Bluecair
FOOD SERVICE EQUIPMENT LLC

SERVICE MANUAL

BLUI-100A

BLUI-150A

BLUI-250A

Ver200626

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1 General information

1.1 For your safety

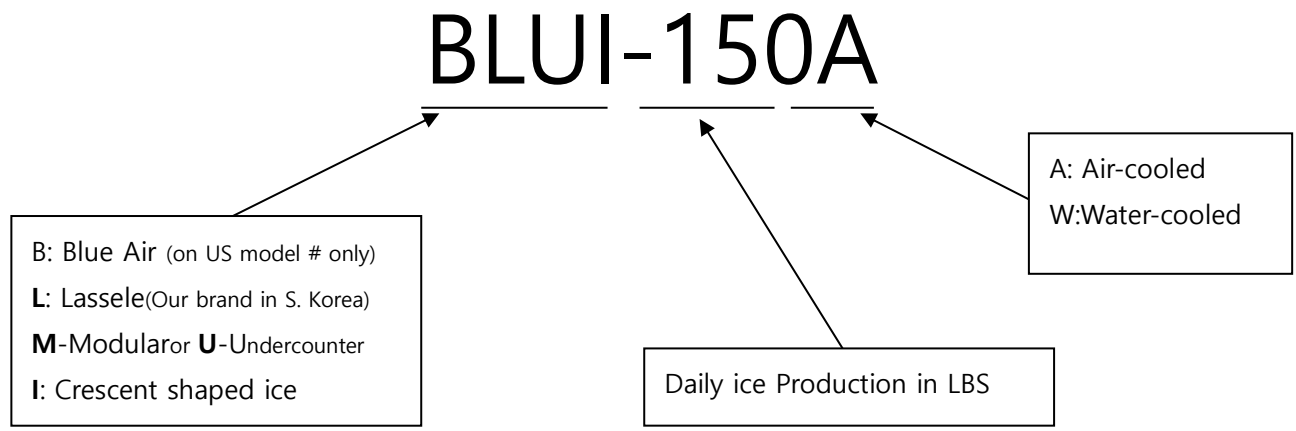
⚠WARNING
- The ice machine must be installed in accordance with individual State/Regional Codes and regulations - Read the manual thoroughly before installation. Improper installation may void or limit warranty coverage. Most importantly, Improper installation may damage the unit and could cause serious injury - The ice machines must be installed and serviced by a licensed and qualified technician. - The ice machine must be grounded and have an independent electric supply. - The ice machine bust be leveled and the front edge of modular head and storage bin must be flat. - Water Supply to the ice machine must be potable and of food grade quality - High pressure refrigerant is charged into the ice machine. Be careful not to damage the refrigerant circuit during installation, maintenance, and service. - Remove remaining water on the bottom side of the ice machine and any other things may cause danger before installation, maintenance, and service - Turn off the power and disconnect electrical connection before installation, maintenance, and service. - Wear full protective clothing when using chemicals for maintenance. - Do not remove the ice by using sharp tools such as a knife. This prevents damage to the evaporator.

1.2 Warranty

⚠WARNING
- Defective or non-approved parts obtained by unauthorized parties that cause damage to the machine will void warranty.

Warranty Period	
Parts & Labor	3 years
Compressor	5 years
Evaporator	5 years

1.3 How to read model names and serial numbers



[Label barcode]

LUIA A 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 digits) : 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

1.4 Installation

1.4.1 Suggested Installation requirements

- Indoors with good ventilation
- No heaters or hot side equipment around the machine. Do not place in direct sunlight
- Absolutely requires a sufficient water supply, well equipped drainage system, and close proximity to power outlet
- Ice machine should not have any obstructions near the machine to promote and maintain proper air flow and optimum ice production.

1.4.2 Installation check list

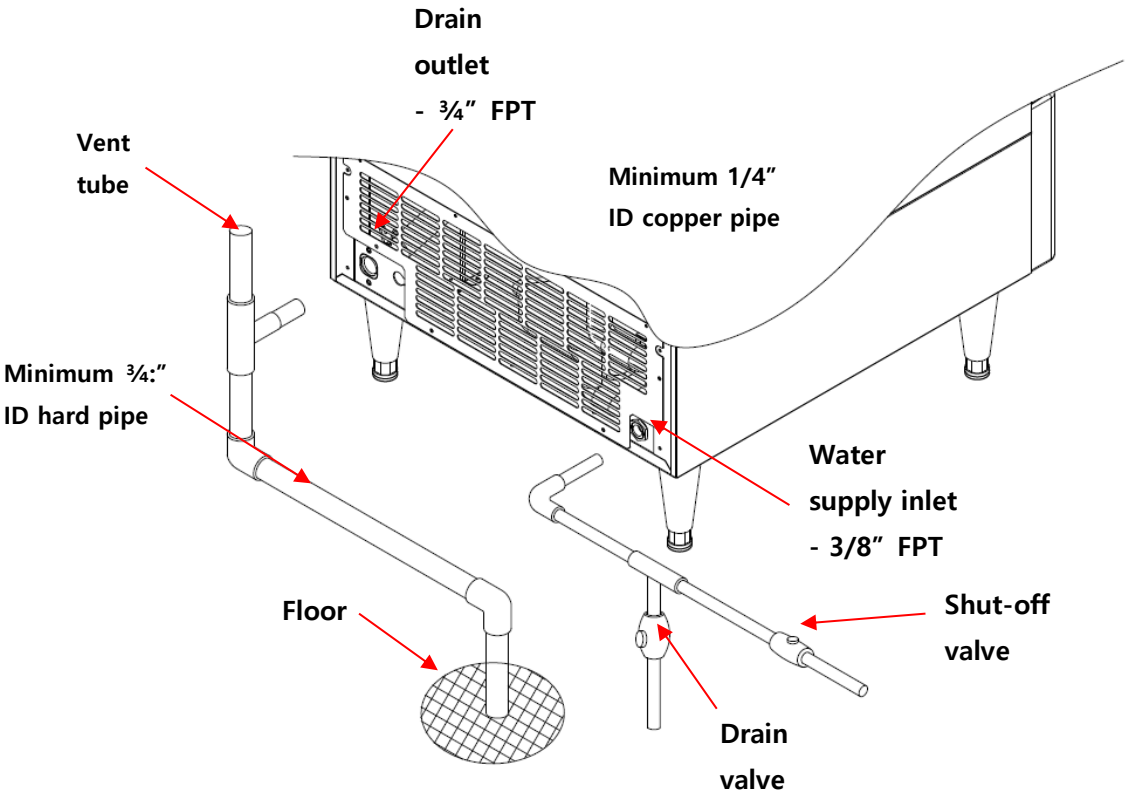
- Are the front edges of modular head and ice storage bin level and in alignment?
- Is the air vent pipe for the machine and drain line for ice storage bin separated?
- Is there an air gap at the end of the drain pipe of the ice storage bin?
- Have the modular head and ice storage bin, been checked and cleaned after installation?
- Is the drain pipe easily disconnected from the modular head?
- Is there 8"(200mm) minimum clearance around the ice machine?

1.4.3 Required environmental condition

Contents	Model	Available Range
Ambient Temperature	All	7-38 ℃
		45-100 ℉
Water Temperature	All	7-32 ℃
		45-90 ℉
Water Pressure	All	30-100 psig
		2-7kg/㎠
Voltage	115V	104-127V
	208-230V	187-264V
	220-240V	198-254V

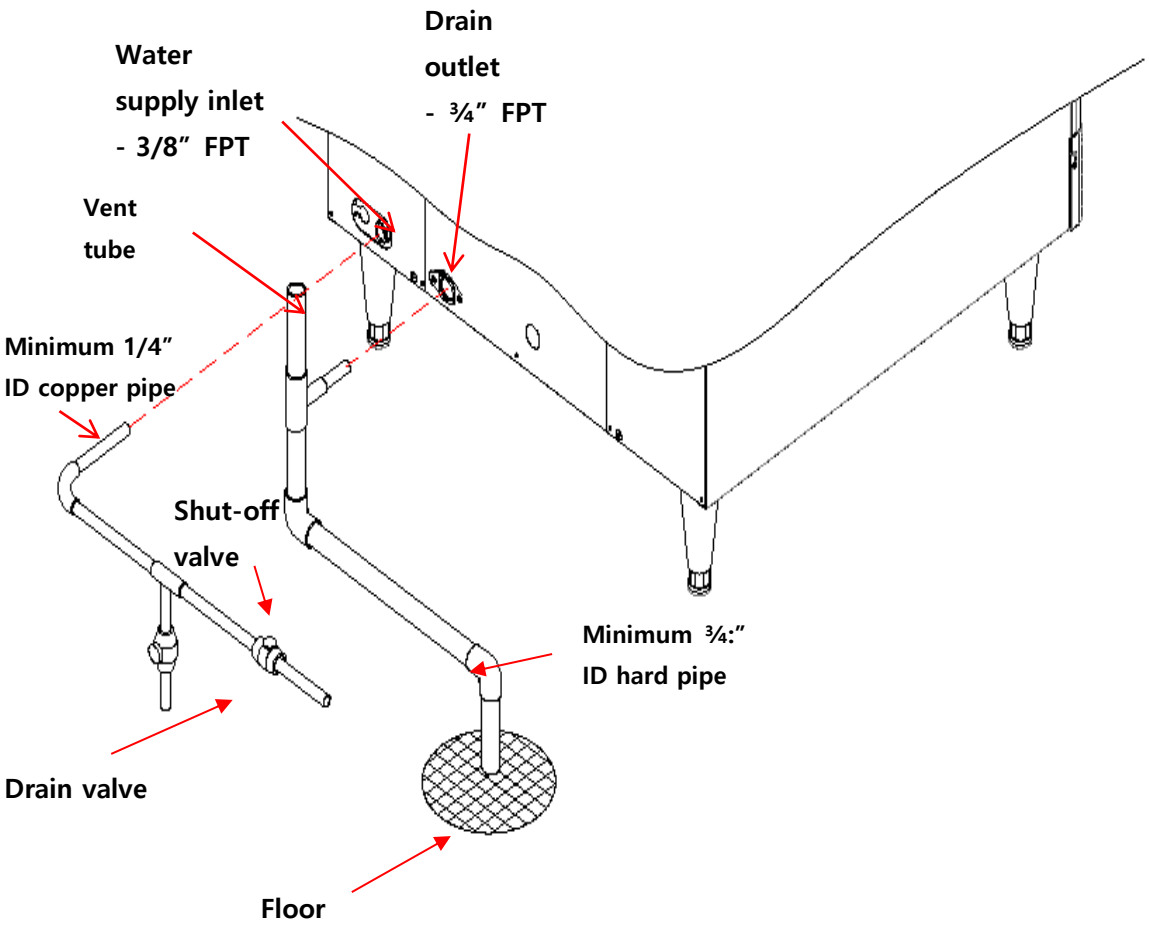
1.5 Water supply and drain pipe connection

1) BLUI-100A/BLUI-150A



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

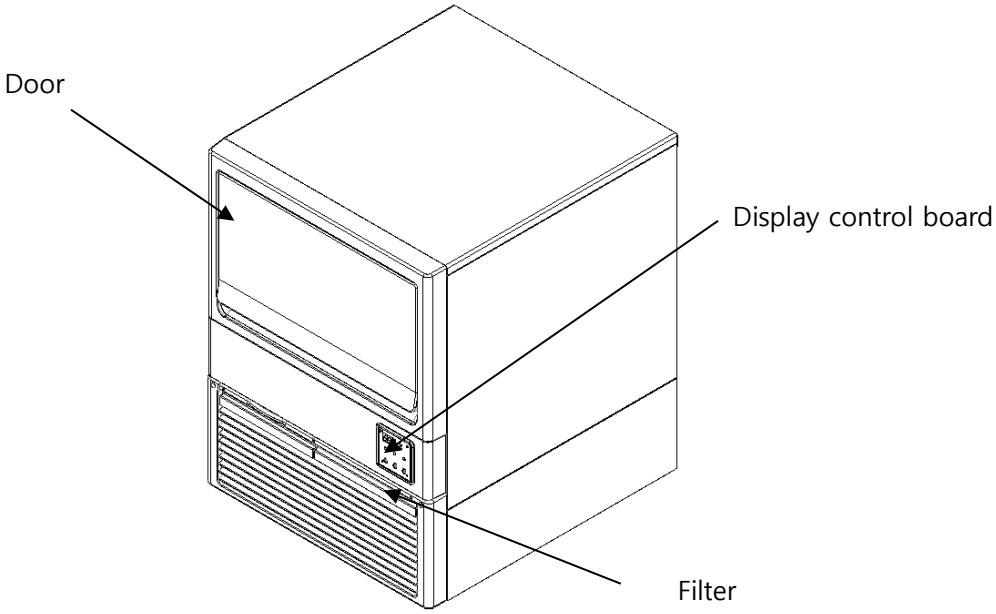
2) BLUI-250A

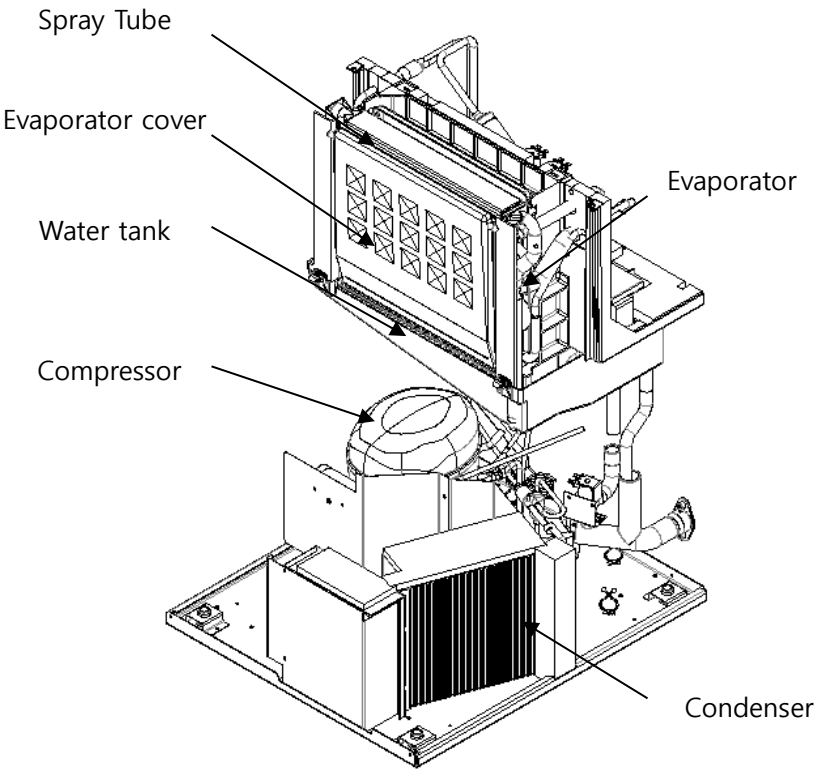


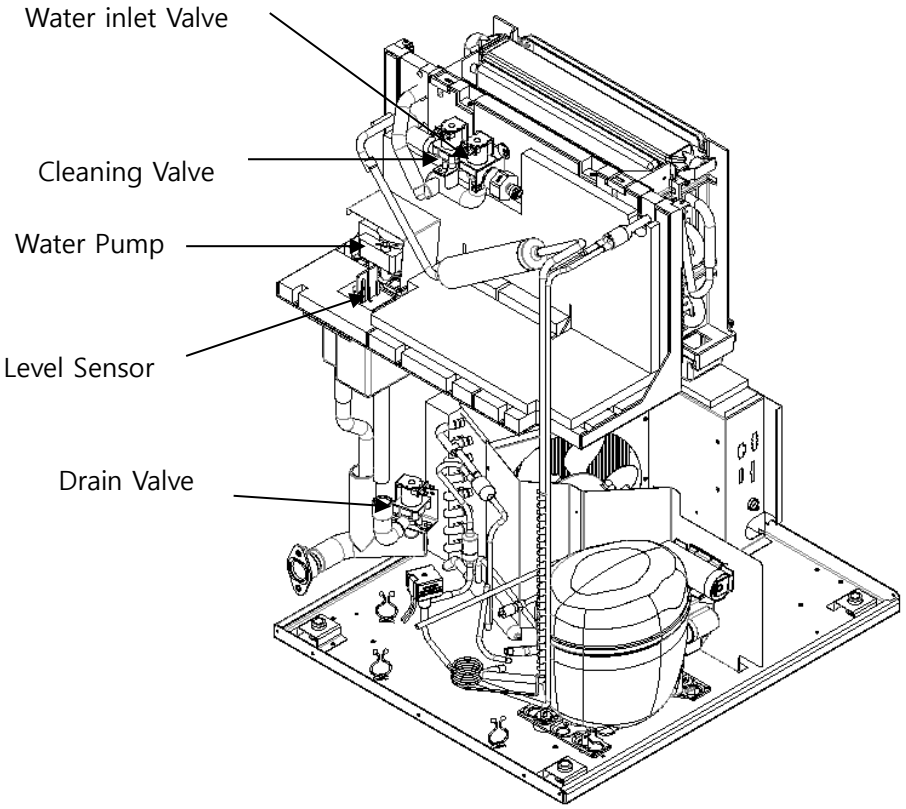
* Leave a 2 inch (5 cm) vertical
air gap between the end of each pipe
and the drain.

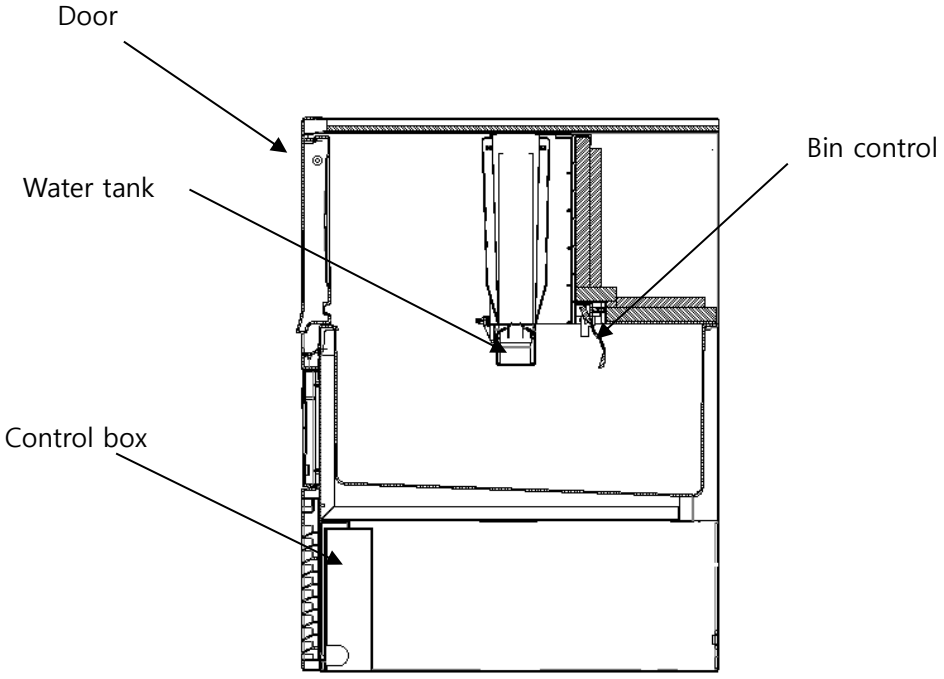
1.6 Assembly structure

1) BLUI-100A

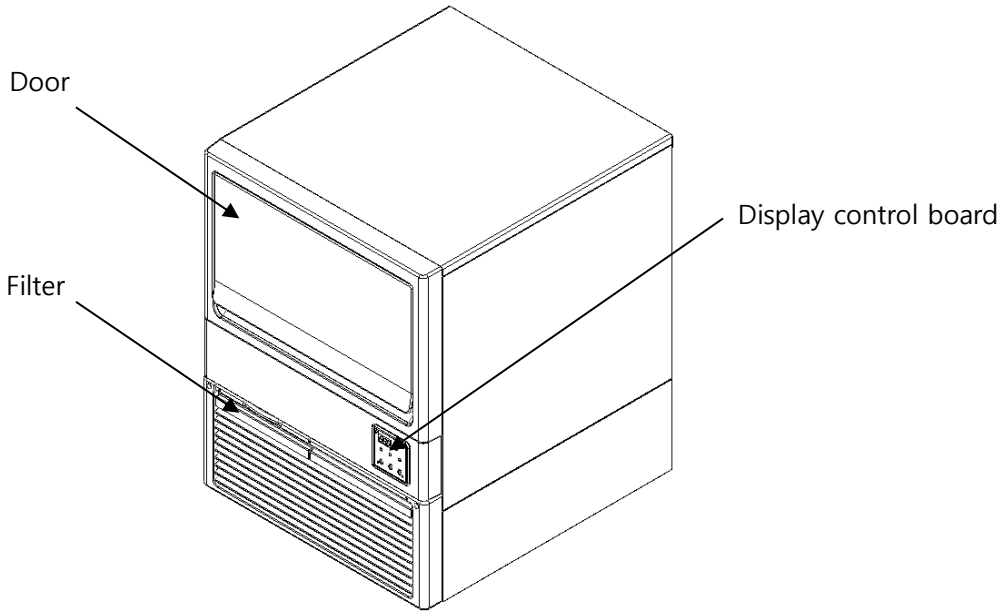


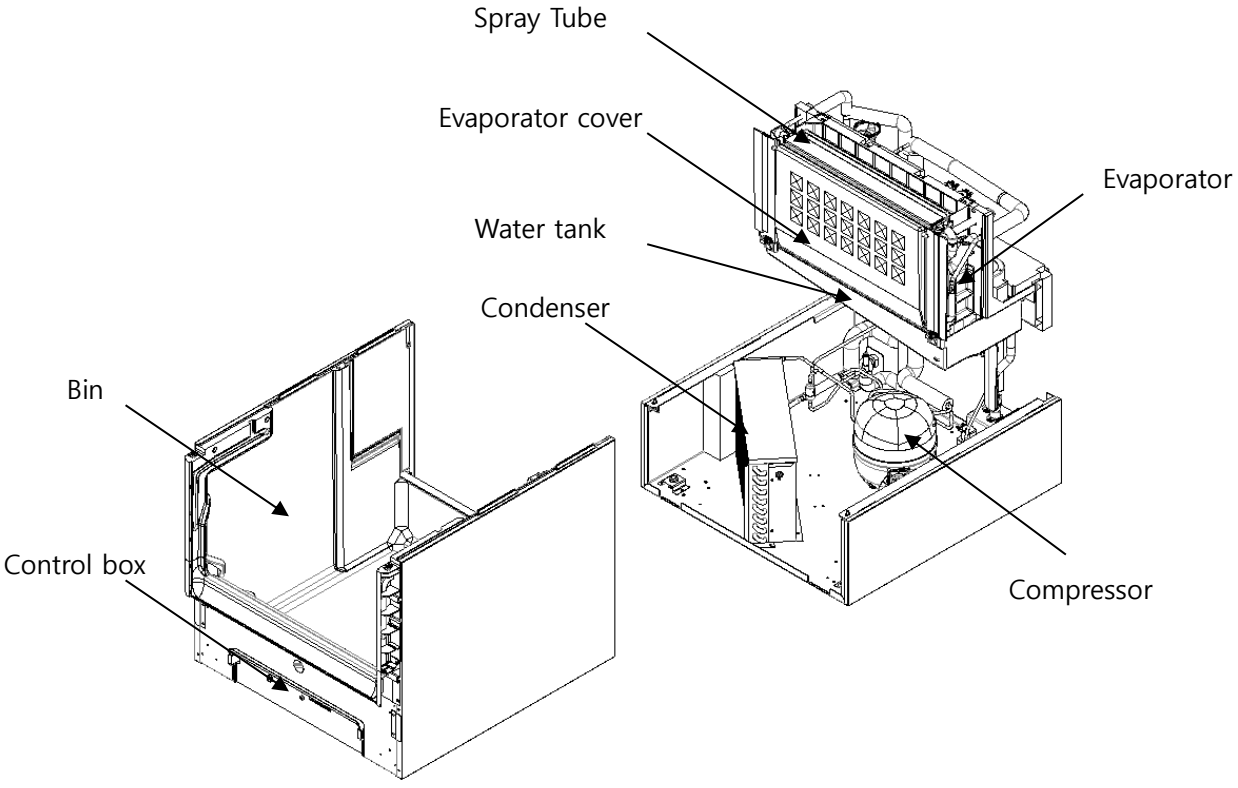


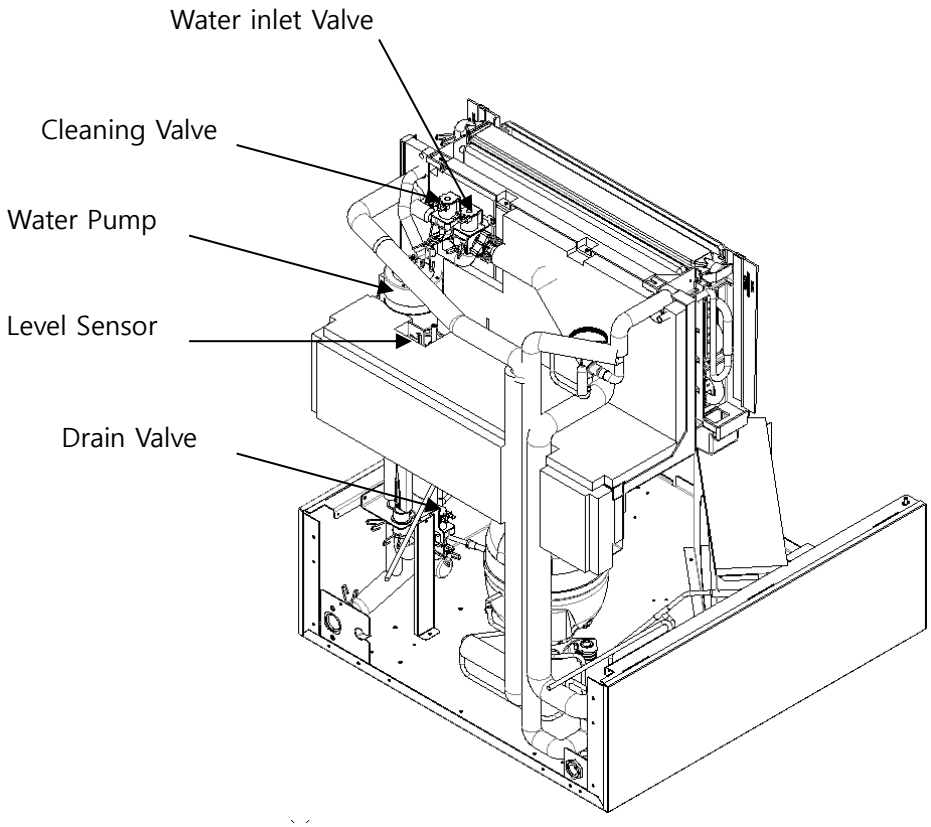

Water inlet Valve
Cleaning Valve
Water Pump
Level Sensor
Drain Valve

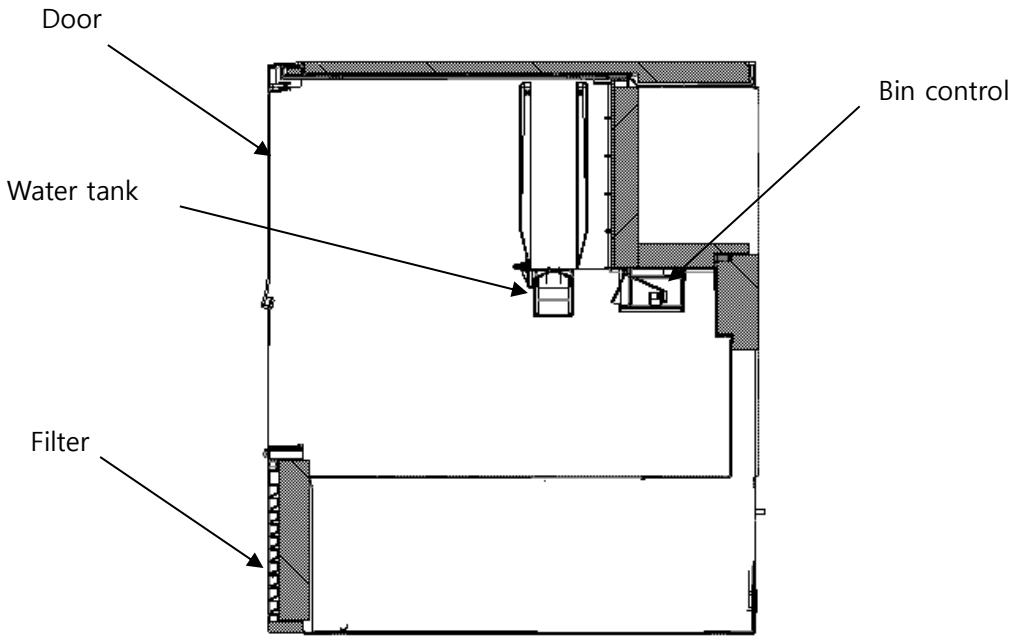

Door
Water tank
Bin control
Control box

2) BLUI-150A


Door
Filter
Display control board

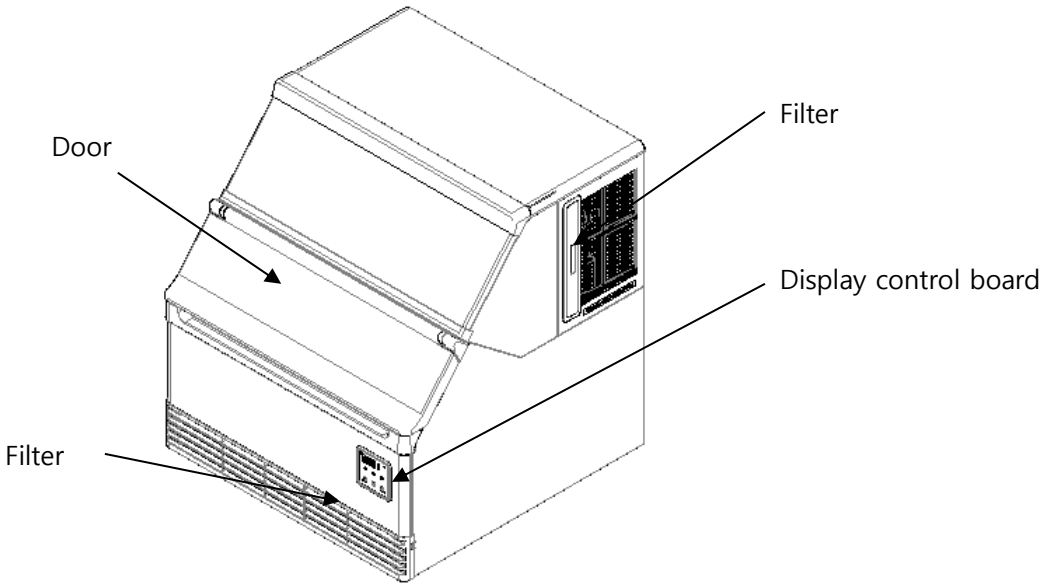

Spray Tube
Evaporator cover
Evaporator
Water tank
Condenser
Bin
Control box
Compressor

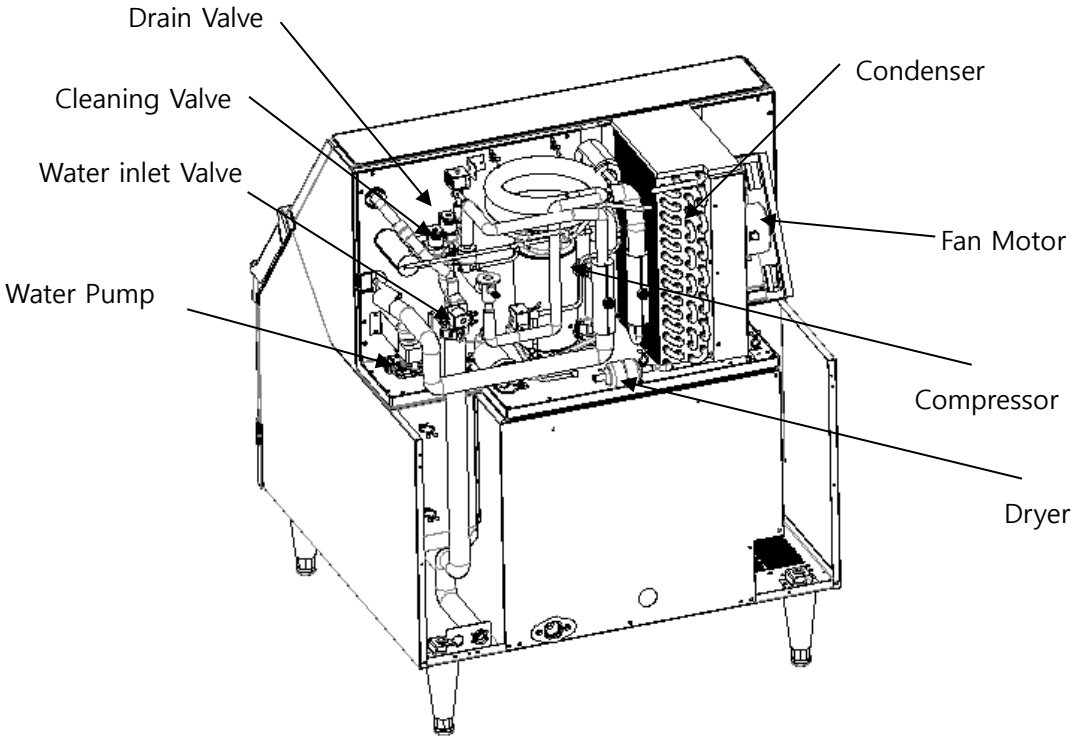

Water inlet Valve
Cleaning Valve
Water Pump
Level Sensor
Drain Valve

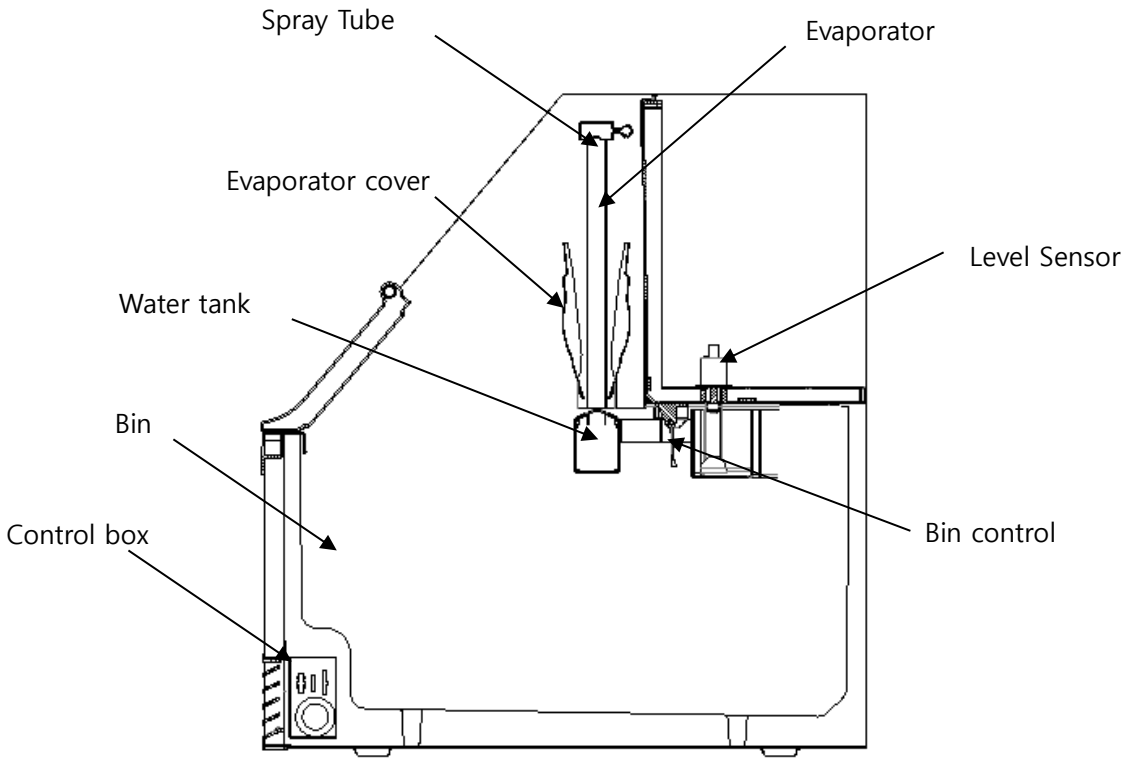

Door
Bin control
Water tank
Filter

단면도

3) BLUI-250A


Door
Filter
Display control board
Filter


Drain Valve
Cleaning Valve
Water inlet Valve
Water Pump
Condenser
Fan Motor
Compressor
Dryer


Spray Tube
Evaporator
Evaporator cover
Level Sensor
Water tank
Bin
Control box
Bin control

1.7 Specification

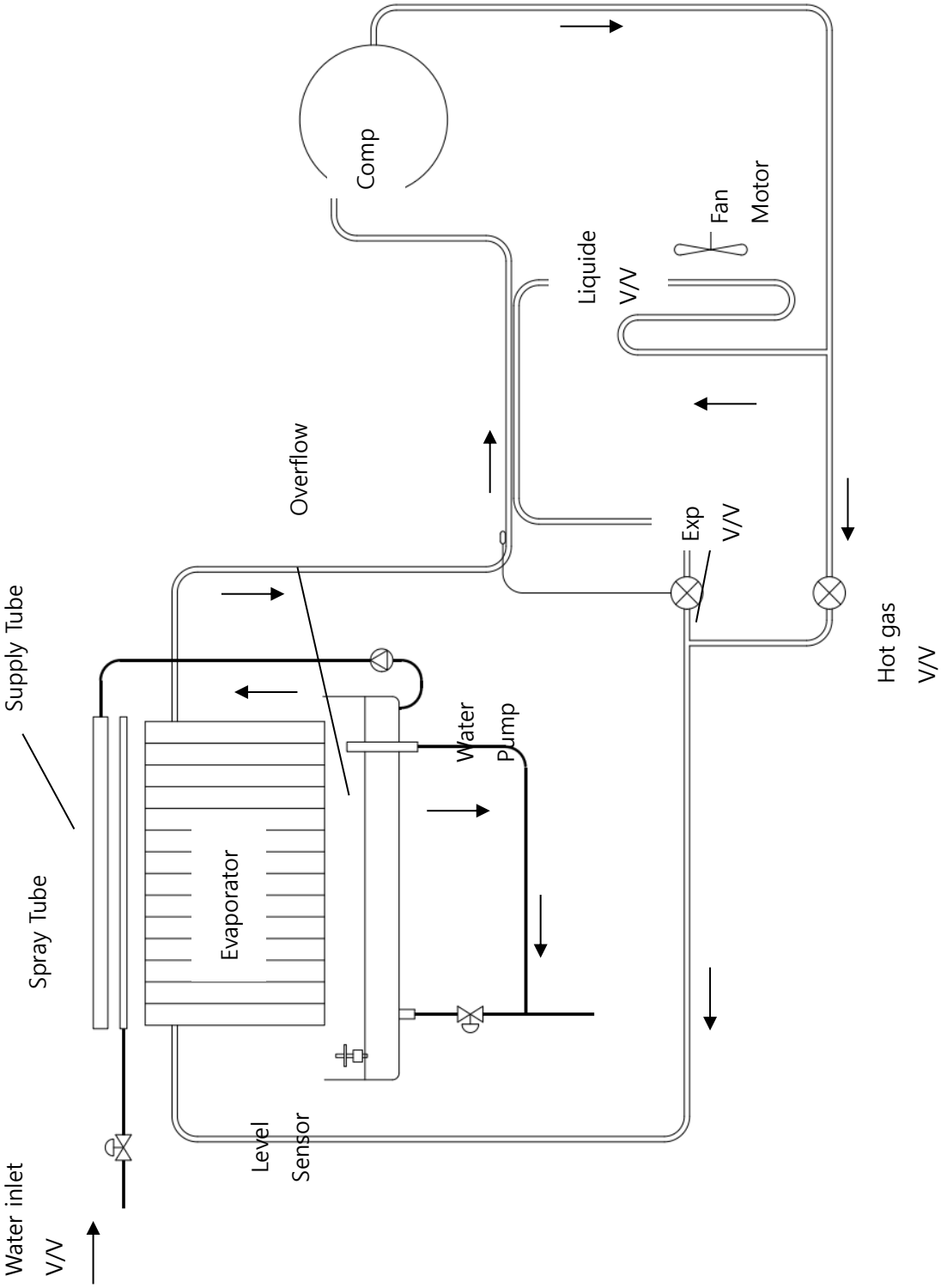
Content	100A	150A	250A	REMARKS
AC Supply voltage	115V/60Hz	115V/60Hz	115V/60Hz	
Amperage / power consumption	5.2A/508W	7.0A / 657W	7.0A / 517W	AT90°F/WT70°F AT32°C/WT21°C
Maximum Fuse Circuit Breaker	N/A	N/A	N/A	
Product size (W*D*H)	19 11/16 x 23 5/8 x 31 7/8 (inch) 500 x 600 x 810 (mm)	25 x 27 3/4 x 38 5/8 [inch] 635 x 708 x 975 [mm]	32 1/8 x 33 1/16 x 39 1/2 [inch] 816 x 840 x 1003 [mm]	
Weight	Net 49kg (108 lbs)	123 lbs (56 kg)	141 lbs (64 kg)	
Per Cycle (lb / Cubes)	1.82 lb(0.83kg) / 90EA	2.88lb(1.3kg) / 130EA	4.3lb(1.9kg) 238 EA	-
Refrigerant	R-134a	R-134a	R-410A	

2 Technical information

2.1 Water and refrigerant system

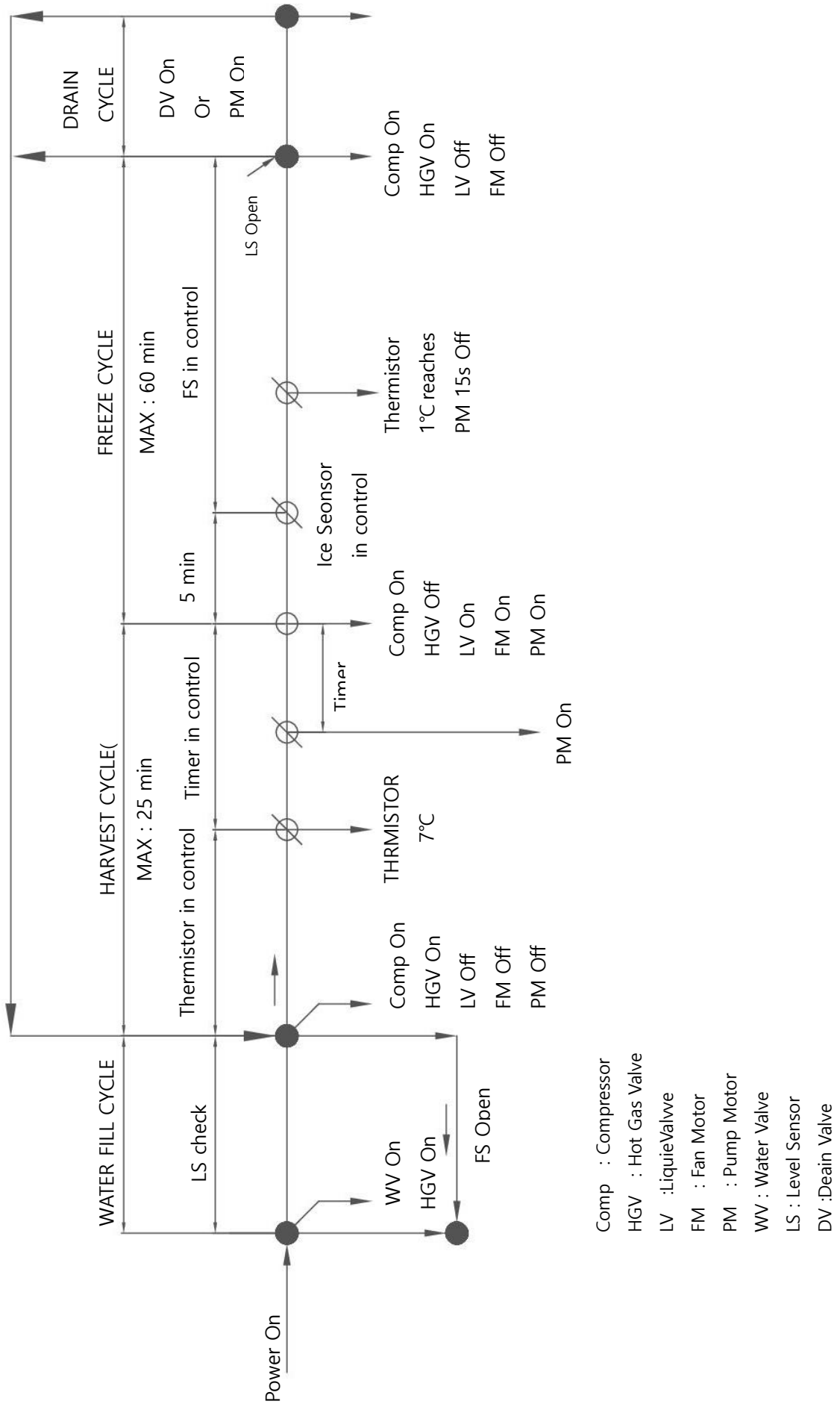
Refrigerant Circuit

Water Circuit

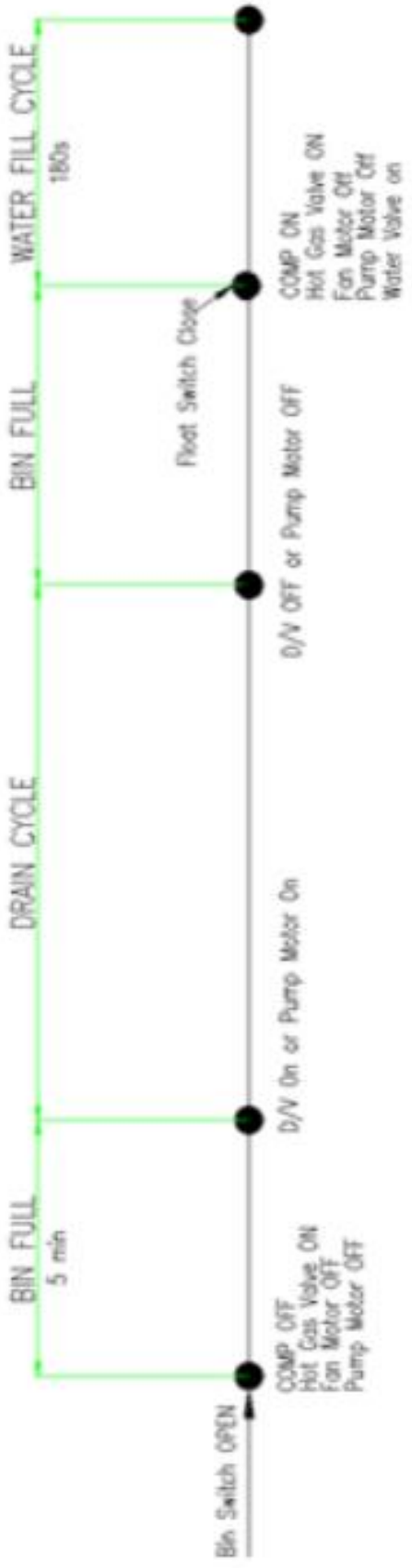


2.2 Operation

1) During freezing and harvesting cycle



2) During ice storage bin is full



3) Sequence

- Stand-by
  - Once the ice machine is connected to the main power supply, it shows model name and PCB (control board) version and stand-by for operation

- Water Supply
  - As soon as the power is turned on, the ice machine will immediately begin the water supply cycle.
  - The ice machine will revert back to the water supply cycle if the machines is reset (turned off and turned on) during operation.
  - The water valve and hot gas valve are operational during the water supply cycle.
  - On/off LED turns to green from red once water supply cycle is complete.
  - "XX" is displayed ruing water supply cycle. [XX = Elapsed time (x 10 seconds)] Example: the number 1 before the dot signifies water supply cycle (2 being harvest cycle and 3 being freezing cycle). 02 means the water has been supplying the machine for 20 seconds. The last 2digits tell you the time. Simply multiply by 10 and you will have the exact umber of seoncds the water cycle has been active.

- Harvest
  - The action of dropping a batch of ice from the evaporator into the bin is called the "Harvest cycle"
  - The ice machine continues to repeat harvest and freezing cycles except for the first tiem the machine is turned on
  - The compressor, hot gas valve, and water valve are in operation during the harvest cycle.
  - Once evaporator temperature sensor reaches 7℃(44.6℉), harvest will be complete. This is due to the factory harvest delay time setting. (Default harvest delay time depends on model.)
  - The Water pump starts operation before the harvest cycle is done.
  - On/off LED light turns from Red to Green once the harvest cycle is complete.
  - Harvest LED light turns to Green.
  - "2.xx" is displayed during harvest cycle. [.xx = Elapsed time (x 1 minute)]

Example: The display reads: 2.03 during the harvest cycle. The first number (2) indicates that the ice machine is in the Harvest cycle. The second number (03) indicates that the machine has been in harvest for 3 minutes.

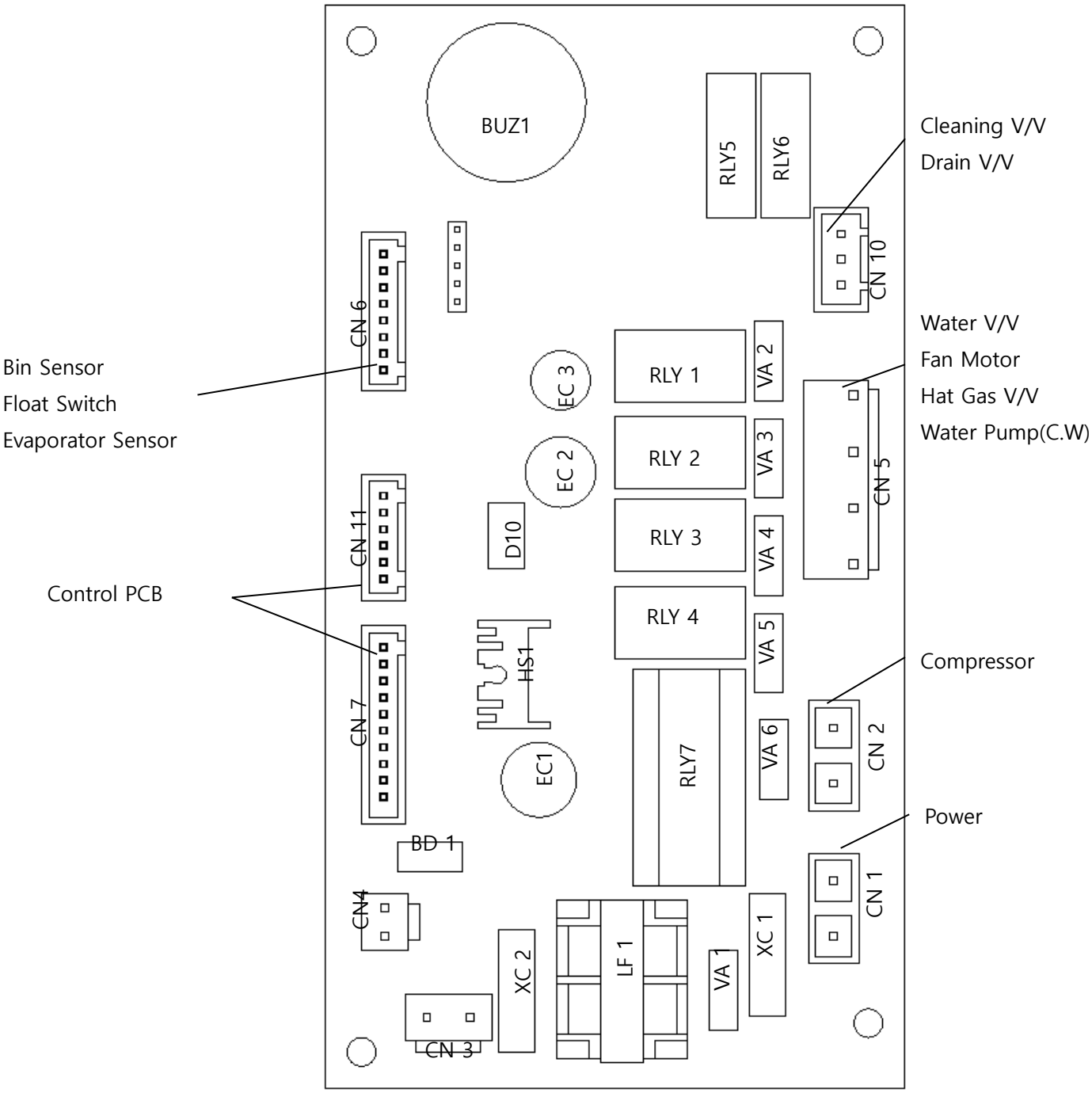
- Freezing
  - Freezing cycle is the act of water freezing onto the evaporator plate creating ice.
  - Compressor, Fan motor, Water pump, Liquid valve are in operation during freezing cycle..
  - Once the freeze cycle is complete the LED light turns to Green.
  - During the freezing cycle the LED light will be Red.
  - "3.xx" is displayed during freezing cycle. [.xx = Elapsed time (x 1 minute)]
    Example: The display reads: 3.02 during the Freezing cycle. This first number (3e) tells us the ice machine is in the freezing cycle. The scond number (02) tells us the freezing cycle has been active for 2 minutes.

- Drainage
  - The ice machine has regular drainage intervals.
  - When the ice bin is full, the machine will drain water regularly from the machine directly following the freezing cycle.
  - The drainage interval last from 10020 seconds.
  - Regular drainage time and interval can be adjusted once the water conditions are ascertained at the site of installation.
  - The ice machine will go into the drainage interval if the ice storage bin is full for five minutes to prevent contamination of water inside the water tank.

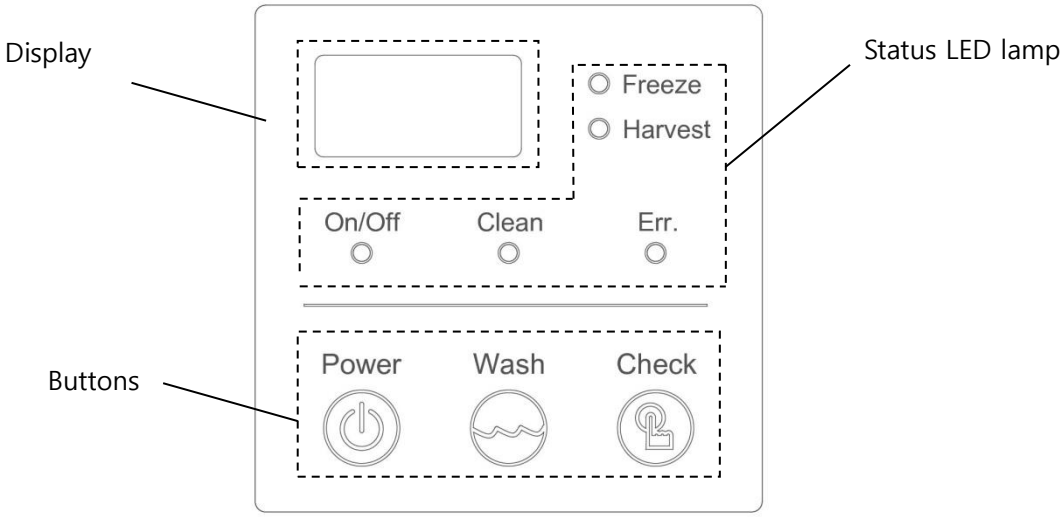
- Full storage
  - If the bin switch senses the bin is full of ice but the ice machine is in the middle of a new harvest cycle, ice production will cease once the current harvest cycle is complete.Ice production will also cease if the bin switch senses a full binfive minutes before a new freezing cycle begins.
  - If the bin switch senses that the bin is full five minutes After the freezing cycle begins all ice production will stop once the very next Harvest cycle is completed.
  - If the bin switch senses the bin is not full after consuming some ices, the ice machine resumes working from water supply cycle.

2.3 Control board

2.3.1 Main Control Board Layout



2.3.2 Display Control Board



1) Features

- 7-segment

Display	Meaning
	1 = Water supply cycle .XX = Elapsed time (x 10 seconds). Ex) 1.02 = In water supply cycle for 20 seconds..
	2 = Harvest cycle .xx = Elapsed time (x 1 minute) Ex) 2.02 = In harvest cycle for 20 seconds.
	3 = Freezing cycle .xx = Elapsed time (x 1 minute) Ex) 3.02 = In freezing cycle for 20 seconds.
	In drainage cycle.
	In cleaning cycle.
	Need to add cleaner or sanitizer.
	Cleaning cycle is completed.

- Error code: Below error codes will be displayed so technicians can immediately identify specific malfunctions

Display	Meaning
E1	Freezing cycle exceeds 60 minutes twice in a row
E2	Harvest cycle exceeds 25 minutes twice in a row
E3	Evaporator sensor temperature is over 60℃(140°F)
E4	Water is not drained during full storage
E5	Water level sensor continues to detect insufficitent water levels
E6	Evaporator sensor error. (damaged or disconnected)
E7	Main PCB program error

- E1 : If the freezing cycle exceeds 60 mins for the first time, the ice machine will activate the harvest cycle. This is called a "forced" harvest. E1 will be displayed if the same situation happens again.

- E2 : If the harvest cycle exceeds 25 mins for the first time, the ice machine will activate the freezing cycle. This is called a "forced" freezing cycle. E2 will be displayed if the same situation happens again.

- E3 : If evaporator sensor temperature is over 60℃(140°F).

- E4 : The ice machine automactically drains 5 minutes after the bind is full. E4 will be displayed if the water is not drained for 480 seconds.

- E5 :
  1) For the first ice making cycle: If the float switch does not sense enough water at the end of the first water supply cycle, the ice machine will go back to the water supply cycle again before advancing to the harvest cycle. E5 will be displayed If the float switch continues to sense insufficient water levels during subsequent supply cycles.
  2) Beginning with the second ice making cycle: If the float switch does not sense sufficient water levels at the end of the harvest cycle, the ice machine will return to

the harvest cycle instead of advancing to the freezing cycle. E5 will be displayed If the float switch continues to sense insufficient water levels during the second harvest cycle.

- E6 : If the evaporator sensor is either damaged or disconnected.

- E7 : If the main PCB is not operating properly.

- Status LED lamp

LED	Color	Meaning
On/Off	Green	Water has been supplied.
	Red	Water has not been supplied yet.
	Orange	Ice storage bin is full.
Freeze	Green	In freezing cycle.
Harvest	Green	In harvest cycle.
Clean	Green	In cleaning cycle.
Err	Red	The ice machine has a problem

- Buttons
  - Power : To turn the ice machine on or off: Press and hold power button for 2 seconds.
  - Wash : For cleaning and sanitizing the ice machine.
  - Check : Allows the user to check the status of different operations of the machine.

- Combination
  - Power + Wash : Pressing and holding these buttons will force the machine into the harvest cycle.
  - Power + Check : Pressing and holding these buttons will force the drainage cycle.
  - Wash + Check : This will open the hot gas valve and water valve to aid in the system evacuation in the lines if necessary.

- Status check : Once the check button is pressed, the display will cycle through the status of each of the categories below. Simply press check again to get to the next operation in the sequence. If there is no further activity on the check button, the display will automatically return to the standard operation status display.

Sequence	Status	Remarks
1 - E	Evapoator sensor Temeprature	
2 - F	Average time of freezing cycle	
3 - H	Average time of harvest cycle	
4 - 三	Total freezing cycle counts	

2.3.3 Parameter setting

1) Instruction – How to change the setting

Number	Display	Direction
1		Press check button for 5 seconds to change parameter setting.
2		P-1 will be displayed.
3		Press check button again to adjust P-1 setting result. The setting can be adjusted up or down by pressing power or wash buttons.
4		P-2 after pressing the check button again, P-2 will be displayed.
5	-	Refer to following table to check each parameter's meaning and further information.
6		Press check button for five seconds to get out of the parameter setting mode.

2) Parameter code meaing

Number	Display	Features	Range	Adjustable value
1	P-1	Evaporator temperature for harvest control	5 ~ 30℃ 41 ~ 86℉	1℃, 1℉
2	P-2	Set harvest delay time	60 ~ 300	5 sec
3	P-3	Set drainage cycle interval	1 ~ 10	1,2,5,10
4	P-4	Sensor temperature correction	-2 ~ 2 -4 ~ 4	0.1℃
5	P-5	Set water pump delay time to prevent ice from becoming slush.	10~60	sec
6	P-6	Set PCB program	25A~90A	-
7	P-7	Set pump motor during harvest	0 ~ 300	sec
8	P-8	Reset freezing cycle count	0~1	-
9	P-9	Set drainage time	10~20	sec
10	P-10	Set water supply time during harvest	0~300	sec
11	P-11	Set minimum freezing time	0~30	min
12	P-12	Set temperature unit	℃ , ℉	-
13	P-13	Set herz	50,60	-

- P-1 / Set evaporator temperature for harvest control: Once evaporator sensor reaches the set temperature, harvest cycle will be done. [Default Setting : 7℃(44.6 ℉)]
- P-2 / Set harvest delay time after evaporator sensor reaches a set temperature [Default: 7℃((44.6℉)] for harvest. Default harvest delay time depends on model.
- P-3 / Set drainage cycle interval to drain remaining water at the bottom of water tank. [Default: Every 10 freezing cycles]
- P-4 / Set the correct temperature range if there is a temperature discrepancy between sensor and actual thermometer. [Default : 0]
- P-5 / Set water pump delay time to prevent ice from turning to slush. Set the pump motor to stop when the evaporator sensor reads the set temperature. This will prevent the ice from turning to slush. [Default : 15 seconds
- P-6 / Set PCB program: Default setting depends on model.
- P-7 / Set water pump operation time during harvest cycle. Default setting depends

on model.

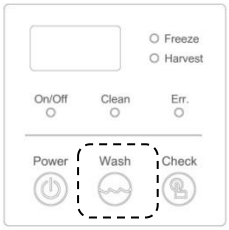
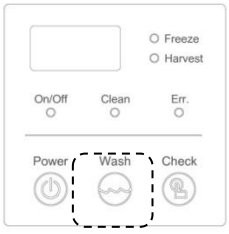
- P-8 / Reset freezing cycle count to zero. By reading the freezing cycles we can tell when a unit will need to have new filtration and also how long the unit has been in operation. This acts like the the ice machine odometer.
- P-9 / Set drainage time: [Default: 10 seconds]
- P-10 / Set water supply time during harvest
- P-11 /Set minimum freezing time to prevent the evaporator from freezing while the ambient temperature is low.Default setting depends on model.
- P-12 / Set temperature unit either ℃or ℉
- P-13 / Set herz either 50 or 60

3 Troubleshooting

3.1 Parts operation scheck

3.1.1 Test mode

1) How to get in test mode to check parts' operation

Number	Display Control Board	Direction
1		To turn off the machine: Press and hold the power button for 5 seconds
2		Press and hold wash button for 5 seconds to activate test mode..
3		"Off" will be displayed
4		"C" will be displayed. The compressor will turn on to show the compressor is working.
5	-	To cycle through all the working parts of the machine simply press the wash button again. Refer to the table below for further information.
6		To exit the test mode, press and hold wash button when "off" is displayed on the display

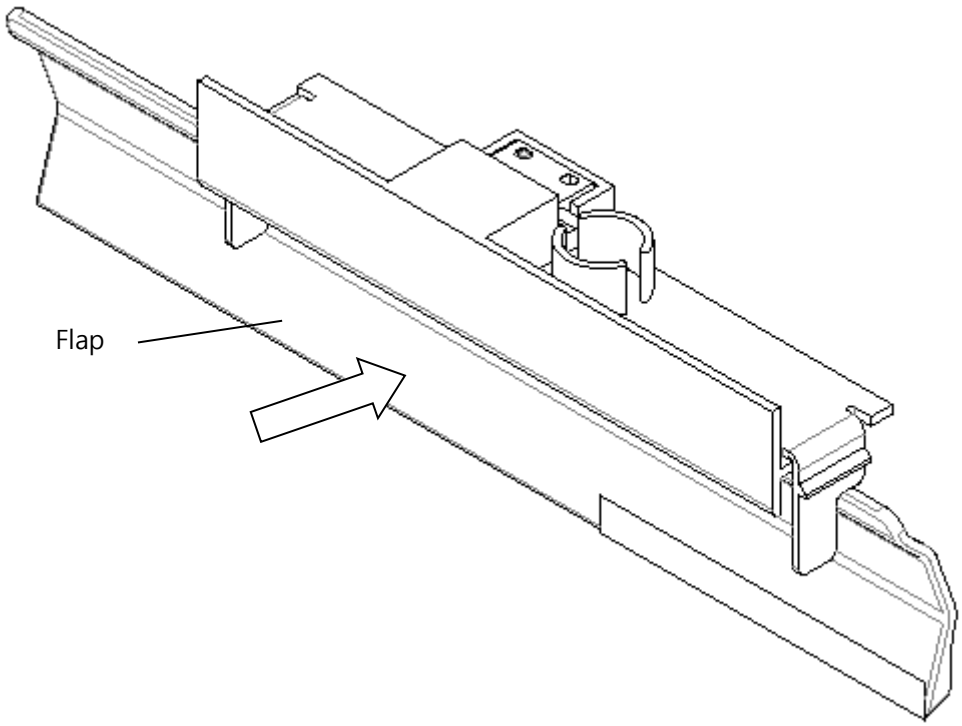
2) Test code meaning

Number	Display	Function	Remarks
1	OFF		
2	C	Compressor On	
		Fan motor On	
		Liquid valve On	
3	P	Pump motor C.W On (Circulation)	
4	P1	Pump motor C.C.W On (Drainage)	
5	H	Hot gas valve On	
6	F	Fan motor On	
7	E	Water valve On	
8	AC	Cleaning valve On	
9	AS	Liquid valve On	
10	d	Drain On	
11	Dyc	Water valve on	Factory use only.
		Cleaning valve on	
		Drain valve on	

* The test mode only shows available parts for each machine. If the ice machine does not have a certain part, the test code for that part will not show up on the display.

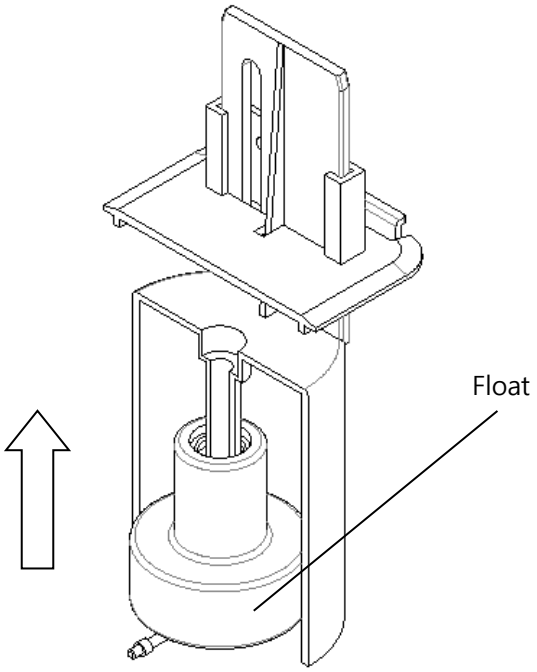
3.1.2 Sensor operation check

1) Bin switch sensor



- Can be checked while the machine is in operation. (Water supply, Freezing, or Harvesting Cycles.)
- Press and hold down the plate flap on bin switch.
- [FUll] will be displayed after 10 seconds if the bin switch properly works.
- [FUll] will disappear within 5 seconds after releasing the plate flap.

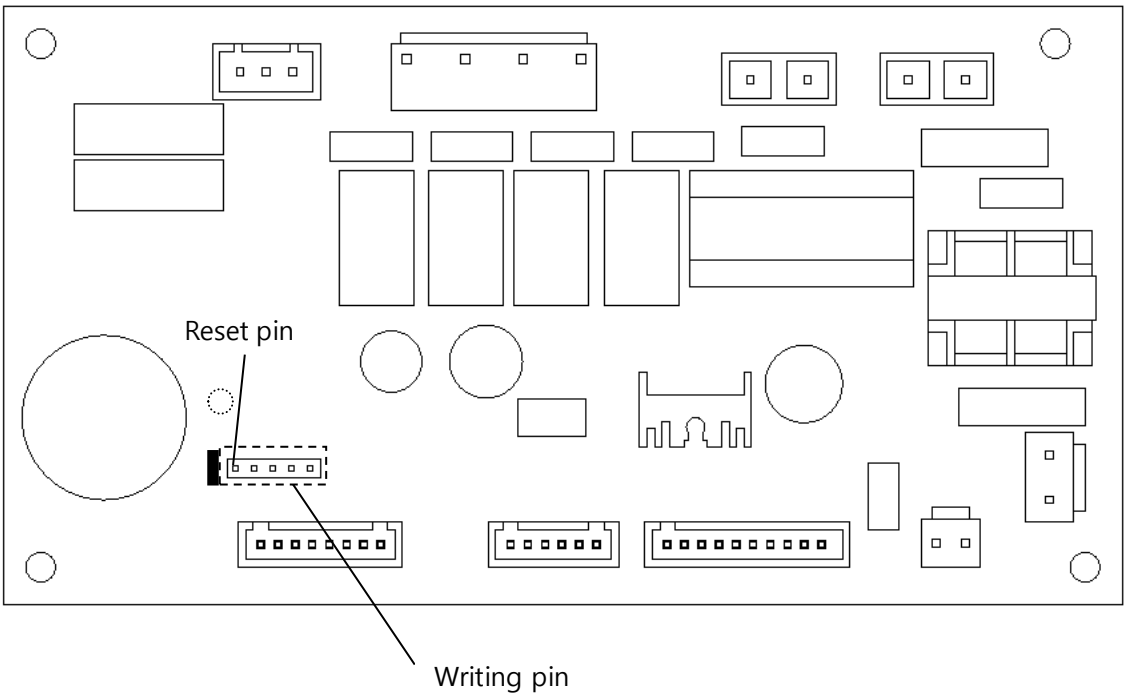
2) Water level sensor

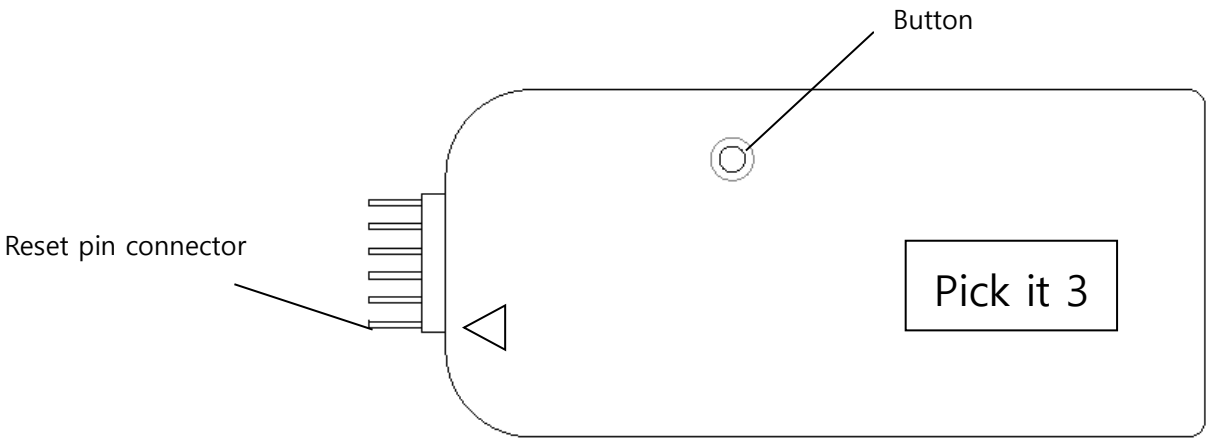


- Can be checked while the machine is in operation. (Water supply, Freezing, or Harvesting Cycle.)
- Lift the float switch to its highest level, and then proceed to slowly push the float switch all the way down to the lowest position.
- The display will show a green light to indicate the float is at the lowest position. A Red light will appear if the float switch cannot sense the lowest position.

3.2 Main PCB program update

- The PCB program may be easily updated by using EPGM.

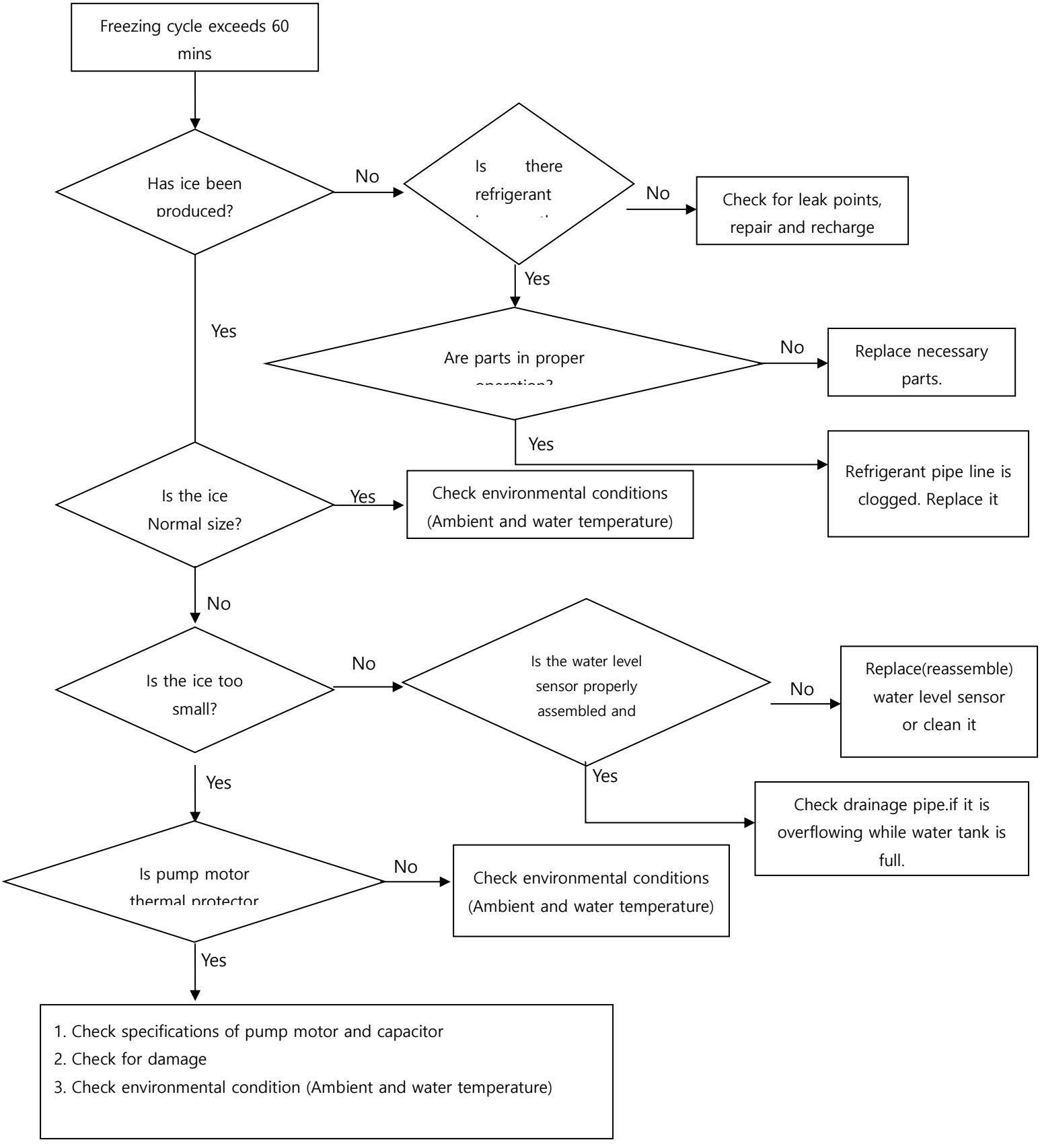




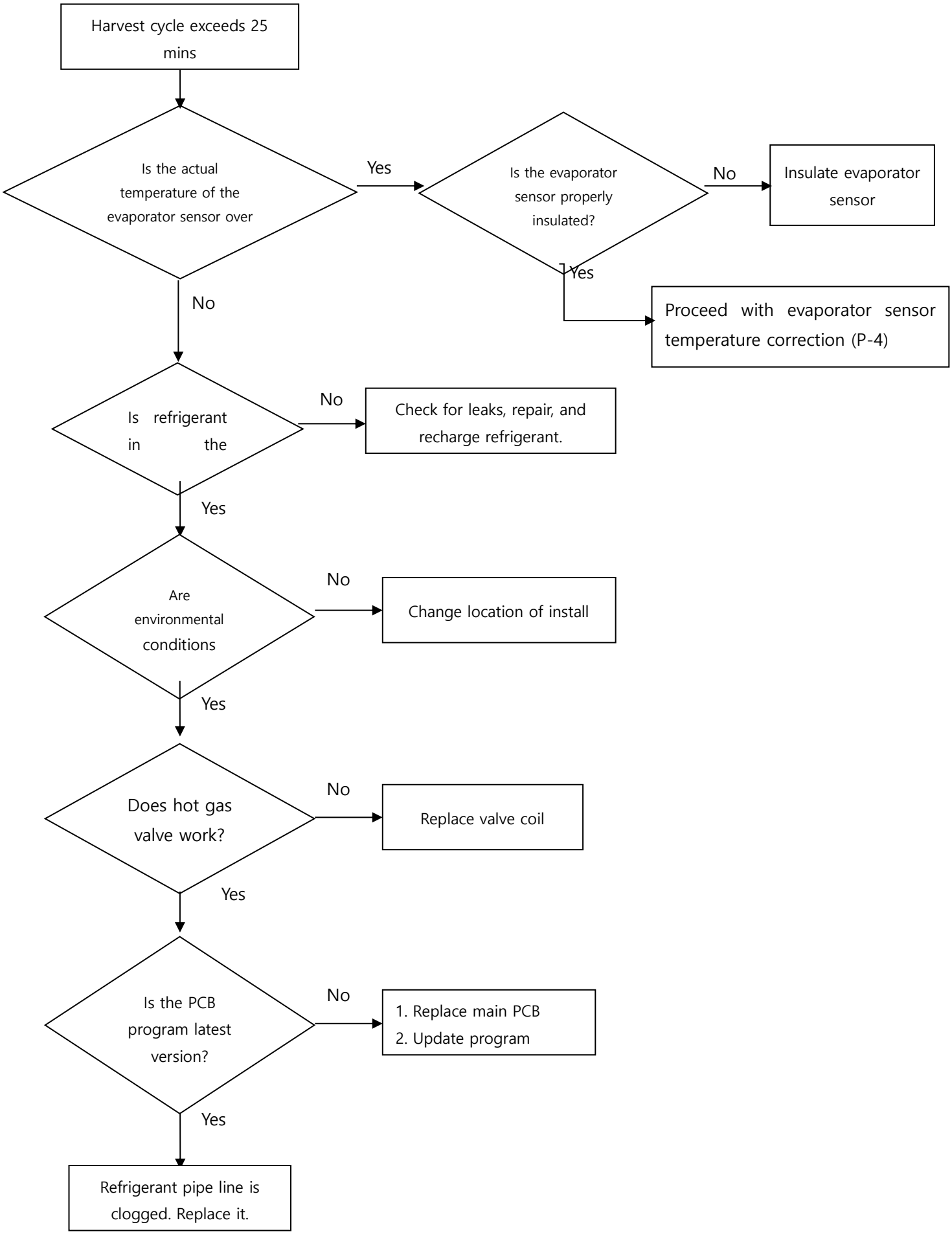
- Press "Off" button to turn off the machine.
  (*Do not unplug power cord. The ice machine must be connected to main power for update.)
- Connect "Pick it 3" to potable battery pack.
- Conncet "Pick it 3" to reset pin referring to above image.
  (*Reset pin connector on "Pick it 3" and reset pin on main PCB must be properly matched.)
- Press button on "Pick it 3"
- 'Beep' alarm will sound when update is done.

3.3 Error codes

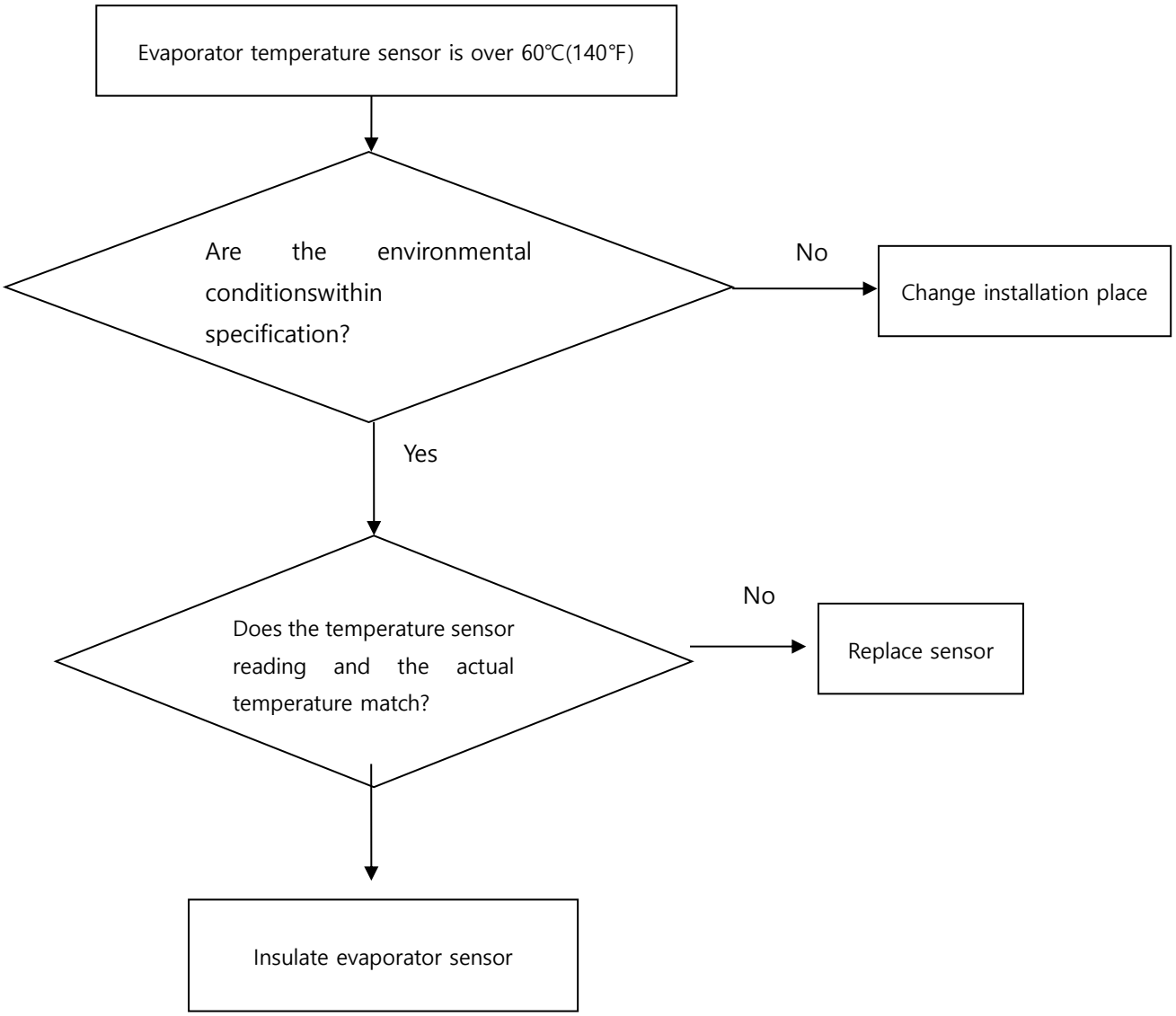
3.3.1 E1 / Freezing cycle exceeds 60 minutes.



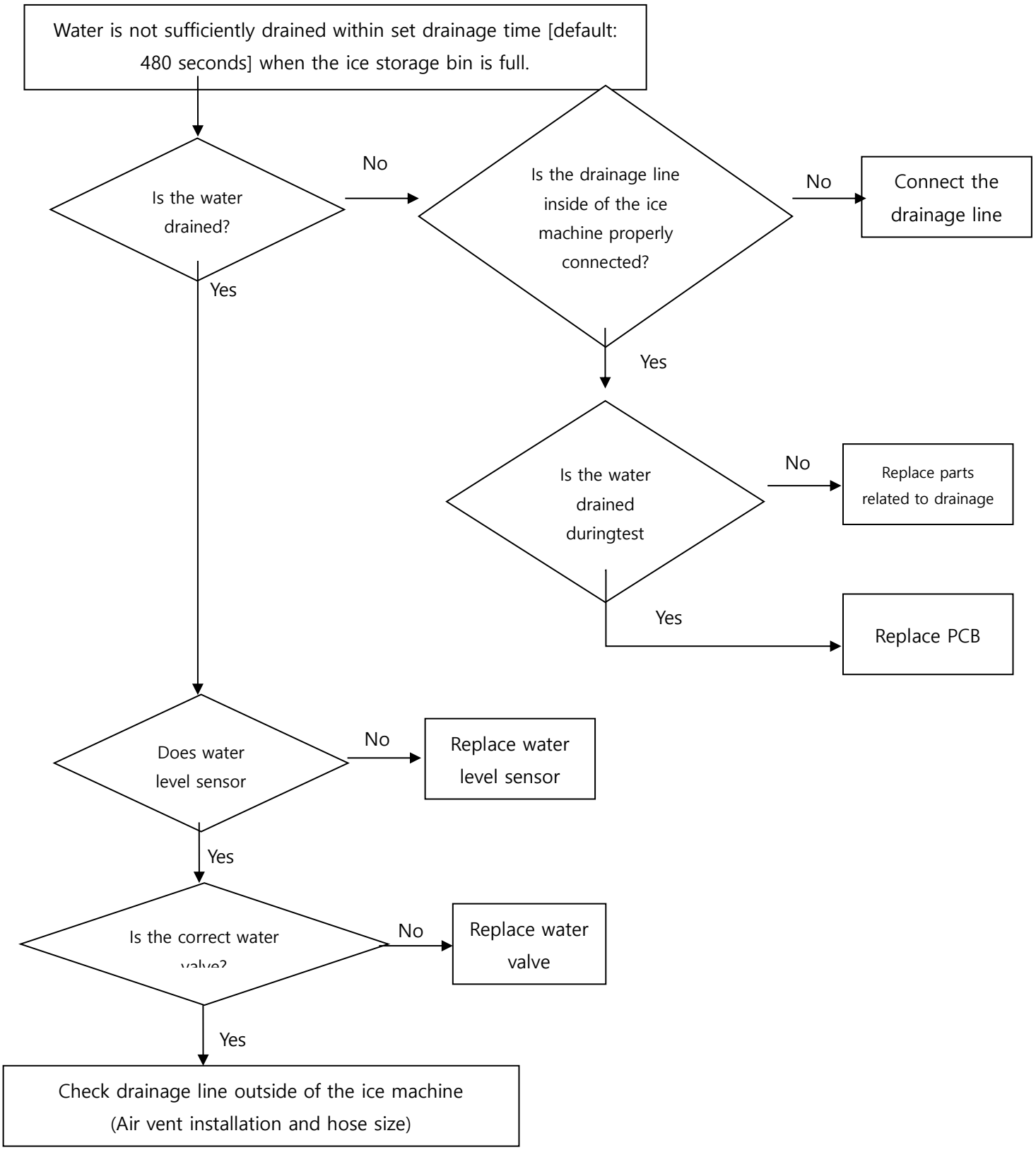
3.3.2 E2 / Harvest cycle exceeds 25 minutes.



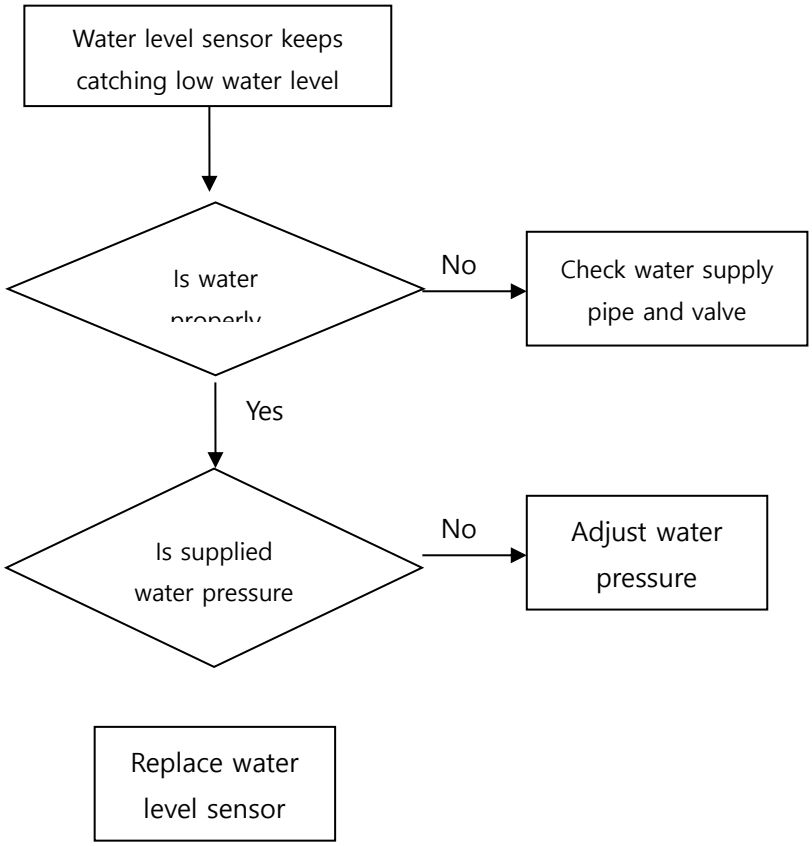
3.3.3 E3/ Evaporator sensor temperature is over 60℃(140℉)



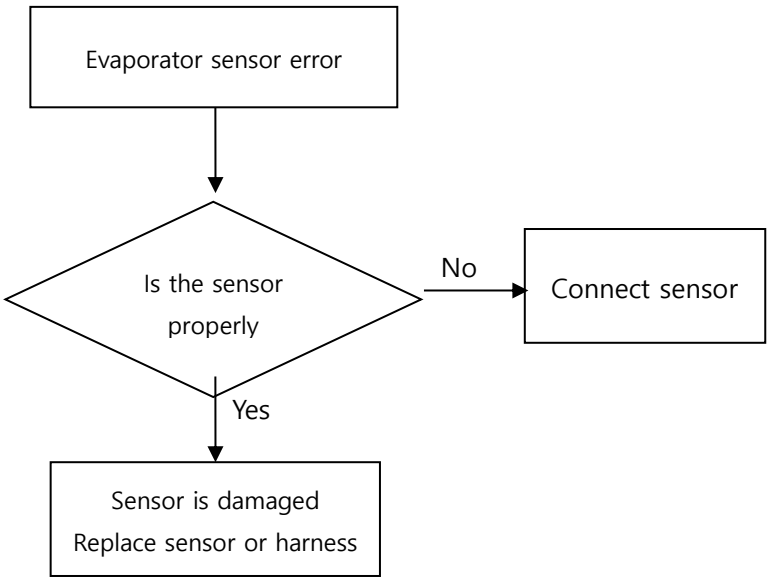
3.3.4E4/ Water is not drained during full storage



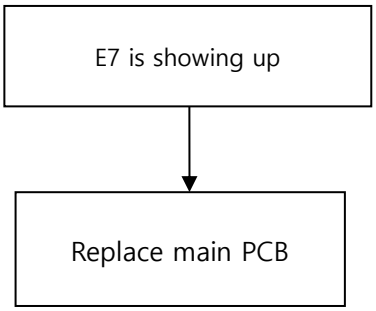
3.3.5 E5 Water level sensor keeps catching low water level



3.3.6 E6 / Evaporator sensor error

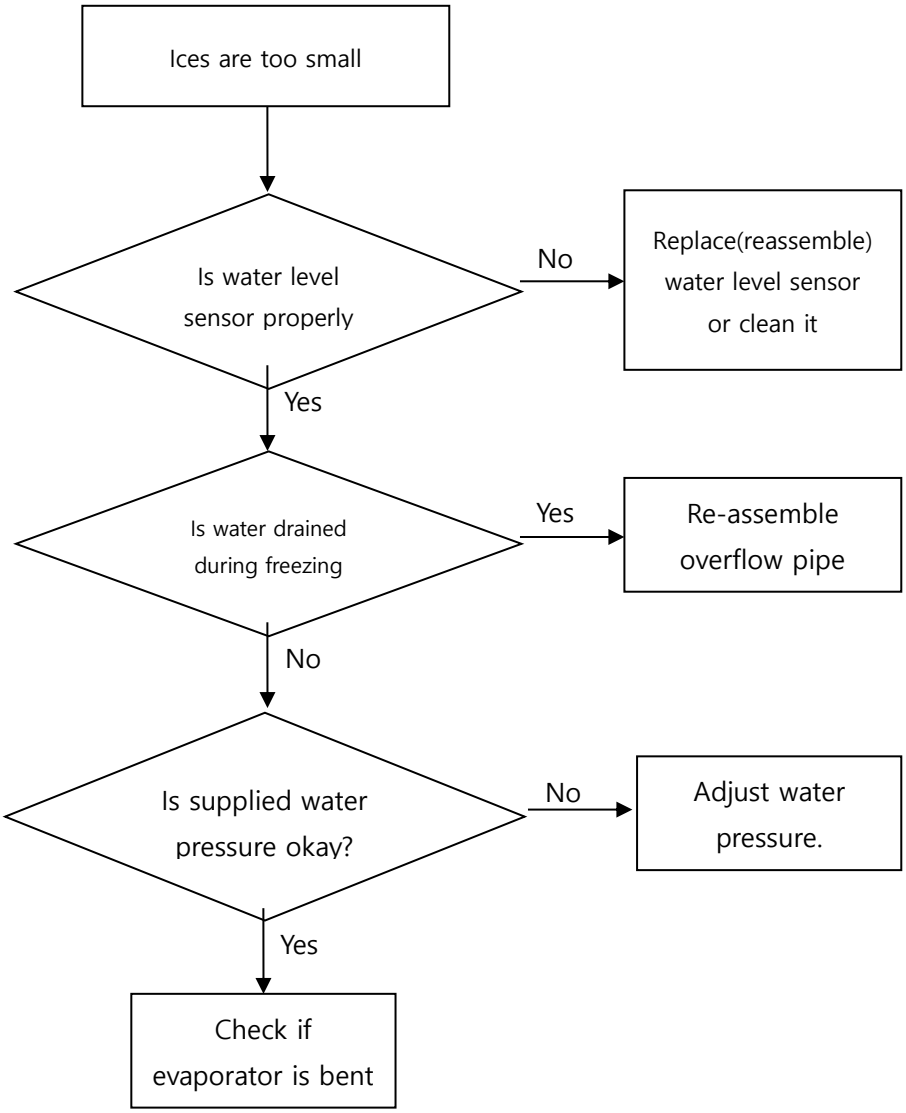


3.3.7 E7 /Main PCB program error

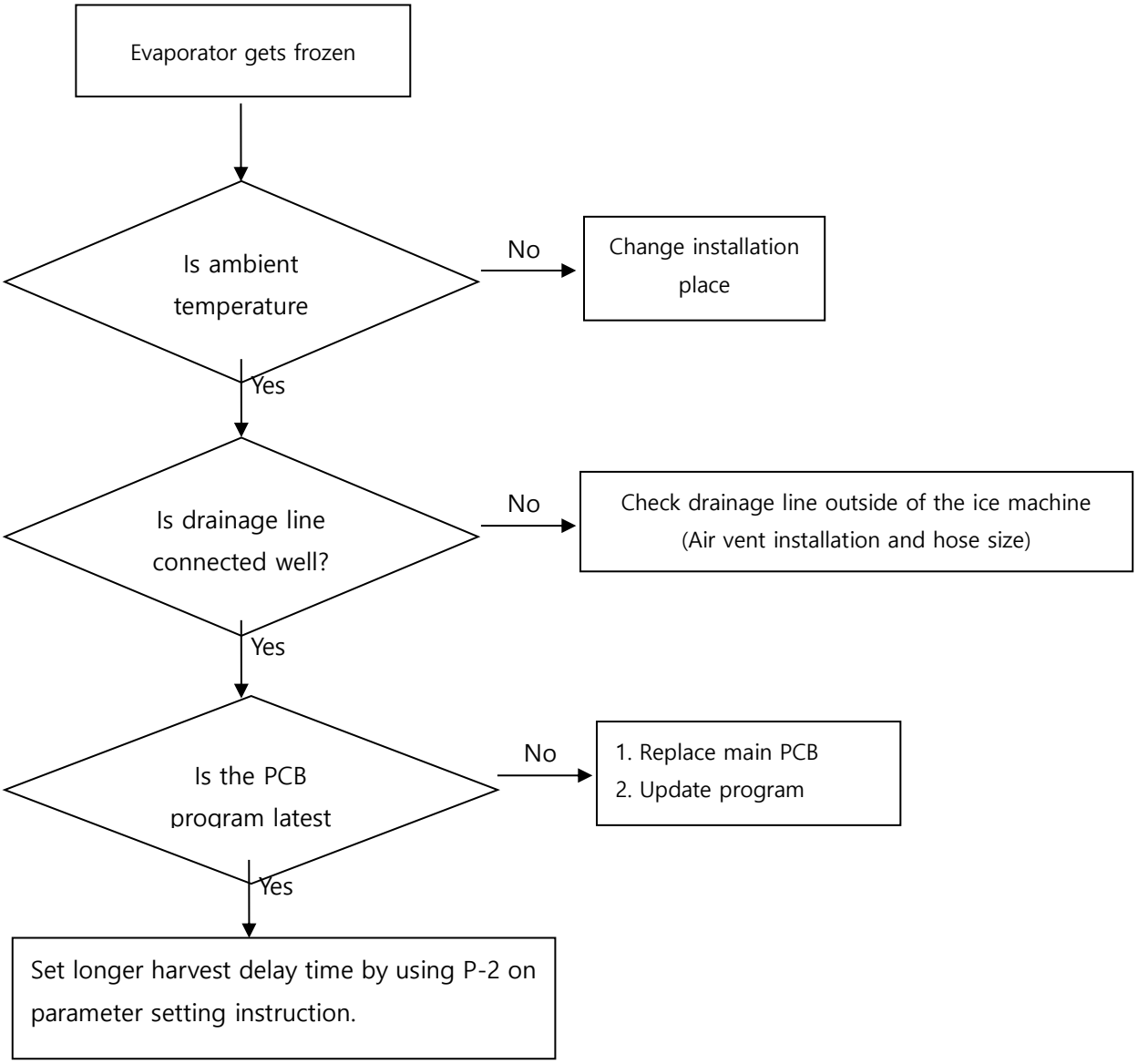


3.4 Problems and resolution

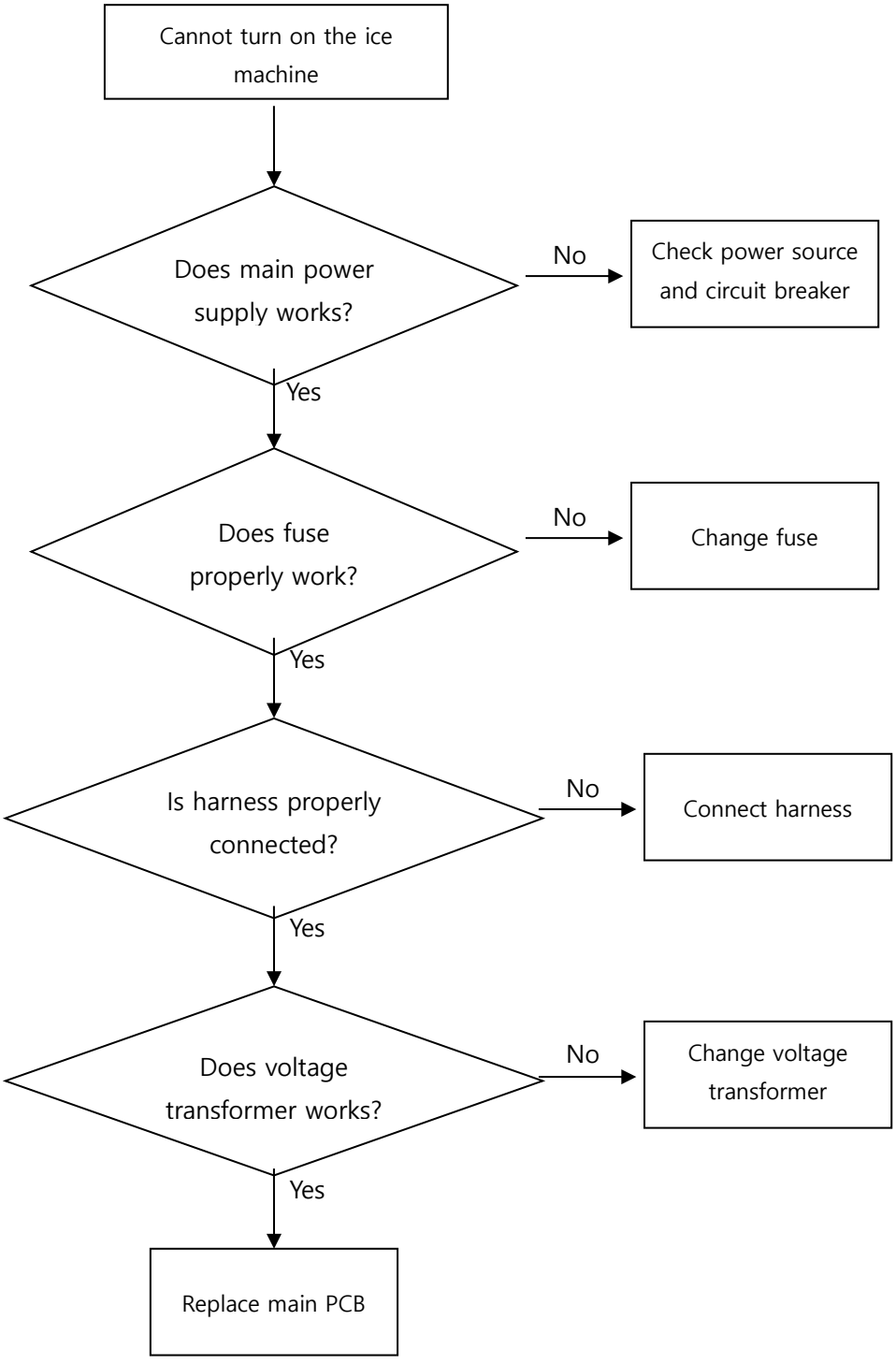
3.4.1 Ices are too small



3.4.2 Evapoartor gets frozen



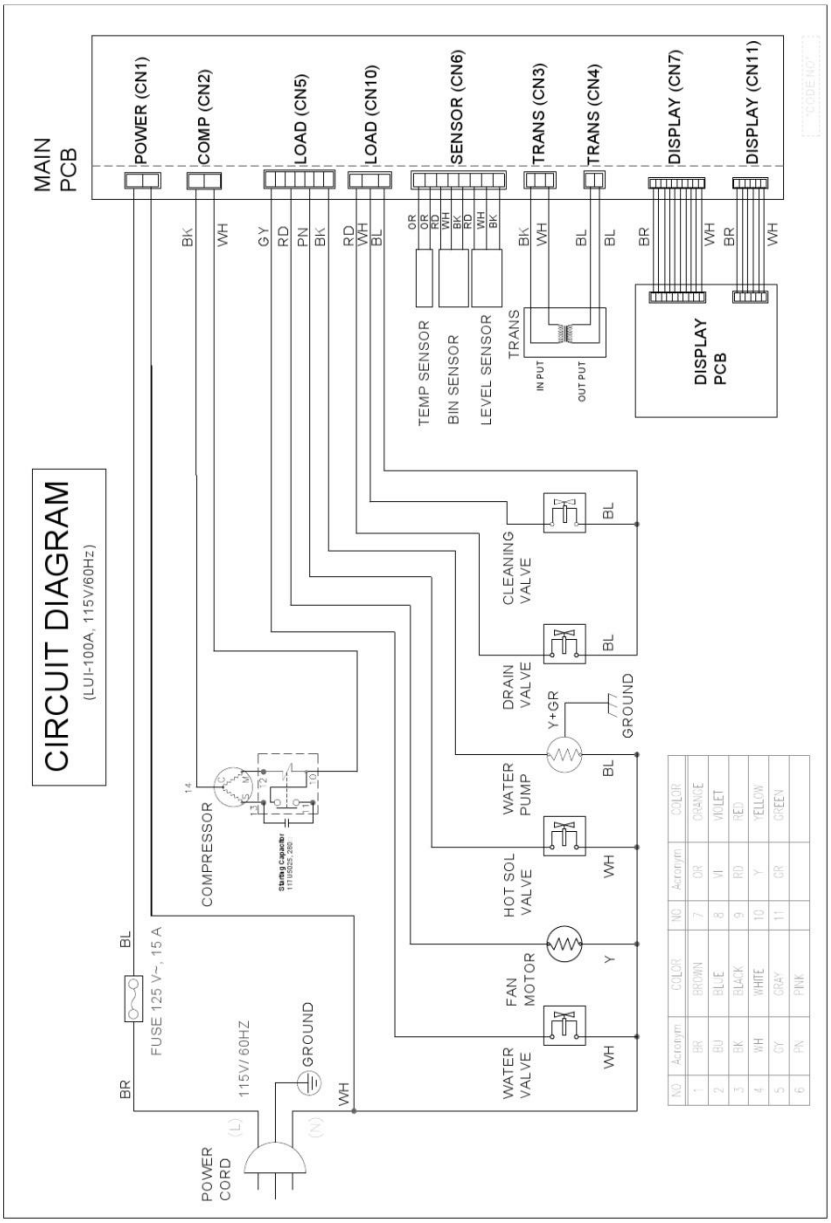
3.4.3 Cannot turn on the ice machine



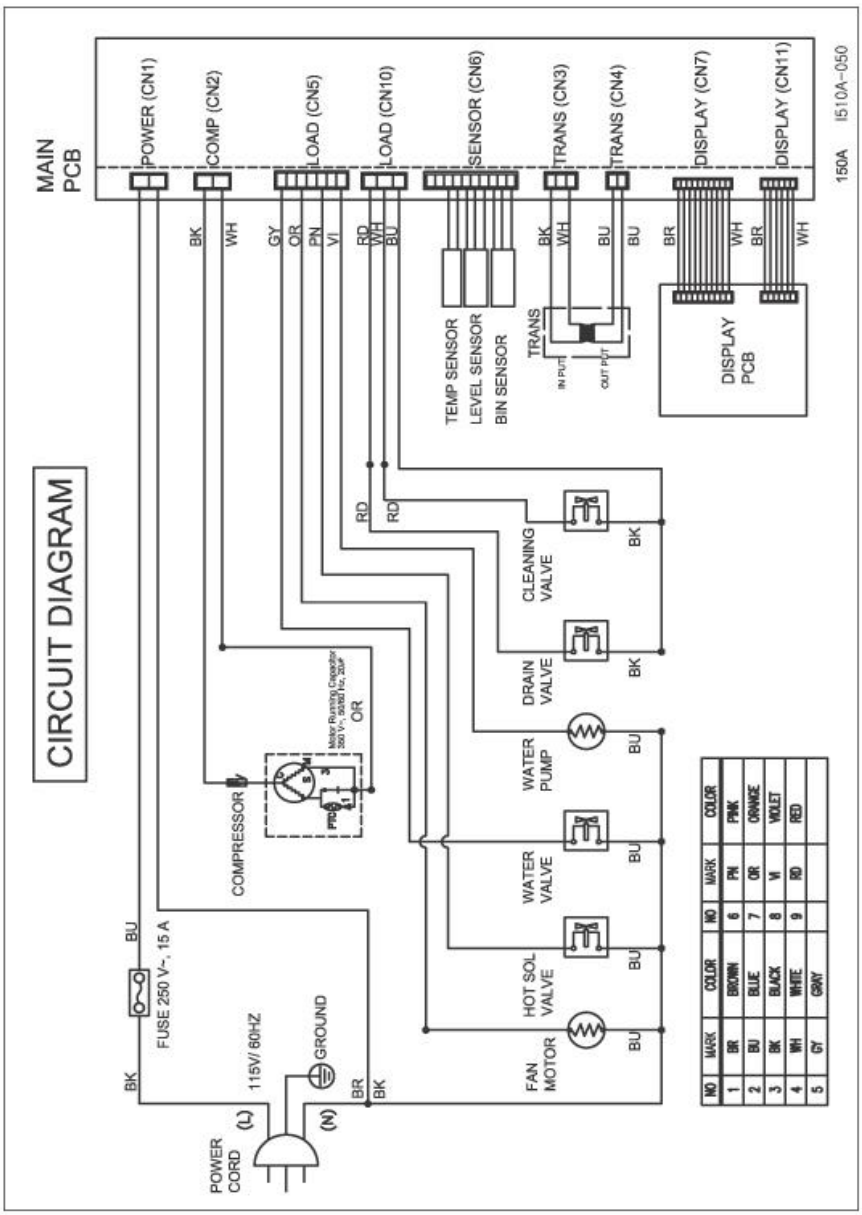
4 Circuit diagrams and technical data

4.1 Circuit diagrams

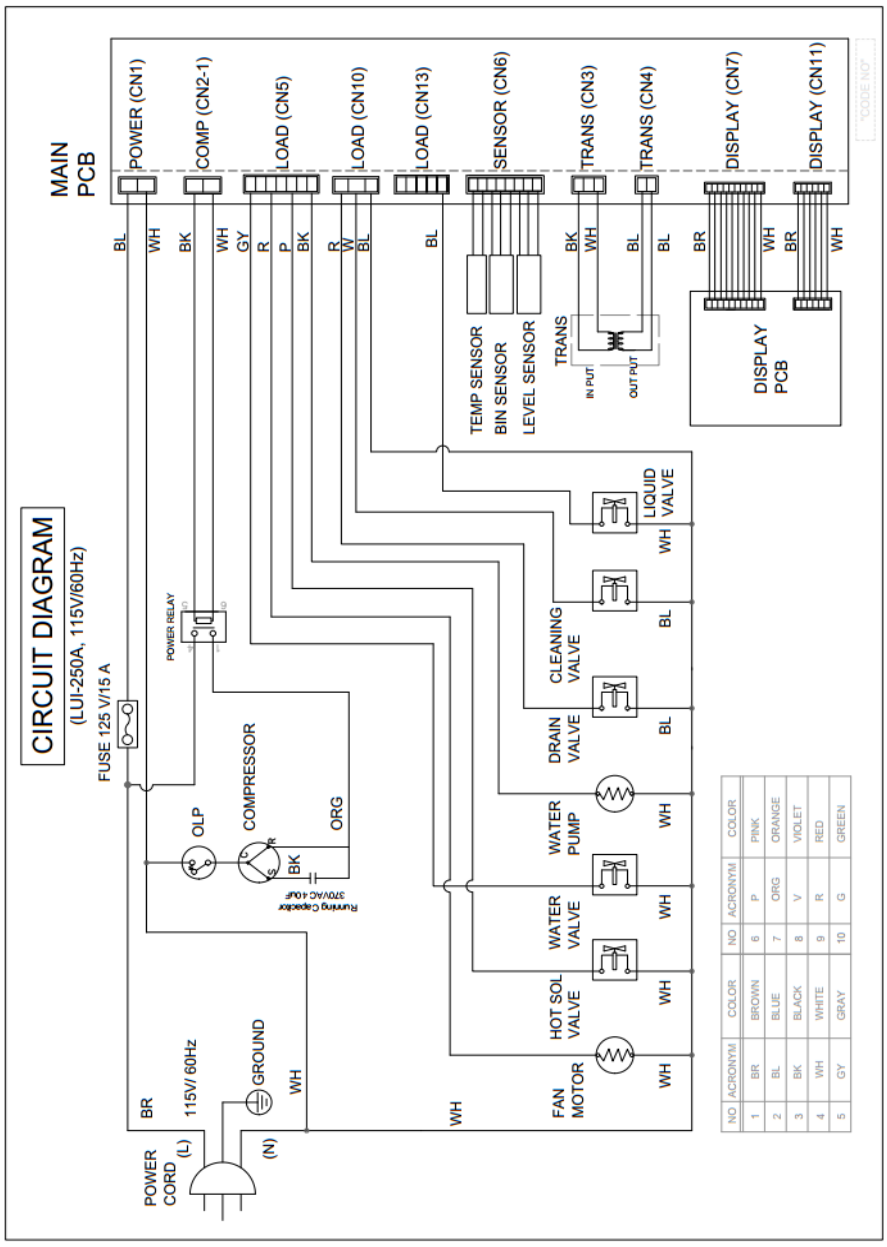
4.1.1 BLUI-100A (115V/60Hz)



4.1.2 BLUI-150A (115V/60Hz)



4.1.3 BLUI-250A (115V-60Hz)



4.2 Performance data

4.2.1 BLUI-100A (115V/60Hz)

content	Ambient Temp (°F/°C)	Water temp(°F/°C)					
		50°F/10°C		70°F/21°C		90°F/32°C	
Approximate electric consumption [W] (Stable after 5 min)	70/21	334	285	351	285	352	284
	80/27	350	289	367	289	373	289
	90/32	365	293	374	294	387	293
	100/38	385	300	398	301	401	300
Current consumption [A] (Stable after 5 min)	70/21	4.42	4.15	4.52	4.15	4.54	4.15
	80/27	4.52	4.17	4.61	4.16	4.65	4.15
	90/32	4.60	4.18	4.66	4.18	4.74	4.17
	100/38	4.69	4.21	4.80	4.21	4.83	4.20
Approximate water consumption per 24hr [gal/day, m^3/day)	70/21	29.87	0.11	30.17	0.11	28.54	0.11
	80/27	25.11	0.10	25.26	0.10	24.31	0.09
	90/32	23.86	0.09	23.03	0.09	22.07	0.08
	100/38	20.77	0.08	19.79	0.07	18.82	0.07
Approximate electric consumption per 24hr [kWh/day]	70/21	7.60		7.70		7.80	
	80/27	7.75		7.90		8.00	
	90/32	7.90		8.05		8.15	
	100/38	8.10		8.25		8.35	
Approximate ice production per 24hr [Ib/day , kg/day]	70/21	105.60	47.90	103.07	46.75	94.58	42.90
	80/27	97.44	44.20	93.70	42.50	88.63	40.20
	90/32	90.39	41.00	87.63	39.75	81.90	37.15
	100/38	80.03	36.30	75.62	34.30	71.54	32.45
Freezing cycle time [min]	70/21	22.25		23.35		24.75	
	80/27	24.45		26.05		27.10	
	90/32	27.65		27.95		30.15	
	100/38	31.20		32.90		34.60	
Harvest cycle time[min]	70/21	1.95		1.85		1.90	
	80/27	2.05		1.80		1.85	
	90/32	1.80		1.80		1.75	
	100/38	1.75		1.70		1.75	

content		Ambient Temp (°F/°C)	Water temp(°F/°C)					
			50°F/10°C		70°F/21°C		90°F/32°C	
High pressure in freezing (psig / kgf/㎠ g)	after 5min)	70/21	143.3	10.1	149.7	10.5	151.5	10.7
		80/27	164.6	11.6	176.4	12.4	180.3	12.7
		90/32	189.2	13.3	196.6	13.8	205.9	14.5
		100/38	220.5	15.5	229.7	16.2	237.9	16.7
	Stable	70/21	118.1	8.3	118.8	8.4	117.3	8.3
		80/27	136.5	9.6	140.1	9.9	139.4	9.8
		90/32	156.5	11.0	147.2	10.4	157.9	11.1
		100/38	180.6	12.7	182.8	12.9	187.7	13.2
Low pressure in freezing (psig / kgf/㎠ g)	after 5min	70/21	14.9	1.1	19.9	1.4	20.3	1.4
		80/27	18.5	1.3	22.0	1.6	23.1	1.6
		90/32	19.9	1.4	21.0	1.5	24.5	1.7
		100/38	22.8	1.6	25.6	1.8	26.0	1.8
	Stable	70/21	7.8	0.6	7.8	0.6	7.8	0.6
		80/27	8.5	0.6	9.2	0.7	9.2	0.7
		90/32	9.2	0.7	9.2	0.7	9.2	0.7
		100/38	10.7	0.8	10.7	0.8	10.7	0.8
High pressure in harvest (psig / kgf/㎠ g)	Stable	70/21	104.5	7.4	98.9	7.0	108.1	7.6
		80/27	104.5	7.4	103.8	7.3	118.8	8.4
		90/32	109.5	7.7	118.1	8.3	123.0	8.7
		100/38	130.9	9.2	125.2	8.8	135.8	9.6
Low pressure in harvest (psig / kgf/㎠ g)	Stable	70/21	52.6	3.7	69.7	4.9	76.8	5.4
		80/27	64.7	4.6	76.1	5.4	84.6	6.0
		90/32	73.3	5.2	80.4	5.7	92.5	6.5
		100/38	79.7	5.6	91.0	6.4	101.0	7.1

4.2.2 BLUI-150A (115V/60Hz)

content	Ambient Temp (°F/°C)	Water temp(°F/°C)					
		50°F/10°C		70°F/21°C		90°F/32°C	
Approximate electric consumption [W] (Stable after 5 min)	70/21	413	339	442	342	430	350
	80/27	437	362	444	353	452	359
	90/32	460	363	467	367	466	364
	100/38	474	367	486	375	488	371
Current consumption [A] (Stable after 5 min)	70/21	5.4	5.0	5.4	5.0	5.4	5.0
	80/27	5.5	5.1	5.5	5.0	5.6	5.1
	90/32	5.6	5.1	5.6	5.1	5.6	5.1
	100/38	5.7	5.1	5.8	5.1	5.8	5.1
Approximate water consumption per 24hr [gal/day, m^3/day)	70/21	20	0.14	19	0.13	19	0.12
	80/27	20	0.12	18	0.12	17	0.12
	90/32	19	0.11	17	0.64	15	0.11
	100/38	15	0.10	14	0.10	14	0.10
Approximate electric consumption per 24hr [kWh/day]	70/21	9.2		9.4		9.3	
	80/27	9.5		9.7		9.6	
	90/32	9.8		10.2		10.2	
	100/38	10.0		10.3		10.2	
Approximate ice production per 24hr [Ib/day , kg/day]	70/21	150	68	132	60	127	58
	80/27	135	61	126	57	114	52
	90/32	122	55	122	55	104	47
	100/38	104	47	97	44	92	42
Freezing cycle time [min]	70/21	28		29		31	
	80/27	29		31		35	
	90/32	30		32		38	
	100/38	38		42		43	
Harvest cycle time[min]	70/21	2.3		2.2		2.2	
	80/27	2.1		2.1		2.1	
	90/32	2.1		2.1		2.1	
	100/38	2.0		2.0		2.0	

content		Ambient Temp (°F/°C)	Water temp(°F/°C)					
			50°F/10°C		70°F/21°C		90°F/32°C	
High pressure in freezing (psig / kgf/㎠ g)	after 5min	70/21	128.0	9.0	135.0	9.5	138.0	9.7
		80/27	156.0	11.0	162.0	11.4	164.0	11.5
		90/32	179.0	12.6	186.0	13.1	186.0	13.1
		100/38	206.0	14.5	215.0	15.1	212.0	14.9
	Stable	70/21	110.0	7.7	111.0	7.8	114.0	8.0
		80/27	132.0	9.3	131.0	9.2	132.0	9.3
		90/32	149.0	10.5	152.0	10.7	149.0	10.5
		100/38	166.0	11.7	175.0	12.3	174.0	12.2
Low pressure in freezing (psig / kgf/㎠ g)	after 5min	70/21	14.0	1.0	16.0	1.1	16.0	1.1
		80/27	16.0	1.1	17.0	1.2	18.0	1.3
		90/32	18.0	1.3	20.0	1.4	20.0	1.4
		100/38	20.0	1.4	21.0	1.5	21.0	1.5
	Stable	70/21	6.0	0.4	6.0	0.4	7.0	0.5
		80/27	9.0	0.6	7.0	0.5	9.0	0.6
		90/32	9.0	0.6	9.0	0.6	9.0	0.6
		100/38	9.0	0.6	10.0	0.7	10.0	0.7
High pressure in harvest (psig / kgf/㎠ g)	Stable	70/21	102.0	7.2	110.0	7.7	115.0	8.1
		80/27	115.0	8.1	125.0	8.8	129.0	9.1
		90/32	124.0	8.7	144.0	10.1	147.0	10.3
		100/38	129.0	9.1	155.0	10.9	162.0	11.4
Low pressure in harvest (psig / kgf/㎠ g)	Stable	70/21	58.0	4.1	65.0	4.6	70.0	4.9
		80/27	67.0	4.7	75.0	5.3	80.0	5.6
		90/32	73.0	5.1	85.0	6.0	91.0	6.4
		100/38	77.0	5.4	94.0	6.6	101.0	7.1

4.2.3 BLUI-250A (115V/60Hz)

content	Ambient Temp (°F/°C)	Water temp(°F/°C)					
		50°F/10°C		70°F/21°C		90°F/32°C	
Approximate electric consumption [W] (Stable after 5 min)	70/21	434	419	444	421	452	422
	80/27	469	446	470	449	487	453
	90/32	499	469	504	473	527	475
	100/38	537	502	553	504	553	505
Current consumption [A] (Stable after 5 min)	70/21	4.1	4.0	4.2	4.0	4.2	4.0
	80/27	4.4	4.2	4.4	4.2	4.6	4.2
	90/32	4.6	4.4	4.7	4.4	4.9	4.5
	100/38	4.9	4.6	5.1	4.6	5.1	4.7
Approximate water consumption per 24hr [gal/day, m^3/day)	70/21	42	0.16	41	0.16	40	0.15
	80/27	37	0.14	36	0.14	35	0.13
	90/32	35	0.13	35	0.13	29	0.11
	100/38	27	0.10	26	0.10	25	0.10
Approximate electric consumption per 24hr [kWh/day]	70/21	9.8		9.9		10.0	
	80/27	10.6		10.6		10.8	
	90/32	10.8		10.9		11.5	
	100/38	12.2		12.2		12.2	
Approximate ice production per 24hr [Ib/day , kg/day]	70/21	251	114	219	99	212	96
	80/27	194	88	194	88	182	83
	90/32	185	84	180	82	154	70
	100/38	143	65	142	65	140	64
Freezing cycle time [min]	70/21	25		26		26	
	80/27	29		30		31	
	90/32	31		32		37	
	100/38	40		42		43	
Harvest cycle time[min]	70/21	2.2		2.2		2.1	
	80/27	2.1		1.9		1.9	
	90/32	2.0		1.9		1.9	
	100/38	1.9		1.9		1.9	

content		Ambient Temp (°F/°C)	Water temp(°F/°C)					
			50°F/10°C		70°F/21°C		90°F/32°C	
High pressure in freezing (psig / kgf/㎠ g)	after 5min	70/21	322.9	22.7	329.3	23.2	335.7	23.6
		80/27	362.0	25.5	367.7	25.9	385.5	27.1
		90/32	401.1	28.2	407.5	28.7	423.9	29.8
		100/38	453.0	31.9	462.3	32.5	467.2	32.9
	Stable	70/21	300.1	21.1	300.1	21.1	300.1	21.1
		80/27	344.2	24.2	345.6	24.3	351.3	24.7
		90/32	384.7	27.1	386.9	27.2	389.7	27.4
		100/38	429.5	30.2	434.5	30.6	436.7	30.7
Low pressure in freezing (psig / kgf/㎠ g)	after 5min	70/21	76.8	5.4	84.6	6.0	86.8	6.1
		80/27	85.3	6.0	89.6	6.3	89.6	6.3
		90/32	89.6	6.3	89.6	6.3	98.9	7.0
		100/38	91.0	6.4	99.6	7.0	101.7	7.2
	Stable	70/21	58.3	4.1	58.3	4.1	58.9	4.1
		80/27	61.9	4.4	61.9	4.4	61.9	4.4
		90/32	64.0	4.5	64.0	4.5	64.7	4.6
		100/38	67.6	4.8	67.6	4.8	67.6	4.8
High pressure in harvest (psig / kgf/㎠ g)	Stable	70/21	196.3	13.8	233.3	16.4	259.3	18.2
		80/27	219.8	15.5	252.5	17.8	293.7	20.7
		90/32	242.5	17.1	269.5	19.0	317.9	22.4
		100/38	268.1	18.9	285.2	20.1	342.8	24.1
Low pressure in harvest (psig / kgf/㎠ g)	Stable	70/21	182.8	12.9	219.0	15.4	245.1	17.2
		80/27	202.7	14.3	236.8	16.7	278.1	19.6
		90/32	221.9	15.6	253.2	17.8	300.1	21.1
		100/38	246.1	17.3	266.0	18.7	324.3	22.8

4.3 Evaporator sensor data

Temp' (℃)	Resistance (kΩ)	Temp' (℃)	Resistance (kΩ)	Temp' (℃)	Resistance (kΩ)	Temp' (℃)	Resistance (kΩ)
-40	87.8	0	13.29	40	2.97	80	0.886
-39	83.3	1	12.75	41	2.87	81	0.862
-38	79.0	2	12.23	42	2.78	82	0.839
-37	75.0	3	11.73	43	2.69	83	0.817
-36	71.2	4	11.26	44	2.60	84	0.795
-35	67.6	5	10.81	45	2.52	85	0.774
-34	64.2	6	10.38	46	2.44	86	0.754
-33	61.0	7	9.97	47	2.36	87	0.734
-32	58.0	8	9.58	48	2.28	88	0.715
-31	55.1	9	9.21	49	2.21	89	0.697
-30	52.5	10	8.85	50	2.14	90	0.679
-29	49.9	11	8.51	51	2.08	91	0.661
-28	47.5	12	8.18	52	2.01	92	0.645
-27	45.2	13	7.87	53	1.95	93	0.628
-26	43.1	14	7.57	54	1.89	94	0.612
-25	41.0	15	7.28	55	1.83	95	0.597
-24	39.1	16	7.01	56	1.78	96	0.582
-23	37.2	17	6.75	57	1.72	97	0.568
-22	35.5	18	6.50	58	1.67	98	0.554
-21	33.9	19	6.26	59	1.62	99	0.540
-20	32.3	20	6.03	60	1.57	100	0.527
-19	30.8	21	5.80	61	1.53	101	0.514
-18	29.4	22	5.59	62	1.48	102	0.501
-17	28.1	23	5.39	63	1.44	103	0.489
-16	26.8	24	5.20	64	1.40	104	0.477
-15	25.6	25	5.01	65	1.35	105	0.466
-14	24.5	26	4.83	66	1.32	106	0.455
-13	23.4	27	4.66	67	1.28	107	0.444
-12	22.4	28	4.50	68	1.24	108	0.434
-11	21.4	29	4.34	69	1.21	109	0.423
-10	20.4	30	4.19	70	1.17	110	0.414
-9	19.6	31	4.04	71	1.14	111	0.404
-8	18.7	32	3.90	72	1.11	112	0.395
-7	17.9	33	3.77	73	1.08	113	0.385
-6	17.2	34	3.64	74	1.05	114	0.377
-5	16.4	35	3.52	75	1.02	115	0.368
-4	15.7	36	3.40	76	0.99	116	0.360
-3	15.1	37	3.29	77	0.96	117	0.351
-2	14.5	38	3.18	78	0.94	118	0.343
-1	13.9	39	3.07	79	0.91	119	0.336
0	13.3	40	2.97	80	0.89	120	0.328