Delux
Smart Ice Solutions

MODULAR
ICE MAKERS

installation use and servicemanual

APPLIES MODEL
DLX-160 / 230

Air Cooled

Make better ice for quality cold beverages & foodservice.

Modular
CUBE ICE MAKER

ice is always there
where or when you need

PART I
WARNING

*Please read the following instruction before operating the machine:

A Proper installation, use and maintenance of this machine are all important for maintaining production and personnel safety. In order to reduce the failure rate, please read the instructions carefully. Improper use could result in equipment damage, personal injury or even death.

B Do not use the ice maker if you have not been trained.

C Do not let children play with the ice maker or its packaging materials.

D At least two people are required to lift the ice maker or it is recommended that a lifting device is used.

E A qualified and competent person must perform the installation and ongoing maintenance.

F When operating, all procedures must be followed to ensure no damage occurs to the cooling system.

G Do not operate the ice maker if there is any unauthorised changes to the original specifications of the machine, or if the machine is misused, abused or neglected.

H All covers and access panels must be in place and properly seruced before turning this machine on.

I Do not obstruct ice-makers vents, there must be at least 15 cm clearance around Side , 25cm clearance around Back and 50cm clearance around the front of the machine at all times during operation.

J Do not store flammable gases or liquids near the ice maker.

K Do not use high-pressure water cleaning devices to clean the ice maker.

L It is the user's responsibility to take appropriate precautions to ensure the safety of staff using and for the ongoing maintenance of the ice maker.

M To prevent accidental injuries, keep the area clean and tidy.

PART II
INSTALLATION

IMPORTANT

1 The manual is an integrated part of the product and should be kept and preserved by the users for future reference. Please read the instructions carefully for correct installation method, safety warnings and maintenance information of the product.

2 This ice maker is designed for commercial use and should be used for purpose for which it has been expressly designed. Any other use should be considered improper and therefore dangerous. The manufacturer will not be liable or responsible for any damage caused by improper, incorrect and unreasonable use.

I.INSTALLATION

Warning

The installation must be carried out by qualified personnel, in accordance with current regulations, and as per the manufacturer's instructions.

I.UNPACKING

Warning

Keep the packing material out of reach of children, (such as plastic bag, polystyrene, etc.)

Attention

1 Remove shipping carton, tape and packing. If packing material is left in the ice maker, it will not work properly.

2 After removing the packing, please check wheter the accessories are complete and make sure the ice maker is in good condition. If in doubt, please do not use the ice maker but please give a call to either the seller or Delux for advice.

3 Remove shipping tape which is holding the door and machine panel.

4 Remove the protective plastic film from the exterior. If the ice maker is exposed to the sun or heat, remove the film after ice maker cools down.

5 Remove the package of accessories, and check the content:

a Inlet water tube

b Ice shovel

c Foot bas

d Drain tube

e Instruction manual

II. LOCATION

1 This ice maker is not intended for outdoor use. Normal operating ambient temperature should be within 7℃ to 40℃, Normal operating water temperature should be within 7℃to 32℃, Operation of ice maker for extended periods, outside of these normal temperature ranges, may affect ice production capacity and performance..

2 Ensure that free flow of clean air is available around the ice maker

3 The ice maker should not be located close to the heat source or exposed to the sun

4 Location should provide a firm and level foundation for the ice maker.

5 Do not obstruct ice maker vents,there must be at least 15cm clerance around side,25cm clerance around back and 50cm clearance in the front of machine at all times during operation.

6 This ice maker is not suitable for installation in an area where a water jet could be used and where water dripping is not allowed.

7 The ice maker will too low. To prevent damage to the water supply line, please drain the ice maker when ambient temperature is too low.

III. LEVEL ADJUSTMENT OF ICE MAKER

1 The level adjustment affects the ice size.

⚠ WARNING

If the power supply cord is damaged, don't operate the machine until it is replaced by the authorized service agent or qualified technician.

⚠ CAUTIONS

Please take protective measures when the ambient temperature is below 7℃. Faults due to the ambient temperature below 7℃ are not covered by warranty.

2 Place a level measurement at the machine top, adjust the machine base for front & rear, left & right balance.

IV. ELECTRICAL CONNECTION

⚠ WARNING

All wiring must conform to local, state and national regulations.

1 This ice maker must be plugged into an independent power source, or an electrical socket of voltage at specified range

2 This ice maker must be connected with an independent fuse/ circuit breaker.

3 Total current capacity index is used for power cord specification selection.

Power cord specification is determined by installation location, material, power cord length etc. This should be confirmed by qualified technicians.

Electrical specification

Ice Maker	Voltage, phase, frequency	Circuit breaker/fuse max. capacity	Total current
DLX-160	230V/50HZ	15	5.9A
DLX-230	230V/50HZ	15	7.2A

⚠ CAUTIONS

Voltage fluctuation shall not exceed ± 10% of the rated voltage.

V. Water supply and Drain connection

* Check if there is a need to install water treatment & filter system based on the local water situation. This can avoid the formation of precipitates, filter impurities and remove the smell of bleach.

* Water supply pressure should be minimum 0.14Mpa and maximum 0.55Mpa. If the pressure exceed 0.55Mpa use a pressure reducing valve. Do NOT bent the supply tap.

* A plumbing permit and service of a licensed plumber may be required in some area.

* Water should drain into an open trap.

⚠ WARNING

Ice maker drain is gravity flow. Please ensure drain pipe has an adequate pitch or fall and lower than the point of the drain outlet of machine.

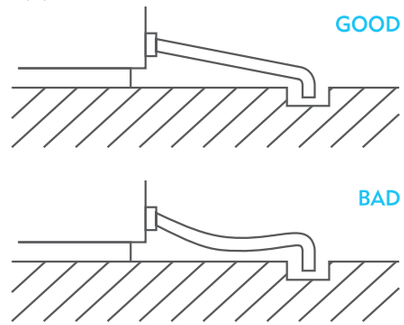
⚠ WARNING

Piping installation must conform to relevant regulations.

⚠ WARNING

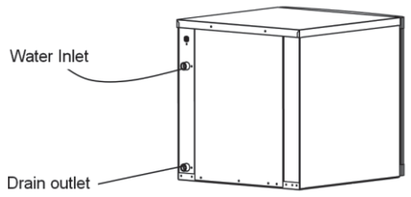
The machine must be plugged into a properly grounded outlet, and electricity supply as per rating plate.

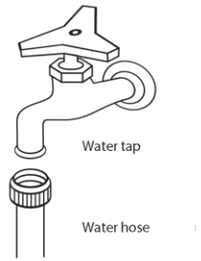
* To prevent a backflow into machine, please refer to image 1for installing water drain pipe.



1 Attach the free end of inlet hose to the water supply tap (see image 4).Hand tighten sufficiently to provide leak free joint. It is advisable to have the stop valve within easy reach.

2 Hand tighten flexible water hose onto the fitting on the rear of ice maker as indicated (see image3), confirm whether the sealing ring has been tightened in the right position to avoid leaking at joints. The pipe can be cut to length as necessary to suit position of main drain. To prevent water leaks, secure





Water Temperature (℃)	Ice Making Water Pressure(Mpa)	Cooling Water pressure(Spa)	Inlet Pipe Diameter (mm)	Drain Pipe Diameter (mm)
>0.6	>0.14	>0.59	>9.5(3/8″)	>15.8(5/8″)
<32	<0.55	<1.17		Drop per meter>3cm

VI. BEFORE ICE MACHINE START

All ice machines' adjustment have been factory pre-set before shipment.

Adjustment to program or setting is not required for new ice machine installation.

In order to make sure that ice machine operate normally, please refer to part III of service manual. Checking and monitoring of Ice machine operation is the responsibility of users.

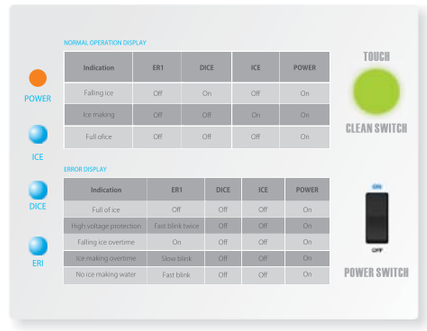
VII. PRE-INSTALLATION CHECKLIST

- ☐ Is ice machine installed on a horizontal leveled surface?
- ☐ Is ice machine water pipe installed correctly?
- ☐ Have all inner packaging and accessories been removed?
- ☐ Is water supply, drain and electricity connected properly?
- ☐ Is power supply voltage matching with the specified voltage on rating plate?
- ☐ Have users/operator filled in the warranty card?
- ☐ Is there proper ventilation around ice maker for good airflow?
- ☐ Is ice machine and storage bin disinfected?
- ☐ Is ice machine earthed correctly?
- ☐ Is power switched on?
- ☐ Is ice machine located at ambient temperature between 7℃to 40℃?
- ☐ Is the inlet water temperature between7℃ to 32℃
- ☐ Has the user / operator read this Use and Service Manual

PART III
CONTROL PANEL

I、CONTROL DISPLAYPANEL

Delux modular units are controlled by a feature rich, advanced indicator control unit. It provides many status information of the machine.



Indicator Lighting Info:

① POWER indicates power and full of ice
A:POWER indicates machine is connected to power.
B:Full of ice indicates ice full in ice bin and shuts off.When enough ice has been reduced, it will start a new ice making cycle automatically

② ICE indicates machine ismaking ice.
③ DICE indicates machine is standby for falling ice.
④ ER1 errors as follows.
⑤ Normal display

Error Display

Indication	ER1	DICE	ICE	POWER
Full of ice	Off	Off	Off	On
High voltage protection	Fast blink twice	Off	Off	On
Falling ice overtime	On	Off	Off	On
Ice making overtime	Slow blink	Off	Off	On
No ice making water	Fast blink	Off	Off	On

Normal operation display

Indication	ER1	DICE	ICE	POWER
Falling ice	Off	On	Off	On
Ice making	Off	Off	On	On
Full ofice	Off	Off	Off	On

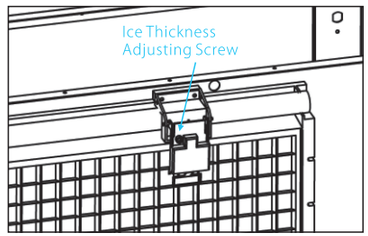
II、ICE THICKNESS ADJUSTMENT:

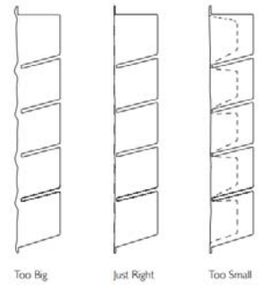
There are two methods to adjust the ice thickness, please according to the actual machine specify which mind shall be applied.

Method I

Observer the first ice cube harvestand check size of the ice cubes;if an adjust ment is necessary,turn the adjust ment screw clockwise to increase ice

thickness,counterclowise todecrease ice thickness.Every 1/3 circle turn will increases or decrease 1.5mm asshown as right side illustration.





NOTICE

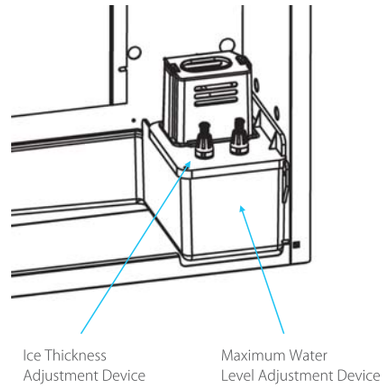
The screw position of icethickness sensor determines the distance between the sensor reeds and evaporator plate.Delux stanard gap space should be range of 4mm-7mm, please keep gap space properly.

WARNING

Do not adjusting the gap out of manufactory required standard. Improper adjustment are not cover by warranty.

Method II

In the process of ice making, if the ice thickness is not very satisfactory, the adjusting nut can be pulled up and rotated left or right to adjust the ice thickness according to the actual condition and the attached adjustment instruction labeling. After the adjustment is completed, press down the adjusting nut to lock. Note: The adjustment shall be limited to a circle each time.



III、Warning

1. This ice maker produces and stocks ice for use. To keep the ice maker clean and sanitary, the requirements are as follows:

* Wash your hands before taking ice and use special ice shovel.

* The ice maker is only used for production and storage of ice, do not store any other items in it.

* The ice storage bin should be cleaned before use.

* Keep the ice shovel clean. Please wash the

ice shovel with neutral detergent and clean water.

* Close the sliding door of ice storage bin after taking the ice, to prevent dirt and dust from getting into the ice storage bin.

2. Please follow the basic principles while using any electrical device, Points to note:

* High humidity will increase the electrical circuit and potential risk of electric shock. If any doubt, please disconnect the ice maker from electrical power.

* Don't pull the power cord vigorously.

* The ice maker is not suitable for use by unattended children, the elderly or disabled.

3. After shutting off the ice maker, you should wait at least 3 minutes before restart, in order to avoid any damage to the compressor.

IV、Ice making sequence of Operation

Start up: Power switch on the control panel, machine start up routed ice making cycle. (Machine running automatic, It's not necessary to force the people to standby operate.)

Pre-chill: After switch on,water inlet valve operns automatically for water inlet.Compressor starts and continues running in the ice making cycle.

The refrigerator system will chills the evaporator for 30 seconds before the water flow over the evaporator starts.
Water pump do not running, but water inlet valve running continues for water inlet until floating switch is satisfied (i.e., water floating ball switches off and stop s water inlet).

Ice making & Harvest: After pre-chill for 30 seconds, the water pump starts up, wa ter flowing across the evaporator freezes and builds ice on the evaporator. After a sheet of ice has formed, the harvest switch signals the control board to start a harvest cycle. Any remaining water is purged down the for 30seconds. As the hot gas warms the evaporator, the sheet of cubes slides off the evaporator and into the storage bin. If all cubes fall clear of the ice curtain, the machine starts another ice making cycle.

Automatic Stop When the bin is Full: When the storage bin is full, Ice curtain is held open by ice cube during more than 30 seconds and machine shuts off.

The ice machine remains off until enough ice has been removed from the storage bin to allow the ice curtain closes. then the ice machine start a new cycle of ice making

NOTICE

The power supply and water supply must be connected propriety before the ice machine will start.

NOTICE

In the running state, click on the key (switch) on the panel and the machine stops working.

V、Safety protection function

1. If 3 consecutive cycles no ice falling off, machine will automatic stop.

2. If ambient temperatures exceeded the prescribed range, machine will automatic stop.

NOTICE

Safety protection is set in ice make, please restart ice maker when there is error. If error is not solved, please contact authorized aent or repair service.

VI、Long term storage of ice maker

1 Turn control switch to "off" position

2 Unplug the power cord or power off the machine

3 Turn off the water supply and remove the water inlet pipe.

4 Remove all ice out of the storage bin and cleaning the machine.。

5 Disconnect the silicone hose, to discharge water from water tank. After water drains out, reconnect the silicone hose to the correct position.

VII、Machine Specifications

Model	Ice making (KG/24h)	Storage (KG)	Power(W)	Voltage Frequency	Dimension (mm) W*D*H
DLX-160	160	/	1100	230V/50Hz	570x615x570
Storage bin	/	90	/	/	580x805x1105
DLX-230	208	/	1240	230V/50Hz	770x615x570
Storage bin	/	180	/	/	780x840x1150

PART IV
MAINTANICE & CLEAN

I、Warning

1. Disconnect electrical power before performing any cleaning or maintenance.

2. Inspection and cleaning the condenser should be done only by a qualified service technician; at least once every six month.

3. Don't clean the ice maker by spraying water.

4. To prevent cracks to the plastic part of ice maker, do not use any alcohol or disinfecting -type cleaners.

5. Do not remove the top cover or the heat partition without authorization. Removal should be performed only by qualified service technicians.

II、Exterior

Wipe the exterior at least once per week with a clean soft cloth, Use damp cloth containing a neutral cleaner to wipe off grease and dirt. After rinsing with water, dry it with a clean cloth.

III、Clean and disinfect the ice storage bin

1) Open the ice storage bin's sliding door, take out all the ice.

2) Clean ice storage bin by using neutral detergent which does not contain any fine particles, and then rinse thoroughly with clean water.

3) Use a clean cloth, soaked in neutral detergent to wipe inside door surface, wipe away the detergent with a clean cloth.

4) Fill suitable container with 3 qt water and 2¼ tsp sodium hypo chlorite solution with concentration ratio of 5.25%, or use the special cleaning fluid.

5) Immerse a clean sponge or cloth into the solution, then wipe the inside of ice storage bin and its sliding door.

6) Rinse thoroughly, then wipe away the solution completely with a clean cloth. Close the sliding door of ice storage bin.

⚠ NOTICE
Some solutions may cause damage or corrosion to metal parts of the ice maker inside surface.

All the solution should be rinsed away thoroughly, unless there are additional instructions from the manufacturer or local distributors.

IV、Cleaning for condenser

A dirty condenser restricts airflow, resulting in excessively high operation temperatures. causing ice production reduces, failure and shortens component life. Clean the condenser is needful in a certain period

⚠ WARNING
Clean the condenser should be done only by qualified service technical.

- Clean air filter with neutral soap water or detergent , ensure non dust & jam clogged for a proper airflow. (Every 1-2 month is recommended for clean)

-Clean condenser fin using a vacuum cleaner, soft brush from top to bottom, Horizontal cleaning shall be forbidden to avoid fin damage.

-If there is oil stain on the fin, cleaning may using with professional detergent according to certain proportion.

⚠ NOTICE
Clean condenser at least at every 6 month.

⚠ NOTICE
Be careful not to bend, re-flatted or damaging the condenser.

⚠ NOTICE
The condenser fins are sharp, Use care when cleaning them

V、Ice maker's water system

In order to keep the ice machine clean, we recommend regular cleaning of ice maker's water system, although this machine has automatic cleaning function.

Please have water system cleaned by professional service staff.

VI、Out of service/ winter maintenance

1) Clean and disinfect the appliance

2) Switch off power

3) Cut off water supply, drain off water inside. Disassemble the water inlet pipe at the back of appliance and drain off the water.

4) Spray disinfect detergent on the inside surface which is in contact with ice. Leave it until dry, no need to clean after spaying.

PART V
BEFORE CALL FOR SERVICE

Trouble shooting: If a problem arise during operation of your machine, please follow the table below before calling service.

Form I

Symptom	Possible Cause	Suggested Correction
Ice machine does not run	No electrical power or Fuse is blown	1.Fuse 2.Power switch 3.Transformer 4.PC plate 5.Power line
Machine stops at every 3 minutes after running automatically	High voltage protection	1.Overheated ambient temperature 2.Dirt on filter of condenser 3.Fan engine 4.High volatage switch
Every running of machine does ice making only once	Full of ice	1.Free rotation of manger 2.Falling of full of ice switch
Machine fails to fall ice during falling ice procedure	Dirty ice machine	Cleaning of machine
	Unbalanced ice machine	Rebalancing
	Ambient temperature is too cold	Ambient temperature shall be greater than 7℃ at least
Machine fails to fall ice	Ditry ice thickness probe	Cleaning of machine ice thickness probe
	Improper condition of ice thickness probe	Proper line connection
	Improper condition of ice thickness probe	Refer to "ice thickness regulation"
Ice is too thin or in complete	Improper condition of ice thickness probe	Adjust ice thickness probe
	Tank level is too low	Check for water level or leakage
	Inlet electromagnetic valve is not work	Check for water inlet electromagnetic valve
	Insufficient water pressure	Water pressure shall be in range of 0.14-0.55Mpa
	Waterway is impassable	Check for pipe and connector dirt
Ice making is too slow	The condenser is dirty	Cleaning condenser
	Ambient temperature is too hige	Ambient temperature shall not be greater than 40℃
	Jam of ventilation	Remove jam

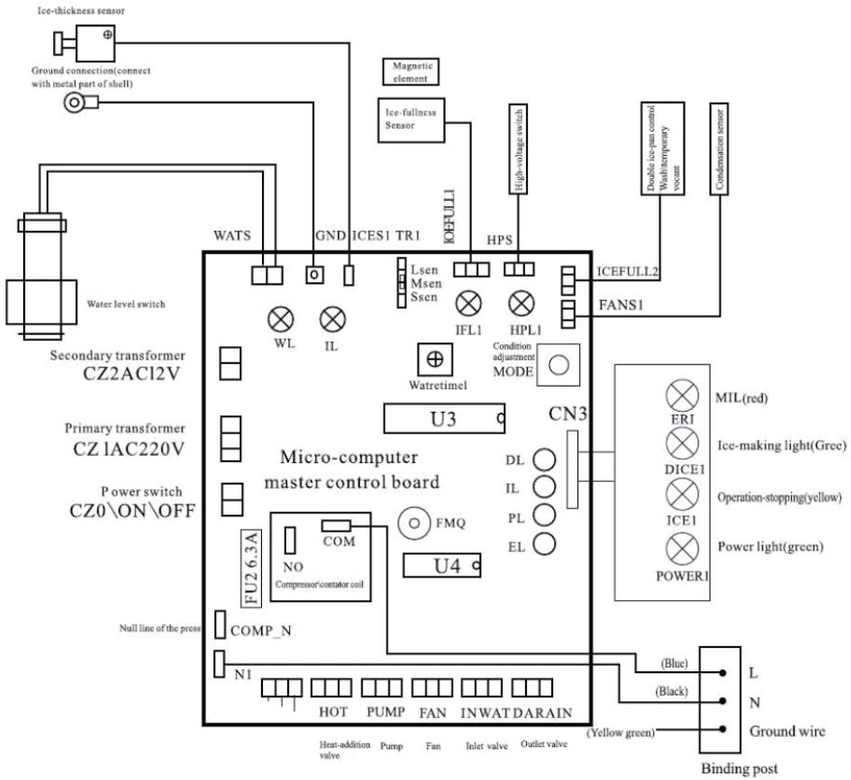
Form II

Fault phenomenon	Possible cause
Full ice indicated but without ice	1.Full ice switch 2.Control panel
Super pressure ER second quick blink-dark	1.Whether have cooling water or fan whether to move 2.Pressure switch 3.Whether condenser is too dirty
Falling ice is overtime,ER shines	Full ice switch
Making ice is overtime,ER shines slowly	1.Whether have refrigerant 2.Whether compressor works 3.Whether condenser is too dirty
Making ice without water is overtime, shine quickly	1.Flood valve of ice water 2.Drainage valve 3.Pump motor 4.Ice thickness detector

Note: Safety protection is set in ice maker, please restart ice maker when there is error. If error is not solved, please contact authorized agent or repair service.

PART VI

ELECTRICAL DIAGRAMS



Instructions:

1.The colors in bracket of the diagram are those of the matching wires; for reference only.

2.Watertime is the set water control time,0~20min,-10min,the time will be loger when you setup through clockwise.

3.Ground wire terminal should be connected with metal part of shell tightly,and the shell should be connected with metal part of evaporimeter or the water in slot tightly.

4.IL:ice-thickness sensor light,thelight will tum on when water touches the sheet metal of sensor.

5.WL:water status light,it tums on when water flows in

6.IF L1:skating board(baffle board) light,it is normal when the light turns on.

7.N1 is power zero line in figure, at the Com end in the relay is power line.

Before call for service

If the ice maker is not working or not working correctly, before calling for service, please check the following:

* Check to be sure the ice maker is plugged into electrical socket correctly and switch on.

* Check if the Ice making light on the control panel is ON

* Check to be sure water supplier is turned on

* Make sure air filter is clean.

Please contact an authorized service center near you for further service or help.