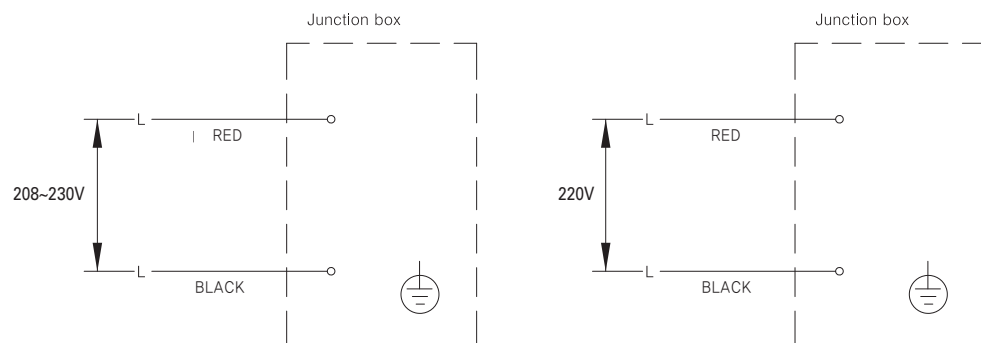


Fig 5

2.10 Final Check



WARNING

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

- (1) Is ambient temperature of the installation area within the appropriate temperature range of 45-100°F(7-37°C)?
- (2) Is water temperature supplied to the installation area within the appropriate temperature range of 45-90°F (7-32°C)?
- (3) Are all the packing materials such as the packing box, inside tape, and other materials removed completely?
- (4) Is there enough clearance (min. 8 inches) above, below and around the ice machine for smooth air circulation?
- (5) Is the ice scoop placed in the right place?
- (6) Is the ice machine level on the floor?
- (7) Is the product located indoors?
- (8) Is the power supply to the ice machine installed properly?
- (9) Is the water supply pipe to the product properly connected?
- (10) Is drain system properly connected?
- (11) Is water pressure between 30 ~ 100 psig (206.8-689.4 kPa)?
- (12) Are there any leakages found in any pipes?
- (13) Are all the components, fixtures, and thumbscrews secure?
- (14) Have you informed customers about the product manual, how to operate the machine, and when to replace parts?
- (15) Have you informed the customer how to get service if the unit has a problem?

2.11 Test Run



WARNING

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

1. Open shut-off valve of water-supply line.
2. Turn on the ice machine by pushing "POWER" button and operate it for 10 minutes.
3. Turn off the power and remove the front panel.
4. Drain the remaining water inside of the tank after removing Ice cover and disconnecting the '□' shape hose that connects the Water tank and Pump motor.
5. After drainage, reattach hose.
6. With a neutral detergent, clean the inside of the ice storage bin.
7. Re-assemble ice cover and the front panel.
8. Turn on the ice machine again.
9. Check if the bin switch works by pushing flap of the bin switch within first 5 minutes of freezing cycle.
10. Continue Pressing flap of the bin switch for 10 seconds.
11. The ice machine will stop operation with 'Full' display. After 5 seconds you should stop pressing the flap of the bin switch, 'Full' will be disappeared and the ice machine goes into the water supply procedure. (The ice machine will stop operation immediately if you press flap for 10 seconds within 5 minutes after initiating ice making cycle. If not, the ice machine will stop after completion of ice making and harvest cycle.)

- When turning off the unit during a testrun, please do not attempt to re-operate until at least 3 minutes later to protect the compressor.
- If there is no water in the water tank, do not push "Wash" button to protect water pump seal.
- While operating, please check for water leak son both the inside and outside pipe.

3. Operation

3.1 Button



(1) Power

Push the button for 2 seconds to turn on/off.

(2) Wash

Use the button when cleaning the machine.

The instruction for Washing and Sanitation can be found in section 4.2 Interior Cleaning / Sanitizing Procedure and the label inside of the front panel.

(3) Check

Only for service persons to check the status of the machine

3.2 Status Light

(1) **On/Off** : shows power status in green.

If storage container is full of ice, orange light will appear.

If water level is too low, red light will appear.










(2) **Clean** : Green light will appear during washing mode.

(3) **Err** : Red light will appear if any problems occur during the machine operation.

(4) **Freeze** : Green light will appear during freezing cycle.

(5) **Harvest** : Green light will appear during harvest.

3.3 7-segment

Display	Status
	Ready for cycle
	1 = Water Supply Period .00 = Elapsed time (x 10 sec)
	2 = Harvesting Period .00 = Elapsed time (min)
	3 = Freezing Period .00 = Elapsed time (min)
	Drainage cycle
	Wash mode Ice machine is either cleaning or sanitizing.
	Indicates when the bin is full of ice.
	Wash mode Indicates need to put detergent or sanitizer into the machine.
	Cleaning and saitzation completed (User has to press the button to remove this sign)

3.4 Operation Cycle

Ice machine is operated in accordance to the following process

(1) Water supplying cycle

Once power is on, water supply valve opens to fill the water tank with water.

2) Harvesting Cycle

To remove ice made on the evaporator, water flow stops and it becomes hot. Then, ice is released from the evaporator to the storage container. Once temperature sensor detects a certain temperature, freezing cycle begins. Water continues to be supplied during the harvesting Cycle.

3) Freezing Cycle

This is the process of making freezing ice. Water is supplied to the surface of evaporator and it becomes cold. As water keeps circulating, more and more ice is layered. This process is repeated until water level sensor reaches low. Once it reaches low level, the harvest cycle starts.

4) Drainage Cycle

Residue or impurities will occur in the water tank during the repeating process of freezing and harvesting cycles. Using the ice machine for a long time without draining may cause damage. After a certain number of cycles, completely drain leftover water in the water tank by using water pump.

3.5 Safety

1) Maximum freezing time - 60min

To protect the ice machine, maximum freezing time is set to 60 minutes. When freezing cycle goes over 60 minutes, it switches to the harvesting cycle. During the second freezing cycle, if time goes over 60 minutes, machine stops and shows error code (E1) on the control panel with a beep sound.

2) Maximum harvesting time - 25min

The maximum harvesting time is 25 minutes. If time goes over 25 minutes, it automatically switches into the freezing cycle. During the second harvesting cycle, if time goes over 25 minutes, error code (E2) is shown on the control panel with a beep sound.

3) High Temperature safety

If temperature outside the evaporator during freezing cycles goes over 140°F (60°C), machine stops to protect the cycle and error code (E3) is shown on the control panel.

4) Low Water Safety

For protection of water pump, if water level is low after harvesting cycle, machine halts and error code (E5) is shown on the control panel.

3.6 Error Code

Code	Problem	Possible Cause	Remarks
E1	Freezing error (freezing time exceeds 60 min)	Refrigerant leaked or pipe blocked	
		Compressor not operating	
		Fan motor not operating	
		Ambient or water temperature too high	A/T : 45-100°F(7-38°C) W/T : 45-90°F(7-32°C)
		Voltage too high or too low	Voltage 115V :100-130 V 220V :208-230 V
E2	Harvesting error (harvesting time exceeds 25 min)	Refrigerant leaked or pipe blocked	
		Compressor not operating	
		Hot gas valve not operating	
		Evaporator temperature sensing error	
		Ambient or water temperature too low	A/T : 45-100°F(7-38°C) W/T : 45-90°F(7-32°C)
		Voltage too high or too low	Voltage 115V :100-130 V 220V : 208-230 V
E3	Evaporator temp too high (temp > 140°F for 60°C)	Water temperature too high	W/T : 45-90°F(7-32°C)
		Sensor or connector defect	
		PCB defect	
E4	No drainage when the bin is full	Check water outlet hose	
		Check pump motor	
		Level Sensor not operating	
E5	Water supply not enough (water supply time exceeds 4 min)	Float switch not operating	
		Water valve not operating	
		Water pressure too low	W/P:30-100psi (206.8 ~ 689.4 kPa)
E6	Evaporator sensor error	Sensor short-circuit or disconnected	
E7	PCB error	PCB program error	

4. Maintenance & Cleaning

4.1 Maintenance



WARNING

Ice machine must be maintained and cleaned based on schedule in this manual and the cleaning label attached on each unit.

● Maintenance Period

Please refer to the following table for guidance on the Maintenance Period. The maintenance period may be shorter than indicated depending on surrounding environment and hygiene regulations of the installation area.

Period	Area	Details
Everyday	Scoop	Clean scoop with food safe cleaner; rinse with fresh water.
Every two weeks	Air Filter	Clean with compressed air, or warm water and allow to fully dry.
Every month	Water filter system	Check proper water pressure and replace filter if needed
	Ice machine exterior	Clean with spot free water and soft cloth.
	Bottom of ice machine & bin door	Wipe it with a soft fabric
Every six months	Ice machine & Ice storage bin	Wash and sanitize according to the manual. Please refer to '4.2 How to clean and sanitize'
	Water Supply Inlet	Close the ice machine water supply line shut-off valve and drain the water system. Clean the water supply inlet screen
	Condenser	Inspect. Clean if necessary by using a brush or vacuum cleaner. More frequent cleaning may be required depending on location.
	Water Hoses	Inspect the water hoses and clean/replace if necessary.

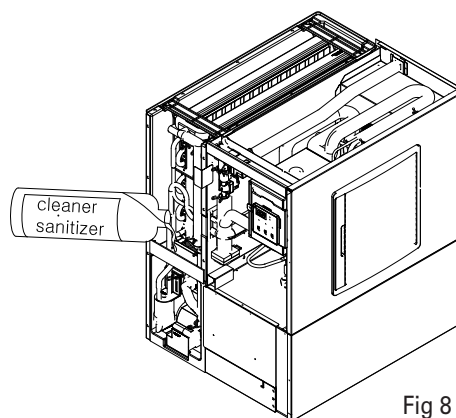
4.2. Interior Cleaning / Sanitizing Procedure

The ice machine should be cleaned and sanitized every six months. Depending on the water quality of the installation location, it may be more frequent.

WARNING

- Use a detergent and sanitizer for ice machine, and follow the directions of those products.
- During cleaning and sanitizing, please wear rubber gloves and protective eye glasses to protect eyes and skin.
- Keep detergent and sterilizer out of the reach of small children.
- Do not remove ice, made on evaporator, by force. It might cause damage to the surface of evaporator.
- Do not remove ice on evaporator with a sharp ice pick.

4.2.1 Modular Cleaning Procedure



- 1) Press "power" to turn off ice machine. If machine is in freeze cycle, wait for harvest cycle to complete and turn off ice machine by holding the "Power" button for 2 seconds.
- 2) Remove all ice from the storage bin.
- 3) Press the "Wash" button.
- 4) Machine will display "drn" on the control board and drain any remaining water in the water trough. If machine doesn't detect any water, drain cycle will be skipped and control board will move on to step 5.
- 5) Once all water has drained from machine, control board will read 'Add' and fill with fresh water for 3 minutes.
- 6) Remove front panel, and insulation Front (Fig 8). Add 16 oz. of Nu-Calgon ice machine cleaner into water tank. (for 650Lb or larger machines, add 24 oz.) Machine will proceed to the clean cycle after a 60 second time delay.
- 7) Control panel will now read 'Cln'.
- 8) Machine will circulate cleaning solution over evaporator for 30 minutes then drain.
- 9) After machine drains, water inlet valve will bring in fresh water for 3 minutes.
- 10) Pump will run for a 5-minute period to rinse remaining cleaning solution.

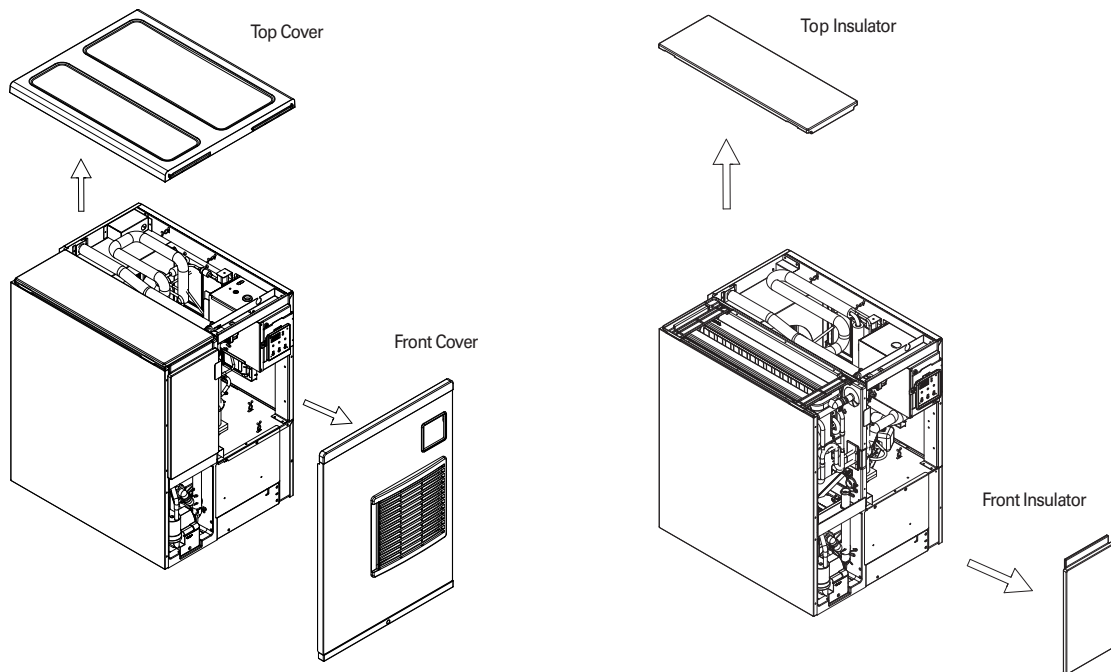
- 11) After 5 minutes, remaining water will drain.
 - 12) For 30 minutes, ice machine repeats steps 9-11.
 - 13) Once cleaning cycle is completed, [_] will be displayed on control board.
 - 14) Press "Power" to turn off ice machine.
 - 15) Disassemble water level sensor, ice guide, water supply hose, spray tube, and spray guide referring to 4.2.3 Modular Product Disassembly
 - 16) Mix 5 oz. of Nu-Calgon ice machine cleaner per gallon of water and use with a soft towel/sponge/nylon brush to gently clean disassembled parts. plastic parts of evaporator, insulator front, and insulator top. (see 4.2.3 Modular Ice machine disassembly')
 - 17) Rinse all disassembled parts with fresh water.
 - 18) Wash ice storage bin with remaining prepared cleaning solution from step 16. Rinse ice storage bin with fresh water.
- **WARNING- DO NOT CLEAN EXTERIOR OF MACHINE WITH CLEANING SOLUTION****
- **If cleaning AND sanitizing machine- move on to 4.2.2. Sanitizing; if cleaning only, proceed to step 19.**
- 19) Reassemble ice machine. Hold and Press "Power" button for 2 seconds to turn on ice machine and resume ice making cycle.

4.2.2 Modular Sanitizing Procedure

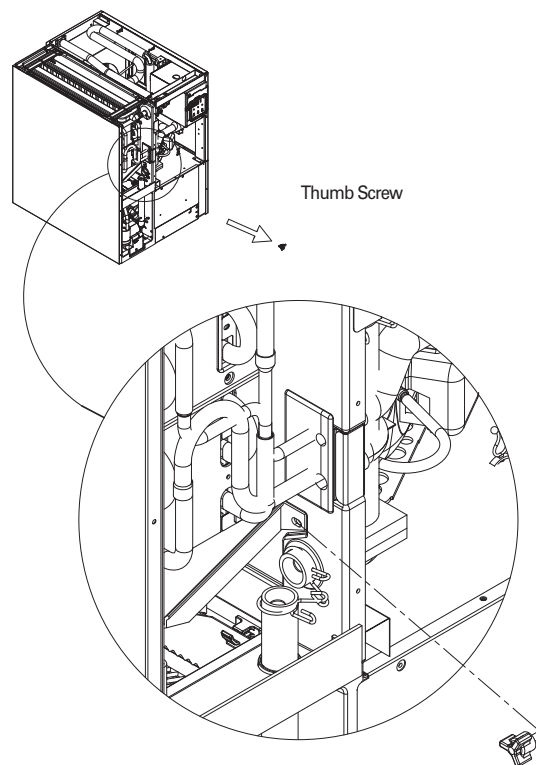
- 1) Press "power" to turn off ice machine. If machine is in freeze cycle, wait for harvest cycle to complete and turn off ice machine by holding the "Power" button for 2 seconds.
- 2) Mix 2.5 oz. of Nu-Calgon ice machine sanitizer per gallon of water and use with a soft towel/sponge/nylon brush to gently sanitize disassembled parts, plastic parts of evaporator, insulator front, and insulator top. (see Fig 8)
- 3) Soak the disassembled parts from step 15 of cleaning instructions in prepared sanitizing solution for 5 minutes.
- 4) Sanitize ice machine food zones where evaporator is installed and storage bin with sanitizing solution.
- 5) Let sanitized parts dry completely.
- 6) Reassemble disassembled parts referring to 4.2.3 Modular Ice machine disassembly'. 7) Press the "Wash" button.
- 8) Machine will display "drn" on the control board and drain any remaining water in the water trough. If machine doesn't detect any water, drain cycle will be skipped and controlboard will move on to step 9.
- 9) Once all water has drained from machine, control board will read 'Add' and bring in fresh water for 3 minutes.
- 10) Remove front panel, and front insulation front (Panel 1 on Figure 8). Add 8 oz. of Nu- Calgon ice machine sanitizer. (for 650Lb or larger machine add 12 oz.) Machine will proceed to the sanitizing cycle after a 60 second time delay.
- 11) Control panel will now read 'Cln'.
- 12) Machine will circulate sanitizing solution over evaporator for 30 minutes, then drain. 13) After machine drains, water inlet valve will bring in fresh water for 3 minutes.
- 14) Pump will run for a 5-minute period to rinse remaining sanitizing solution.
- 15) After 5 minutes, remaining water will drain.
- 16) For 30 minutes, ice machine repeats steps 13-15.
- 17) Once sanitizing cycle is completed, [_] will be displayed on control board.
- 18) Reassemble ice machine. Press "Power" button for 2 seconds to turn off ice machine. Press the "Power" button for 2 seconds again to turn the ice machine on and resume the ice making cycle.

* 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.

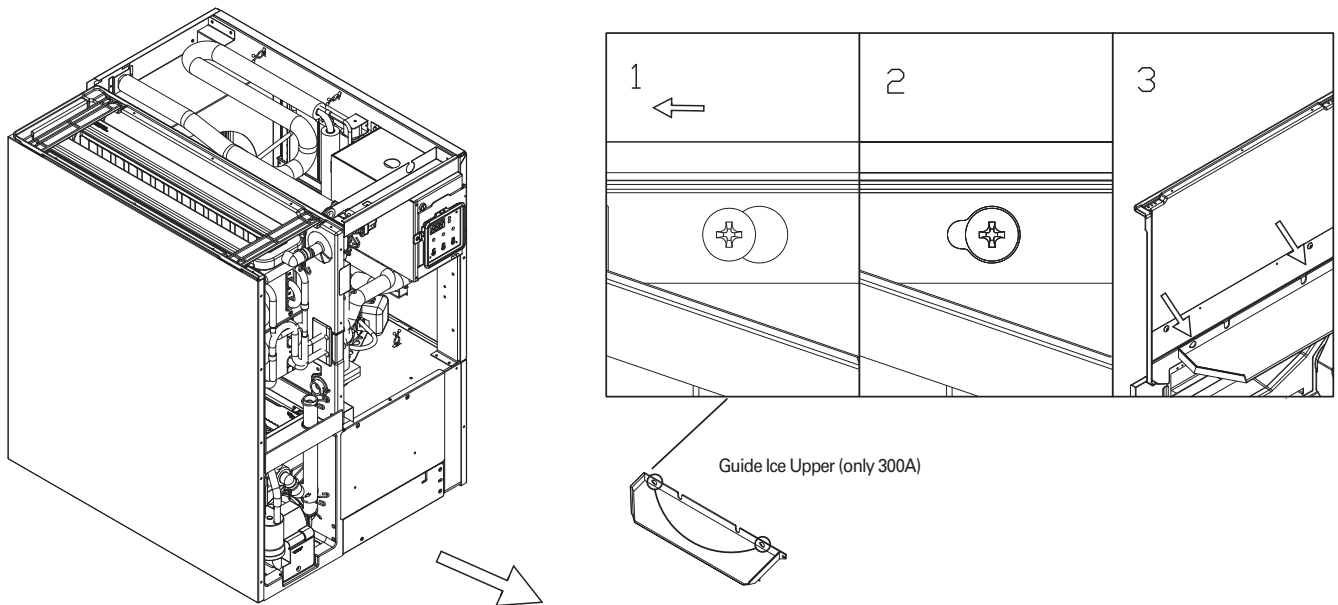
4.2.3 Product Disassembly



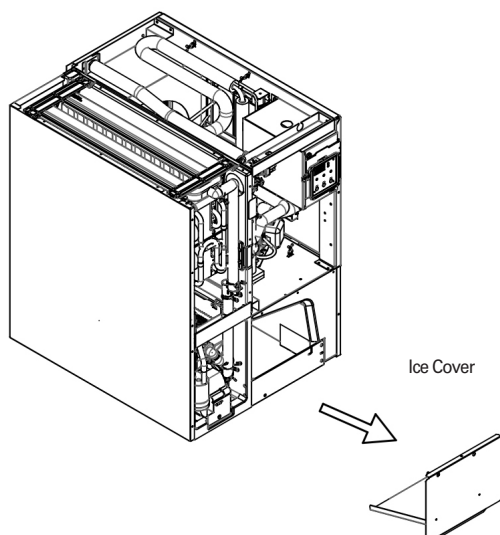
1~2. Detach insulation top and front after detaching cover top and cover front.
(Refer to 2.5 "Panel disassembly" for detailed instruction)



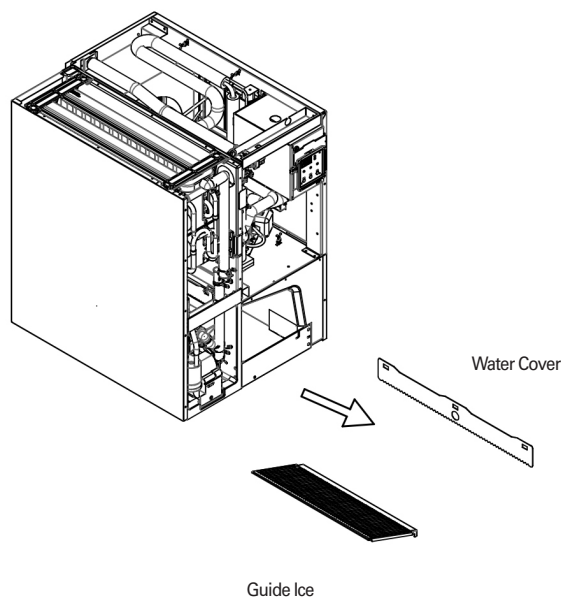
3. Release thumb screw in the cabinet by referring to above image.



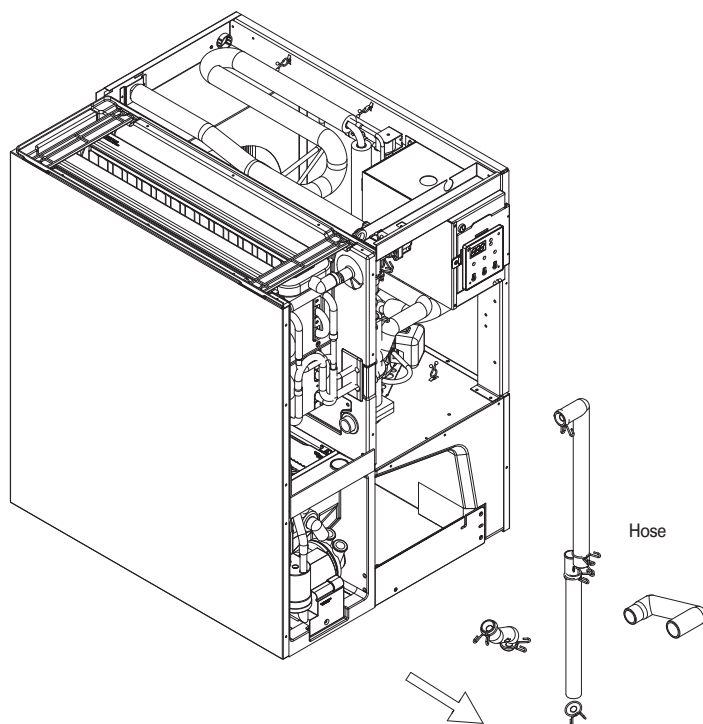
- 4.- Grip the Guide Ice Upper and push it to the rear.
- Pull it out through the left.
 - Pull out the Guide Ice Upper



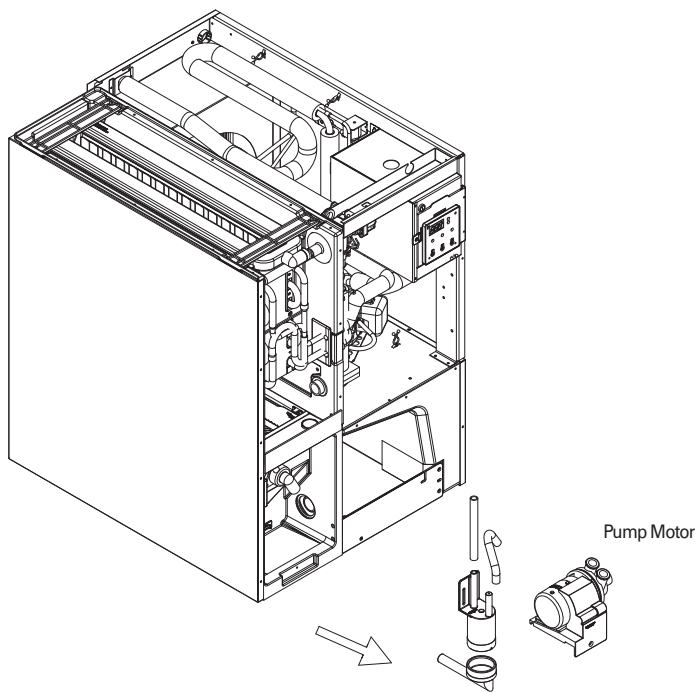
5. - Release the bolt fixed on the Ice Cover.
- Pull out the Ice Cover.



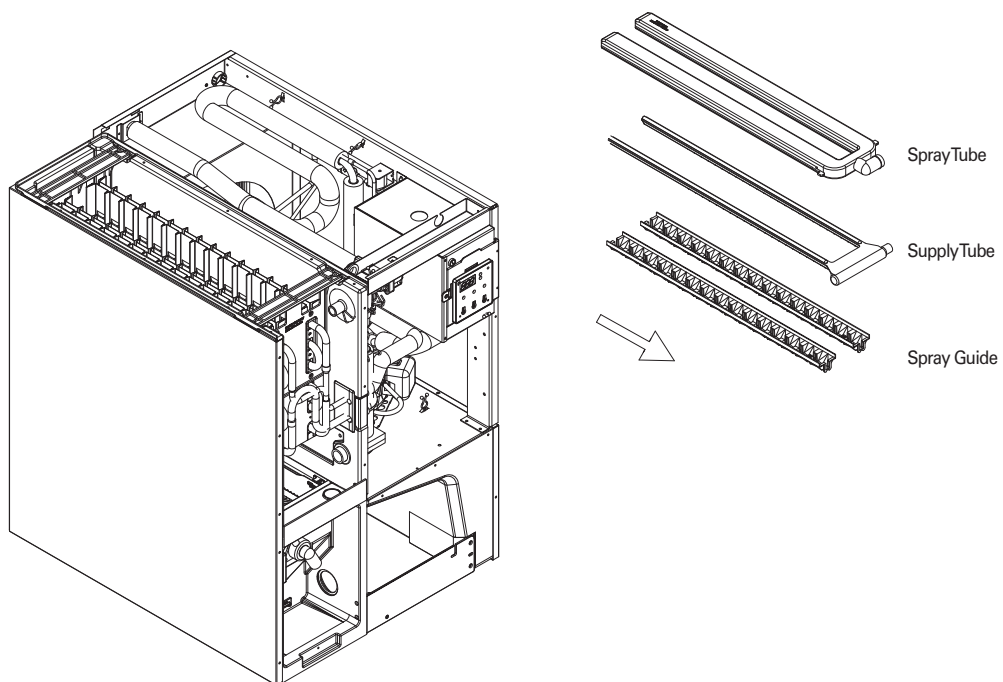
6. Pull out the parts to disassemble them in order of Water Cover and Guide Ice.



7. Disassemble the clamps to detach the hoses



8. Unscrew the screws fixed on Level sensor and Pump motor and separate the Level sensor and Pump Motor.



9. Pull out the parts in order of Spray Tube , SupplyTube , and Spray Guide to disassemble them.

4.3 Level Sensor Cleaning

WARNING

- Level sensor may not operate properly due to water condition or sediment inside of the sensor.
For proper operation of Level sensor, clean the sediment inside of the sensor often.
- Level Sensor should be cleaned at least once a month.
(Recommended cleaning period can be shorter due to the condition of water.)

- 1) Refer to "2.5 How to Remove Panel," to separate the Ice Cover from body
- 2) In order to drain out water inside the cabinet completely, detach Pump Hose as shown in the image.
- 3) Disassemble Level Sensor refer to "Front Cover" in the Removal and replacement chapter.
- 4) Separate the parts in order of Connector, Stopper, Float, and Body referring to image.
- 5) Wash contamination inside of Connector and Body.
- 6) Reassemble Level Sensor in reverse order.
- 7) Reassemble front panel.

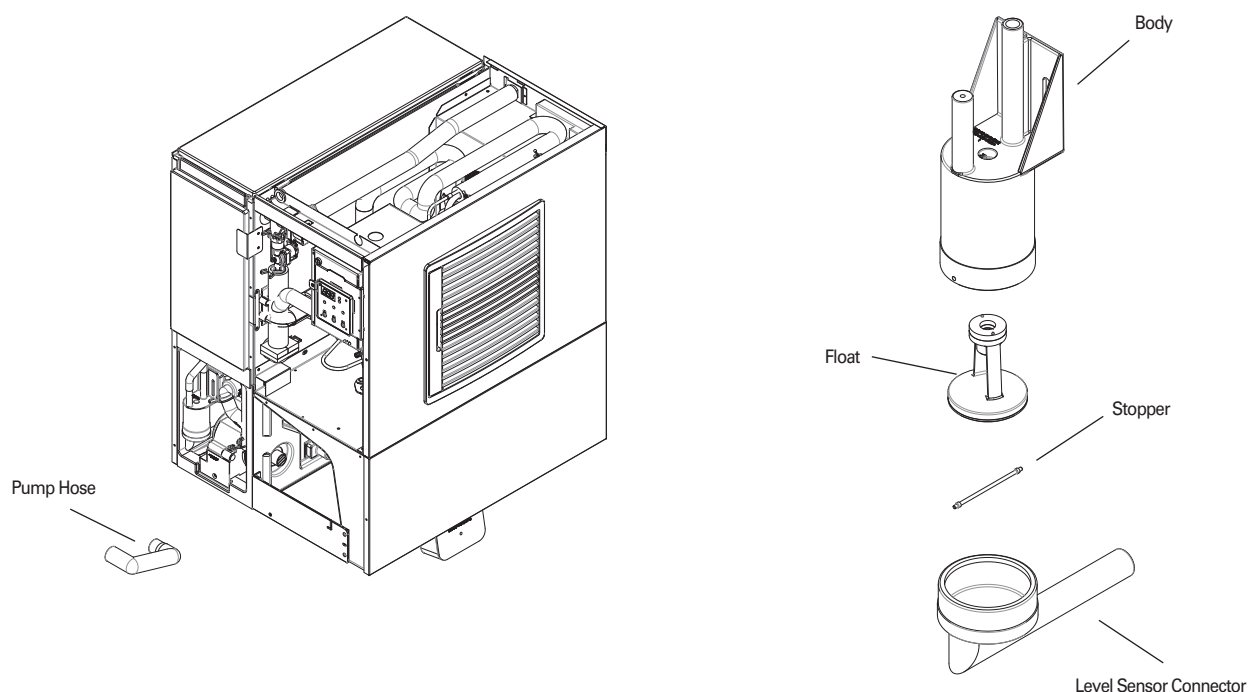


Fig 7

4.4 Exterior Cleaning

To prevent corrosion, clean oil or dust in outer surface with cleaning towel or neutral detergent.

4.5 Storage Container and Scoop

Clean storage container interior and scoop with neutral detergent. Wash with clean water afterwards. Storage container is for ice only. Do not store any other material in the storage container.

4.6 Air Filter

Dust in the filter may decrease function of ice machine. Check the filter once every two weeks and if any dust is found, clean by using warm water and neutral detergent. Dry the filter completely and reuse.

4.7 Condenser

Check the condenser at least once a year and if cleaning is necessary, clean with vacuum and brush. Cleaning interval may be shorter depending on the installation area.

4.8 How to Prepare for Long Term Storage

When not using the ice machine for a long period, remove all ice from the storage bin and drain all remaining water in the water tank. Clean and dry the storage bin. Also, remove all the water from the ice machine to prevent the water supply hose from getting frozen under low temperature during winter. Turn off the product until the temperature is warm.

- 1) Wash and sanitize the ice machine.
- 2) Press "Power" button to turn off the ice machine.
- 3) Press "Power" and "Check" buttons for 2 seconds at the same time to drain remaining water inside of the machine.
- 4) "drn" will display and once the remaining water level minimum level, the machine stop drain.
- 5) Disconnect the host connects water tank and pump motor to drain all remaining water inside of the unit.
Instruction can be found on 4.2.3 Modular Product Disassembly
- 6) Disconnect power cord and lock water supply valve.
- 7) Disassemble water supply inlet and drain outlet at the back side of the machine.
- 8) Remove all remaining water inside of hoses installed in the machine, water supply inlet and drain outlet by using air gun.
- 9) Nebulize sanitizer on the inside of the machine except for machine room and wait until they are completely dried.

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Blueair

BLUE AIR FSE, LLC.

Gardena, CA 90248

Tel: 866.677.8500 / 310.808.0102

Fax: 310.808.0242 / 310.808.0262

Visit us our website at www.blueairinc.com