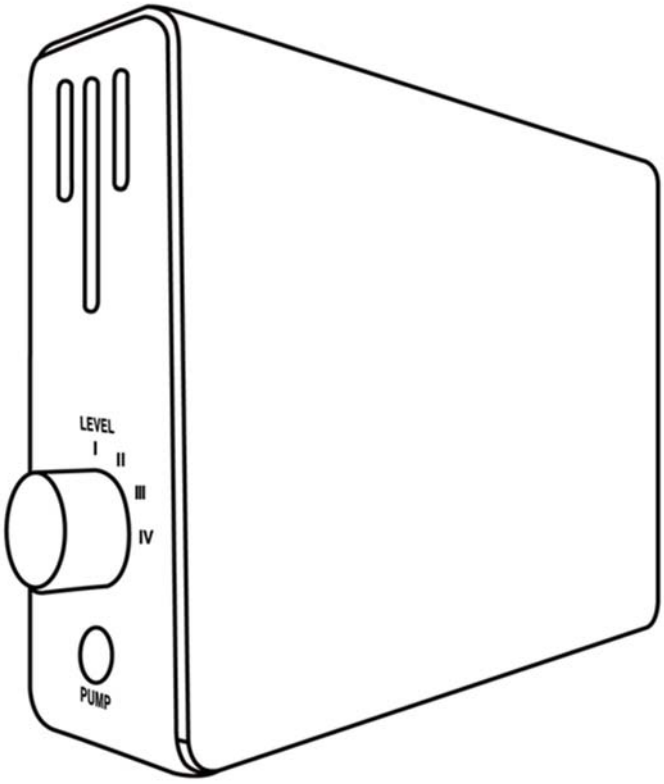
BioSure

PROFESSIONAL

Automatic

ICE DISINFECTION SYSTEM

Model EOS7170
Installation & Operation Manual



Thank you for purchasing BioSure product

Please read the instructions carefully and follow the safety precautions when using this product. Before using this product please pay special attention to the “IMPORTANT SAFETY INFORMATION” (P. 4~7). This product is intended to be used with an Ice Machine only.

PREFACE

Described in this manual is the BioSure AUTOMATIC ICE DISINFECTION SYSTEM, model no.: EOS7170.

BioSure Professional is a division of Biotek Environmental Science Ltd. (BES Group). BES Group is a global leading electrolytic product manufacturer with pioneering ozone application technology and currently holds over 60 patents for its electrolytic ozone generators and products worldwide.

COPYRIGHT

Manual Number: 1st edition, July 2019

DISCLAMATION

The information contained in this document is subject to change without notice.

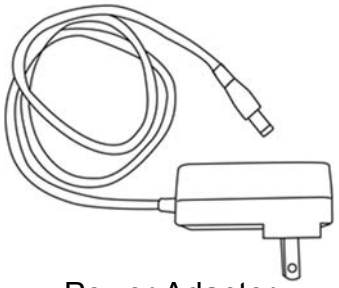
BES Group shall not be liable for any direct, indirect, incidental, consequential, or other damage alleged in connection with the furnishing or use of this information. BES Group is not liable for damages on any contact materials due to result of oxidation.

BES Group makes no warranty of any kind with respect to this information. BES GROUP SPECIFICALLY DISCLAIMS THE IMPLIED WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

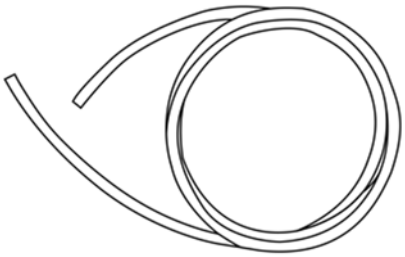
Index

Packaging Contents

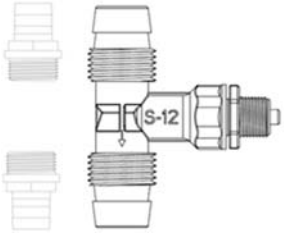
Your IDS is equipped with the following accessories. Check that all items are present. If anything is missing, please contact your dealer.



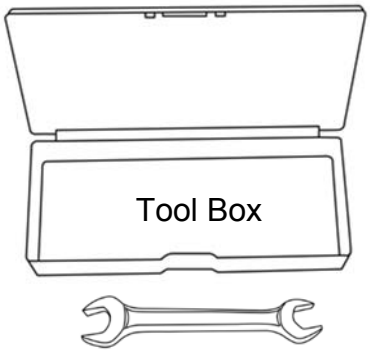
Power Adaptor
(12V DC 15W)



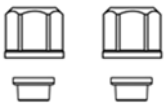
Injection Tubing
(1/4" PTFE 2m)



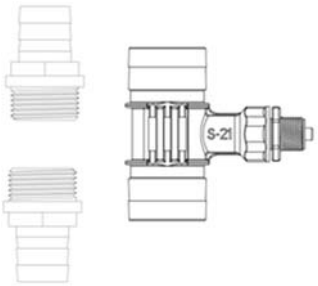
16-14 mm Injection Tee A &
Reducing Fitting (14-10 mm PVDF)



wrench



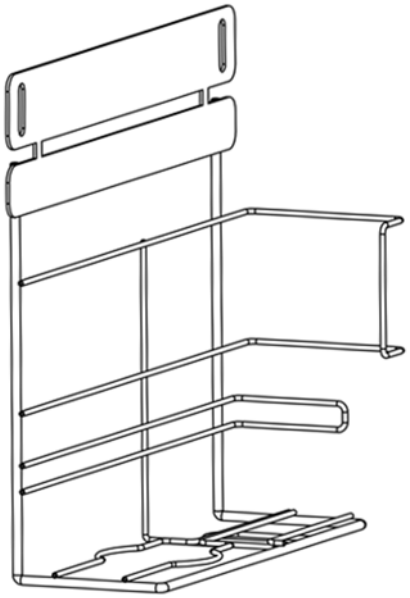
Tube Cap (x2)
Tube Sleeve (x2)



28-26 mm Injection Tee B &
Reducing Fitting (26-16 mm PVDF)

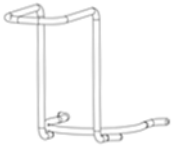
Water Fill Tubing
(1/4" Silicone 0.3m)

Generator O-ring
(Replacement)



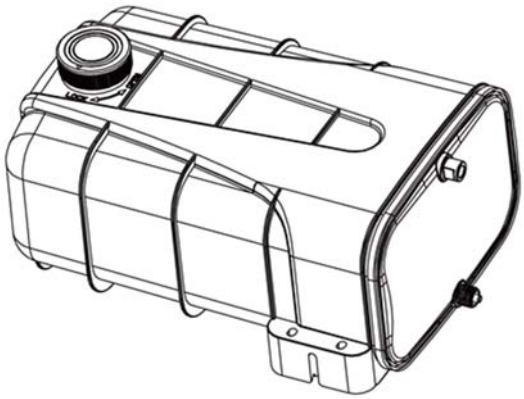
Mounting Bracket &

Thumb Screw



Bottle Hanger

OPTIONAL



Water Feeder: Model WF-3500
(LxWxH: 272.3x190x123.5 mm)

IMPORTANT SAFETY INSTRUCTIONS

In order to prevent accidents or injuries to the user, other people, and damage to property, please follow these safety instructions below:

Explanation of safety and notice symbols

⚠ **WARNING**	WARNING indicates a hazardous situation which, if not avoided, **COULD** result in death or serious injury.
⚠ **CAUTION**	CAUTION indicates a hazardous situation which, if not avoided, **COULD** result in injury or property damage.
NOTICE	NOTICE is used to address practice that is required and must be followed.

READ AND SAVE THESE INSTRUCTIONS

Electrical Safety

⚠ WARNING

- All service work must be performed by an authorized and qualified technician. NEVER attempt to disassemble, repair or remodel the unit yourself. Doing so will void your valuable warranty and can lead to a fire or electric shock. If the product malfunctions or has been damaged in any manner, unplug the unit and contact the manufacturer customer service or its authorized local service agent or dealer to arrange service or repair.
- Do NOT damage the Power Cord and/or Power Plug. A damaged Power Cord or Power Plug can cause a fire or electric shock.
  - Never stretch, bend, pull, twist, fold, tie or attempt to modify the power cord or power plug.
  - When unplugging, pull by the molded part of power plug, not the power cord only.
- Do NOT use or operate the unit with a damaged Power Cord or Power Plug. If the Power Cord is damaged, it must be replaced by the manufacturer, its authorized service agent or dealer or similarly qualified persons in order to avoid hazard. It must be replaced using appropriate cord or assembly made available by the manufacturer or its authorized service agent or dealer.
- Do NOT use in a manner that exceeds the rating of the power outlet or connected equipment. Plugging too many devices into the same outlet may cause the electrical outlet to overheat and result in a fire.
- Do NOT use a power supply voltage other than being specified on the product. Use of any other power supply voltage may cause a fire or electric shock.
- To prevent accidental shock, we recommend this product always be used on a GFCI (Ground fault Circuit Interrupter) outlet.

⚠ WARNING

- Do NOT plug or unplug the Power Cord if your hands are wet. Doing so can cause electric shock or injury.
- Do NOT use the product if the Power Plug is loosely inserted into the electrical outlet. A loosely inserted Power Plug may cause a fire, electric shock or short circuit. Before using, make sure the Power Plug is inserted into the electrical outlet completely and securely.
- If the blades or surface of the Power Plug become soiled, wipe them clean before using. A dirty Power Plug may cause a fire.
- Keep the product and Power Cord away from heated or hot surfaces including space heaters, stoves, and similar electrical appliances.
- Do NOT put the machine in water or spray water onto it. Otherwise it may damage the unit or cause electric shock.
- To safeguard against fire, electric shock and possible injury risks, keep the Power Cord, Power Plug and the product away from water or other liquids.
- Stop using the product immediately if you notice any of the following symptoms indicating abnormality or malfunction:
  - The Power Cord or Power Plug is damaged.
  - The Power Cord or Power Plug becomes very hot.
  - The Body of product is abnormally hot or deformed.
  - Smoke is arising from the product or there is burning smell.
  - Some part of the product is cracked, loose, or unstable.
  - Abnormal noise is generated during operation.
  - Lighting indications become abnormal.
- If any of the above symptoms occur, unplug the product immediately and return to the store where you purchased it for service and repair. Continued use of the product may cause a fire, electric shock or injury.

NOTICE

- **A short Power Cord is provided for your safety. To reduce risks from entanglement or tripping, using longer Power Cord is not recommended. Extension cord should only be used if care is exercised.**
- **In cases If extension cord is used:**
  - The marked electrical rating of the extension cord should be at least as high as the electrical rating of the product.
  - The extension cord should have a ground-type 3-pronged plug.
  - The extension cord should not drape over the countertop or tabletop where it can cause tripping over the cord.

IDS Specific Safety Information

For your own personal safety and to prevent accidental damage to the product, please ensure that you read and understand this Manual.

⚠ WARNING

- This product generates ozone (O_3) in the form of gas, which poses a hazard if emitted into the ambient air in excess quantities. Ozone is unstable and highly oxidative. It accelerates burning, is heavier than air and oxygen, has a distinctive smell, and is irritable to body if inhaled in large quantities. Long-term inhalation of high concentration of ozone may cause injury. Do NOT directly inhale high concentration of ozone gas produced by this device.
  - ONLY operate in well ventilated areas.
  - ALWAYS disconnect device from power IMMEDIATELY if an unusually strong ozone smell is detected.
  - ALWAYS seek fresh air IMMEDIATELY if respiratory irritation is experienced. Seek medical attention if necessary. Disconnect device from power IMMEDIATELY.
  - ALWAYS ensure all electrical circuits are disconnected before performing service, maintenance, or installation work, to avoid accidental generation of ozone gas.
  - ALWAYS follow all national and local standards, laws, and codes, as well as all applicable, safe O_3 work practices.
  - ALWAYS ensure all factory installed parts and components are re-installed properly and are in good condition after performing service, maintenance, or installation work.
  - NEVER use inappropriate tools, processes, or procedures. Damage to components of device can occur.
  - NEVER discard any loose parts received with device. They may be required for proper and safe installation and operation.
- Keep away from any open fire (>100m)
- Never attempt any servicing while unit is wet. Be sure to turn power OFF and disconnect from power source before any service work is performed. Failure to do so could result in serious injury or death.
- Ensure power and water supply meet requirements as indicated in the product specifications. Failure to install, operate and maintain this device as instructed could void warranty and result in injury or product damage.

⚠ CAUTION

- All permanent electrical connections should be made by a qualified electrician. Follow all applicable electrical codes.
- All plumbing or connections should be completely set up before plugging power to power on. Ensure the ozone output is properly connected to a correctly determined corresponding position.
- For proper operation, please fill up the machine with deionized pure water or distilled water. Other kinds of water might reduce the lifespan of the product. Always make sure that the ozone delivery tube allows free flow before and during operation.

Water to be Used

- Bottled deionized pure water or distilled water / Conductivity < 5 µS/cm

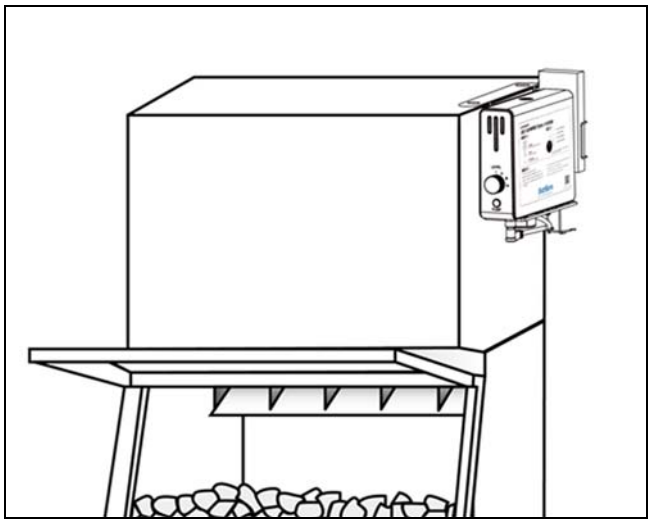
  << Please check with your dealer for recommendations of water to be used >>

- To maintain cosmetic integrity, protect this unit from direct prolonged sunlight exposure.
- For your safety, Do NOT operate the device with any panels or covers removed
- For your safety, do not store or use gasoline, chemicals or other flammable liquids or vapors near this or any other appliance.
- The system should be sized appropriately for its intended use by a qualified professional familiar with the application.

1 GENERAL INFORMATION

1.1 Product Description

Ice Disinfection System (IDS) is an advanced automated ice disinfection system that is designed to inhibit the growth of mold, slime, biofilm, and other bacterial contaminations in commercial ice machines. When correctly installed and properly used, IDS treats the circulation water in ice production and also the surfaces in the treated area to extend the interval in between required manual deep-cleanings, extending the life of the ice machines, enhancing their functionality and improving the hygiene of ice.



NOTICE

Read instructions carefully to select water to be used properly.

Water to be Used

- Bottled deionized pure water or distilled water / Conductivity < 5 µS/cm

Please check with your dealer for recommendations of water to be used.

Note:

Do NOT use any other liquid than pure water in the system. Using any other type of liquid not specified by the manufacturer WILL reduce the product's lifespan.

1.2 Ozone in Practice

Ozone itself is a colorless gas with a pungent smell. It is one of the strongest known oxidizing agents. It has an electrochemical oxidation potential of 2.08 V. The ozone molecule is only moderately stable and has a half-life in pure water and under normal operating conditions of about 20 minutes. In the absence of oxidizable substances, ozone decays to oxygen. In the presence of oxidizable substances, traces of CO_2 will also be formed.

1.3 Physical Properties of Ozone

ITEM	VALUE	UNIT
Molecular weight	47.9982	g/Mol
Density under normal conditions	2.144	g/L
Relative density	1.5582	g/L
Molecular volume under normal	22.387	m^3/kMol
Boiling point (760 mm Hg)	-111.9 ± 0.3	°C
Melting point	-192.7 ± 0.2	°C
Critical temperature	-12.1 ± 0.1	°C
Critical pressure	54.6	atm.
Critical volume	111	$cm^{3/}$Mol
Heat of vaporization	75.6	cal/g
Free energy (25 °C)	32.4	Kcal/Mol

* Normal conditions acc. to DIN1343: Pn = 1.01325 bar; Tn = 273.15°C, tn = 0°C

NOTICE

- Read instructions carefully including safety warnings
- Only qualified technicians should install this product

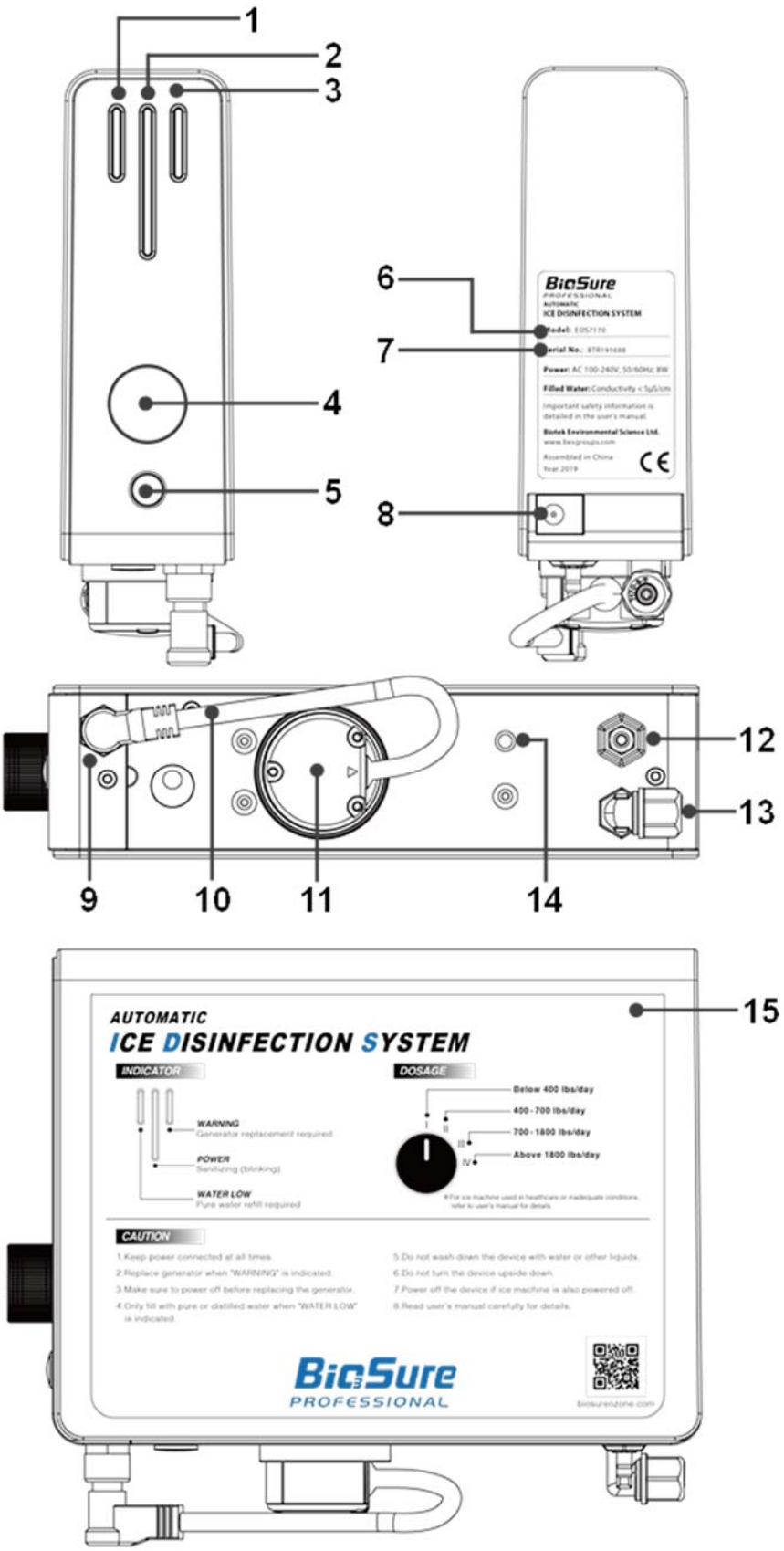
Ozone is categorized as “generally regarded as safe” (GRAS), and is approved by the US Food and Drug Administration (FDA) for food service use as an antimicrobial additive and a disinfectant for food contact surface. The Centers for Disease Control and Prevention (CDC) has also supported that ozone is a safe and effective sanitation method in drinking water, effective against even some of the most resistant pathogens.

IDS generates ozone electrochemically using deionized water. Occupational Safety and Health Administration (OSHA) limits for ozone are as follows:

- Long term exposure limit: 0.10 ppm for 8 hours
- Mid term exposure limit: 0.20 ppm for 2 hours
- Short term exposure limit: 0.30 ppm for 15 minutes

IDS is designed to produce ozone well below the above limits when installed, used, and maintained correctly. Ozone can be sensed by humans (by smell) at a level as low as 0.003 ppm. It is normal and expected to be able to detect a very mild ozone smell in the installed ice machine and its ice bin.

1.4 IDS Key Components



Front Panel

1. Yellow LED - Water Low
2. Blue LED - Power & Status
3. Red LED – Replace EOG Cell
4. Control Knob - Output Setting
5. Pump Button - Water Fill Suction

Rear Panel

6. Model Number
7. Serial Number
8. Power Connection Port

Bottom

9. Cell - Ozone Generator Connection
10. Ozone Generator Connection Cord
11. Ozone Generator (EOG Cell)
12. Pure Water Suction Inlet
13. Ozone Outlet
14. Bracket Fixing Hole

Right

15. Operation Placard

1.5 Specifications

Model		EOS7170
Output		Ozone Gas
Purity		≈ 20 wt% (NO_X free)
Production		20 - 50 mg/hr (±10%)
Flow Pressure		0.5 Bar (0.05 Mpa; 7.3 psi)
Input Voltage	(Adapter Input)	AC 100-240V, 50/60Hz
	(Adapter Output)	DC12V, 1.25A
Rated Power		< 15W
Water Requirement	(Conductivity)	< 5 μS/cm
Water Storage Volume		580ml (Effective 400ml)
Water Consumption		≈ 0.6 ml/hr
Working Temperature		1 - 40℃ (33.8 - 104°F)
Working Humidity		0 - 90% non-condensing humidity
Material	(Casing)	ABS
	(Tubing)	PVC, PVDF, PTFE
Dimensions	(W x D x H)	56 x 225 x 180 mm
Weight	(Net)	0.8 kg
	(Filled with water & with bracket)	2.0 kg
Protection Class		IP X2

Technologies applied in this product are protected by one or more of the following patents: US 8,308,914 B2, US 9,757,697 B2, US 9,248,208, B2

CE

2 INSTALLATION

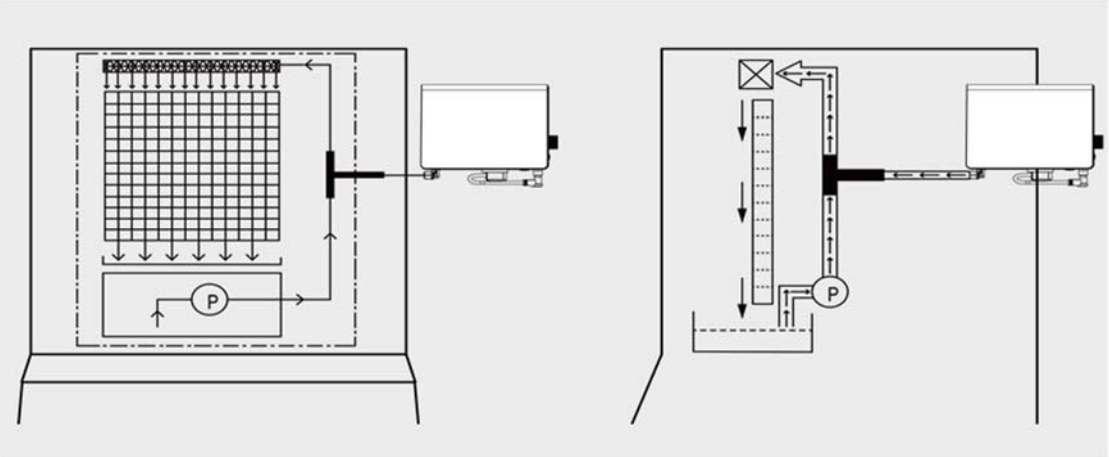
Consult your local BioSure dealer for installation arrangements. The information described below in this section is intended for operator's reference.

The most common configurations for common installation sites are discussed in this section. For additional installation options or questions on your specific installation, please contact your regional BioSure dealer.

2.1. How IDS Works

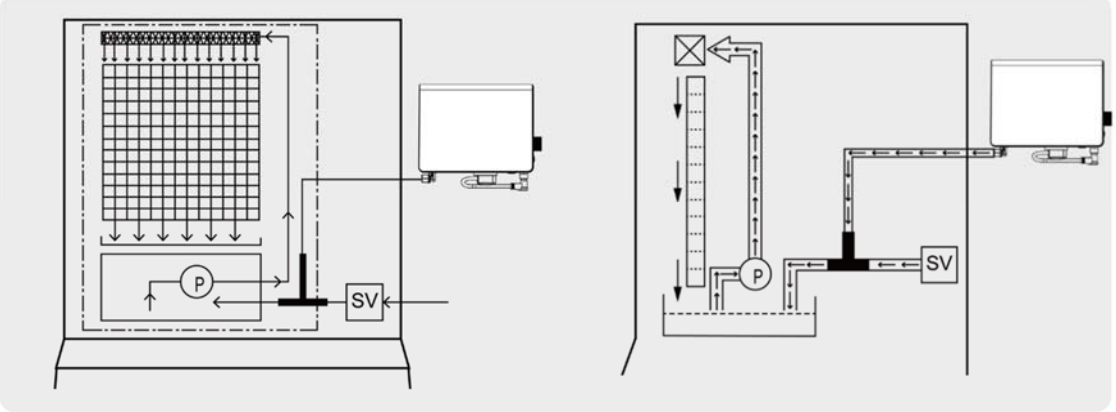
IDS is designed for continuous ice machine sanitation with the real technology benefit of high ozone purity by electrolytic generation that promotes ozone's dissolution in water and its functionality in sanitizing water and surfaces. Simply connected to the water circuit in ice machine, it generates dissolved ozone in the water circuit and creates an environment that inhibits the growth of contamination by sanitizing the water, waterlines and surfaces in the treated area.

Scenario 1: Locate the "insert" position between water pump and distributer is available.



P: Pump

Scenario 2: If there is no suitable position between water pump and distributer to "insert", choose the position after solenoid valve or before the water tank.



P: Pump SV: Solenoid Valve

2.2. Tools Needed for Installation

- o Ladder (may be required depending on service ice machine models)
- o Tape Measure and Pencil or Marker
- o Knife of Hose Cutter
- o PTFE Teflon Plumber's Tap
- o Pipe Clamp and/or Pipe Tie
- o Adjustable Wrench
- o Phillips Screwdriver & Tapping Screws
- o Double-Sided Tape
- o Electric Drill
- o Bottled Pure Water or Distilled Water 600ml

NOTICE

Prior to Installation

- For best results, clean and sanitize (deep-clean) the ice machine and attached ice bin or dispenser thoroughly before installing IDS.
- IDS uses pure water that is pre-filled into the unit. Do NOT and NO need to connect IDS to water supply under any circumstances.
- Verify the availability of a wall plug within 1.5m (4.9 ft) of the IDS installation.
- Verify the model of ice machine, the location and dimension of the connecting tube and prepare all necessary installation tools.
- Turn power off to the ice machine before installing this product.
- Only qualified technicians may install this product.

2.3. Typical IDS Installations

There are many different types of ice machines and therefore there is no single “right” IDS installation. However, to approach best results, the correct placement and connection of the IDS are critical.

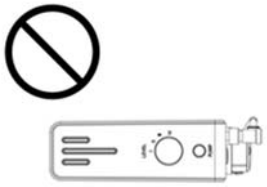
The following steps outline general guidelines for IDS installation on cube type ice machines:

STEP 1: Identify Installation Location

It is recommended that the IDS is mounted on the RIGHT side panel of ice machine, with all LED indicators facing front and presenting the operation placard to the right. To avoid malfunction, the IDS must be mounted in a vertical position with the generator facing down.

SIDE MOUNT
Generator Down

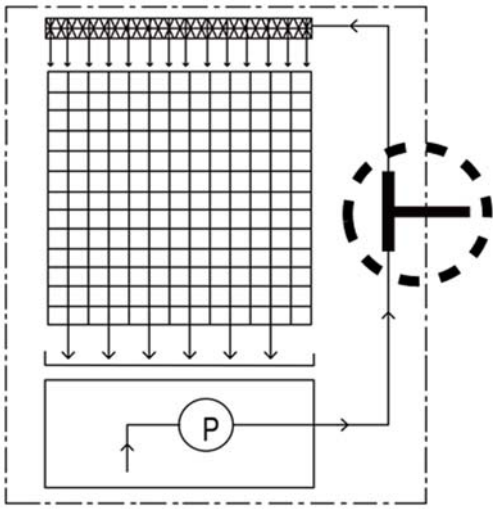
SIDE MOUNT
Generator Up



FLAT MOUNT
Generator Horizontal

STEP 2: Identify “INSERT” Position

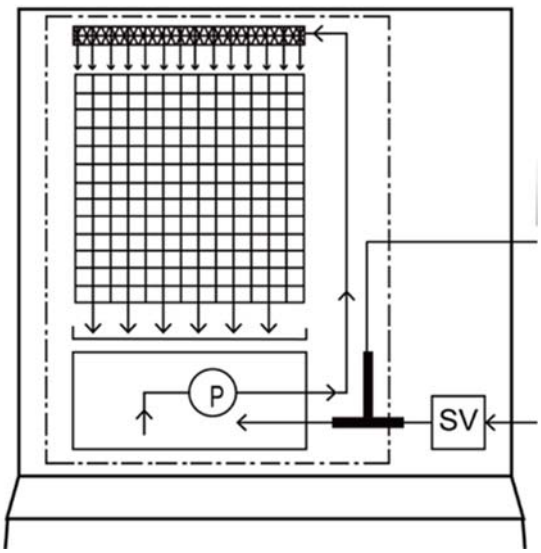
Scenario 1:



P: pump

In principle, the output of IDS is to be connected on a pipe in water circuit that supplies ice water to water distributor. The position and layout of this pipe can be designed differently in different models of ice machines. For best result, connect the IDS in ice machine with one of the included “Injection Tee” on the pipe between pump and distributor, using the pressure from the pump to promote the dissolution of ozone in water before distribution.

Scenario 2:



P: pump SV: solenoid valve

If locating the “insert” position between water pump and distributer is NOT available, scenario 2 is recommend: connect the IDS in ice machine with one of the included “Injection Tee” on the pipe between water tank and the solenoid valve. Using the water flow to promote the dissolution of ozone.

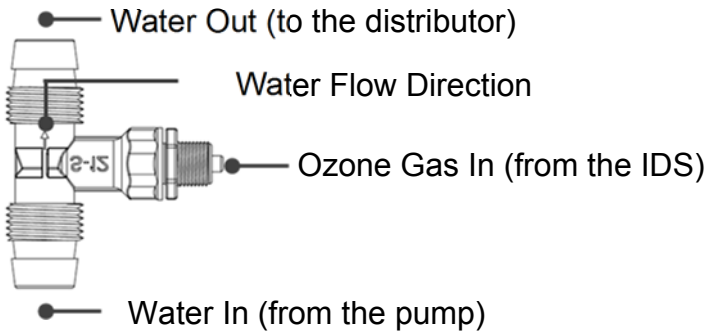
Note: The “Injection Tee” MUST be connected after the solenoid valve, otherwise the pressure of the continuous-producing ozone gas will cause IDS damaged.

Various dimensions of pipe can be found in different models of ice machines. Two “Injection Tees” with their specific “Reducing Fittings” are included as accessory to assist your installation. These fittings are able to fit in with pipe inner diameters ranging from 10 to 27 mm. Select the useful tee according to the actual pipe used in the ice machine. Determine if the fittings are required (not required if the tee itself fits). Wind PTFE plumber’s tape on the tee or fittings to allow promoted tightness of insertion in the pipe if necessary.

For installation, sizing of the Injection Tees and Fittings for connection to the ice machine is described below:

PART DESCRIPTION	FITTING SIZE (Pipe Inner Diameter)	Length required to install the tee (must be cut off)
Injection Tee A	14 - 16 mm	43 mm
Injection Tee A with Reducing Fittings	10 - 14 mm	80 mm
Injection Tee B	26 - 28 mm	23 mm
Injection Tee B with Reducing Fittings	16 - 26 mm	82 mm

Remove pipe to be inserted. Measure and check the best tee and fitting options. Before modification made on the pipe to insert the tee and fittings, mark the location for the insertion on the pipe according to the following steps:



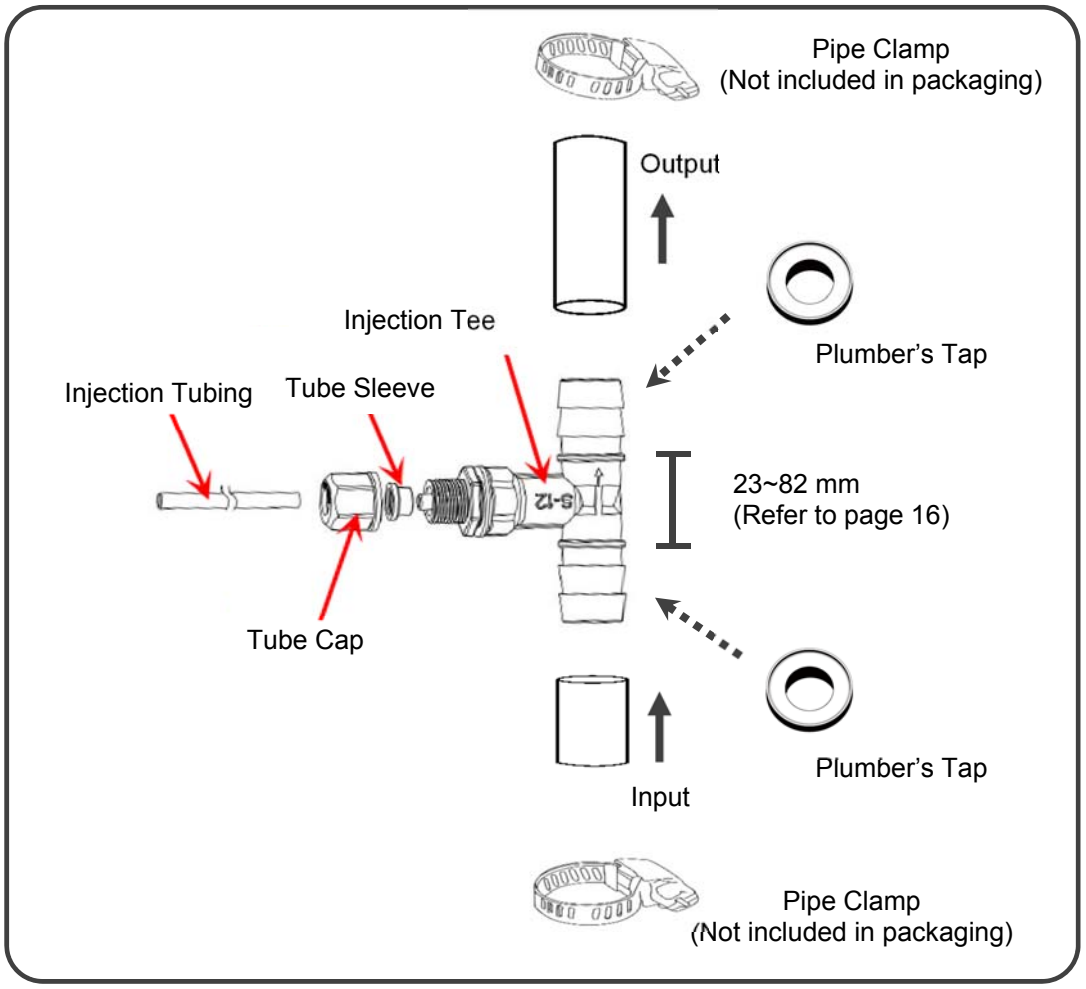
1. Tee fittings should be installed according to the water flow direction.
2. Tee fittings should be positioned as close/near as possible to the pump/solenoid valve (in the case that scenario 2 is selected) to maximize pressure utilization. However, adequate distance on two sides for using pipe clamps or pipe ties to secure connection is very important.
3. Ozone gas inlet should be positioned towards the IDS, so as we can guide the injection tubing to pass through a ventilation hole or gap to connect to the IDS on the right side later.

Install the Injection Tee

1 Cut the pipe where marked as the best position. Cut off the length required to install the tee (Refer to page 16).

2 You may need the plumber's tape to tighten the connection. Install the tee on the pipe and resume the connections between the pump and distributor/solenoid valve and water tank (in the case that scenario 2 is selected). Use pipe clamps or pipe ties to secure all connections.

3 Install tube cap and tube sleeve on the injection tubing, insert and tighten the tubing to the injection tee. Arrange the tubing and fittings in the ice machine, lead it crossing out the vent or gap of ice machine.



Leak Test

1 Keep the top or side cover of the ice machine opened. Restore the water supply and power on the ice machine.

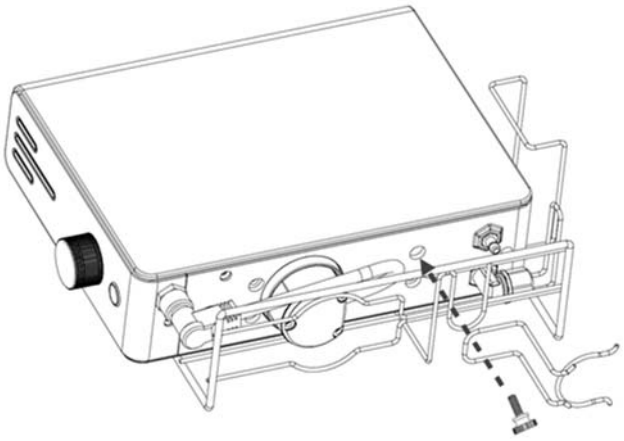
2 Activate the cleaning mode of ice machine to make flow the ice-water circulation.

3 Check if there is any water leak at the connection between the tee and water pipe.

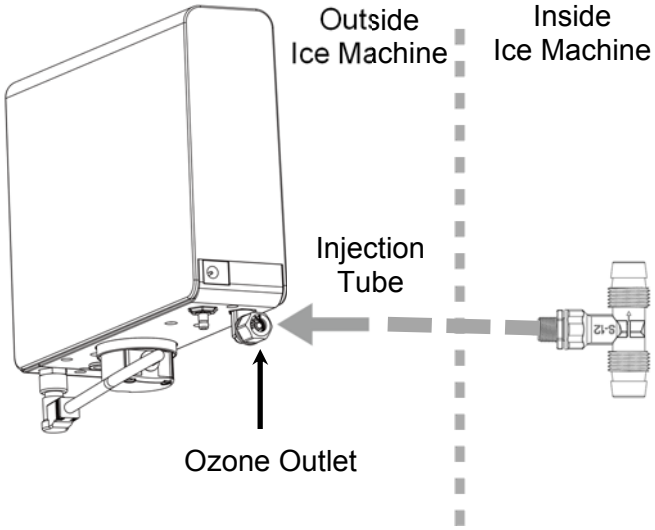

Cleaning Key / or Wash Button

The Injection Tee is now attached on the water circuit of your ice machine!

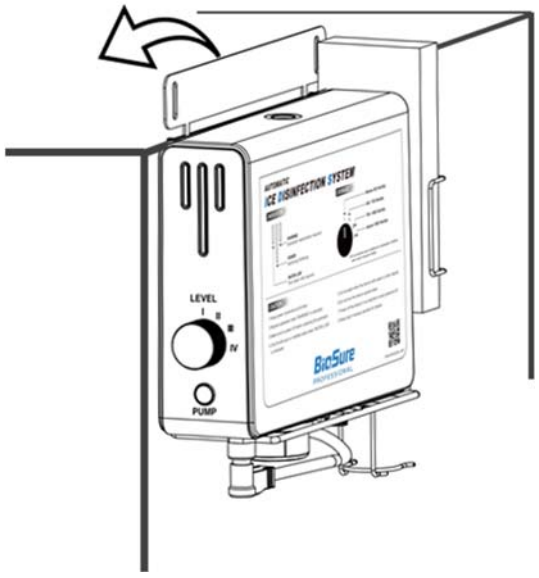
STEP 3: Mount IDS



1. Assemble mounting bracket and bottle hanger. Bend the bottle hanger a little bit to fit in the bracket if necessary.
2. Use the thumb screw to secure the assembly and attachment of IDS.
3. Plug in and lock the Ozone generator cord to the connection.



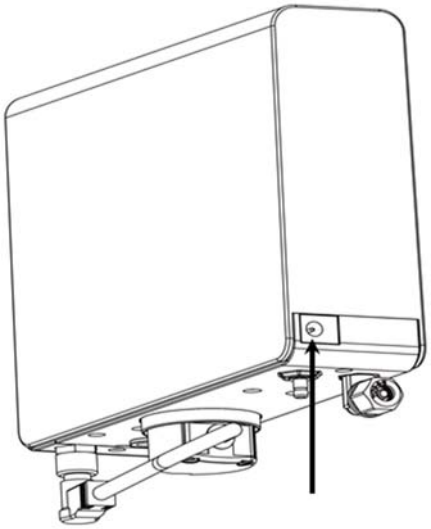
4. Install tube cap and tube sleeve on the injection tubing of STEP 2, connect it to the IDS's Ozone Outlet.



5. Fold down the support plate on mounting bracket to attach the assembly on the top panel of ice machine with double-sided tape. Insert and store the tool box behind the device.

* Apart from using double-sided tape, drilling holes on the ice machine panel for IDS attachment using tapping screws may also be used.

STEP 4: Connect Power & Plug In

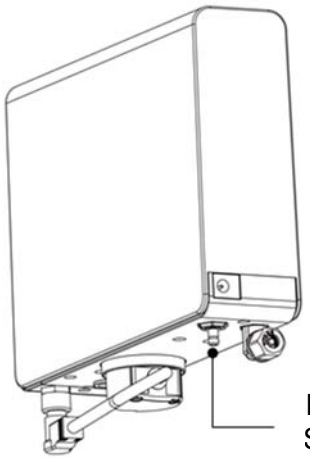


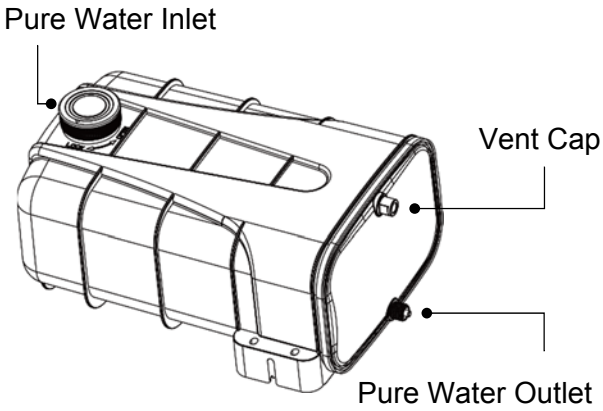
DC Power Socket

Plug the Power Adapter into the wall electricity outlet. Then, connect the Power-Supply Cord into the DC Power Socket at the bottom rear of the IDS. Upon successful completion of all the above installation steps, the unit is now standby and ready to work. However, for the first time use the blinking yellow LED with beep sound should present indicating requirement of water filling. Proceed to Getting Started section to get the system ready.

2.4. Optional - Water Feeder Installation (Model: WF-3500)

The operation of IDS relies on constant supply and maintenance of sufficient pure water for generating electrolytic ozone. By default, the required pure water is to be filled into the unit by activating a water suction function manually with intervals ranging up to 2 months based on dosage setting. A 3.5-liter Water Feeder (Model: WF-3500) as accessory is provided optionally to make this filling process become fully automatic.





Water Feeder 3.5L
(L x W x H: 272.3 x 190 x 123.5 mm)

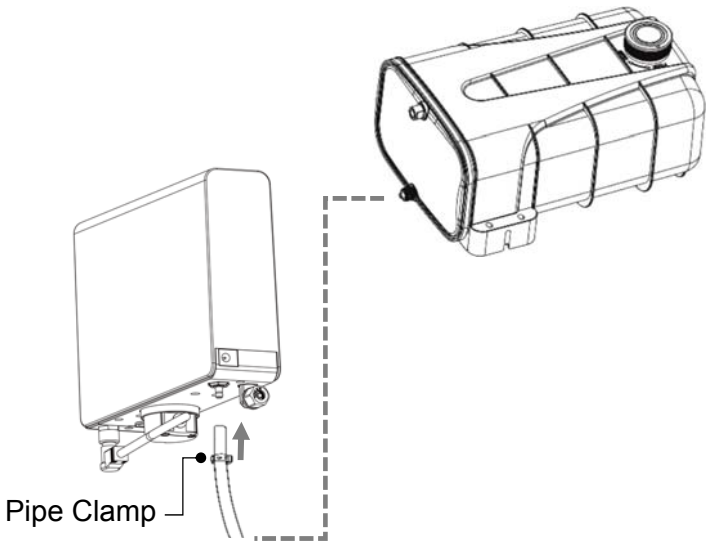
Installation of the Water Feeder:

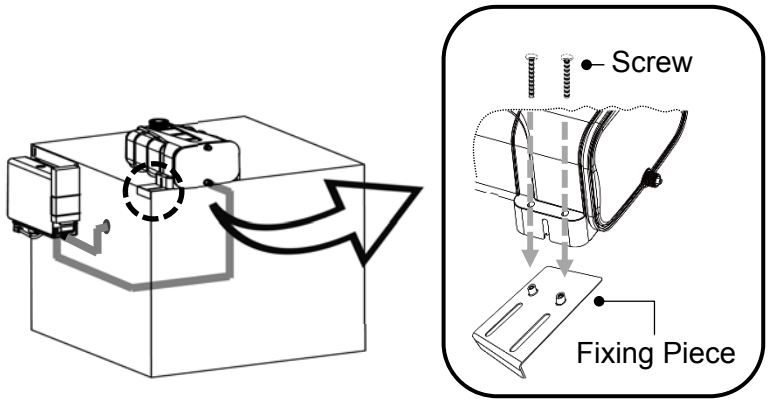
1. Rinse the inside of the water feeder by pure water.

2. Install tube cap and tube sleeve on the tube attached in the package, insert and tighten the tube into the water outlet of the vessel.

3. Fix the other side of the tube on the pure water suction inlet of IDS. Use pipe clamp to tighten the connection.

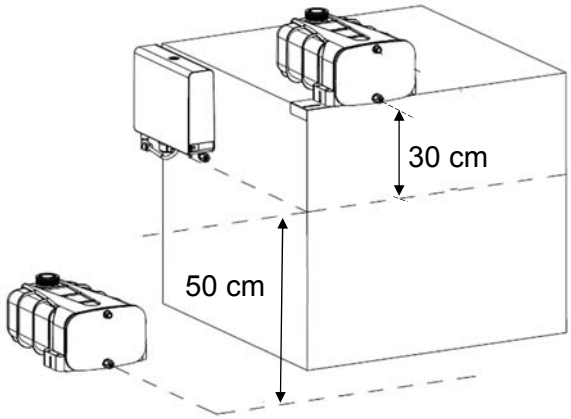
4. Combine the fixing piece with water feeder by screws and washers. Use double-sided tape to adhere the water feeder above the ice machine.





Note:

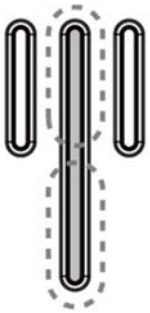
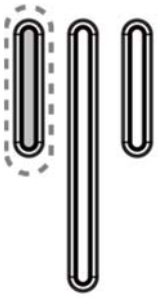
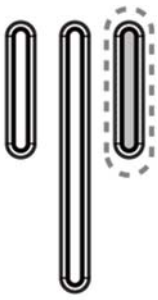
If there is no space above the ice machine to install the water feeder, follow the principle below to select an appropriate position: The water feeder outlet should not be more than 30 cm higher than the IDS water input, or be lower than the IDS water input 50cm.



5. Fill the pure water inlet above the water feeder with pure water. Remember to close the lid after finishing.
6. Unplug the vent cap to complete the installation of the water feeder. Refer to page 23 for the setting of automatic water fill.

3 OPERATION

3.1 LED Indicator Status

 **Blue LED**	**Breathing Blue** System under preparation **Steady Blue both up and down** Operation Normal, with Manual Water Fill setting at backstage **Steady Blue up and Breathing Blue down** Operation Normal, with Automatic Water Fill setting at backstage (must be equipped with a water feeder)
 **Yellow LED**	**Quick Flashing Yellow (manual water fill)** - Absence of Water (Alarm: beep x 4, twice with 1 sec interval；1 alarm / hour) - Water has not reached to the workable water line yet **Slow Flashing Yellow (manual water fill)** Water reached to the workable water line **Steady Yellow** Water fill failed (Alarm: beep x 4, twice with 1 sec interval；1 alarm / hour)
 **Red LED**	**Steady Red** Cell malfunction or disconnected (Alarm: beep x 2, twice with 1 sec interval；1 alarm / hour) **Slow Flashing Red** Cell is nearing the end of its effective life cycle (Alarm: beep x 2, twice with 1 sec interval；1 alarm / hour) * You can stop the alarm by pressing and holding the “pump” button for 5 sec, but the Red LED will remain flashing. **Quick Flashing Red** Replace Cell immediately / Cell is over effective life cycle (Alarm: beep x 2, twice with 1 sec interval；1 alarm / hour)

3.2 Water Fill

Upon successful completion of all the installation steps, for the first-time use / or the pure water is below effective water line, Quick Flashing Yellow LED is present indicating requirement of water fill. If water tank hasn't been filled in 24 hours IDS will stop generating ozone to protect the cell.

NOTICE

Read instructions carefully to select water to be used properly.

Water to be Used

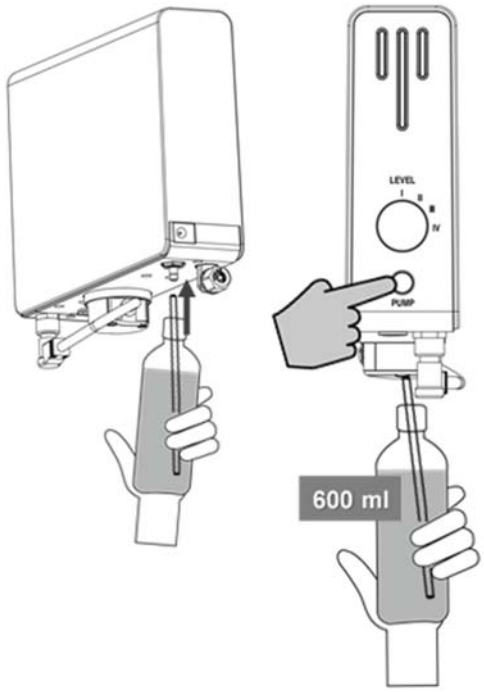
- Bottled pure water or distilled water / Conductivity < 5 μS/cm

Please check with your dealer for recommendations of water to be used.

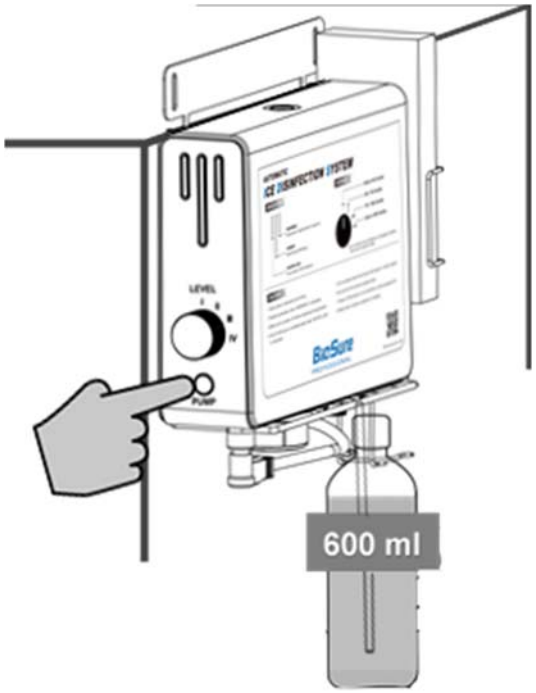
Note:
Do NOT pour anything other than water into the product. Use any other types of liquid not specified by the manufacturer WILL reduce the product's lifespan.

Manual Water Fill

Follow below guidelines for filling pure water manually:



1. Find "Water Fill Tube" in the tool box and connect it to "Pure Water Suction Inlet" at the bottom rear of the device.
2. 600 ml bottled pure water in hand, insert the water fill tube into the bottle.
3. Press and Hold the "Pump" Button for 2 seconds to activate water fill suction. Do not remove the water bottle until the suction stops automatically.
4. At the time the suction stops, the Yellow LED turns off and Steady Blue LED presents indicating the system is standby. (For the first time use, instead, "Breathing Blue LED" presents to indicate the system is under preparing for 30 min)



The assembly of mounting bracket and bottle hanger allows you to hang the water bottle while waiting for filling up.

Hang the bottle on the hanger with the water fill tube in it reaching at the bottom. Do not remove the water bottle until the suction stops automatically.

Note:

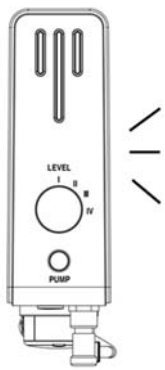
1. Release the button once the suction is activated. You can press the button again for about 0.5 seconds to interrupt and stop the suction anytime.
2. Do NOT keep pressing the "Pump" button for a long time. Doing so the water suction process will be stopped after pressing for more than 5 seconds.

Automatic Water Fill (Used Only with External Water Feeder)

You can set the device to the Automatic Water Fill mode if a Water Feeder from BioSure is equipped. For the water feeder connection, please refer to Sec. 2.4 for detail. Follow guidelines below to change the setting:

1. Press and hold the “Pump” button for 20 seconds. (This press starts pump’s suction first. Remain pressing the button will stop the suction at the 5th second.)
2. At the 20th second, you can hear 4 beeps sound. Release the button and now the device is in the Automatic Water Fill mode.

* You can switch to manual water fill by repeating step 1~2. When you hear the 4 beeps sound, the system is successfully switched to the manual water fill, with the blue LED displays steady light.



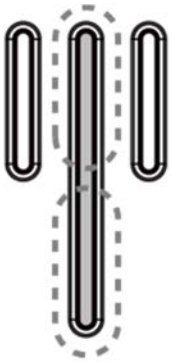
Beep x 4

The system beeps 4 times indicating that the setting is complete.

NOTICE

Please fill pure water in the IDS MANUALLY before connecting to the Water Feeder. Fill up the feeder with pure water and switch the setting to automatic water fill mode after all connections are done.

The Blue LED has two modes to reveal the status of Manual Water Fill and Automatic Water Fill. Observe the difference under operation mode.



Steady Blue up and Breathing Blue down
Operation Normal, with Automatic Water Fill setting at backstage

Steady Blue both up and down
Operation Normal, with Manual Water Fill setting at backstage

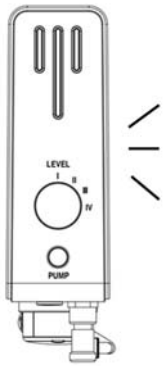
3.3 Getting Started

The system is switched ON by plugging the power cord into a wall outlet (power supply). There is no ON/OFF control switch. Before plugging the unit into the wall outlet, all plumbing works should be completely done.

Shut-down, Re-Start & Power Disconnection Protection

The system is intended to be power connected and switched on at all times, unless in necessary situations, such as to stop the unit for service or relocation. The unit can be switched OFF by un-plugging the cord from wall outlet (power supply).

To re-start the IDS, simply reconnect the unit to the power. When system re-starts, all functions are suspended for 30 minutes. This is a standard protection procedure to minimize the impacts on the EOG cell.



Beep x 2

The system beeps 2 times indicating that the 30-minute preparation process is complete.

Note: Disconnecting the power too often may cause unexpected impacts on the EOG cell that may result in degradation to the system performance.

First Time Use Activation

For the first time use, after the water-fill and 30-minute preparing process, the system needs to activate the cell for 24 hours. During this period, please do not disconnect the power.

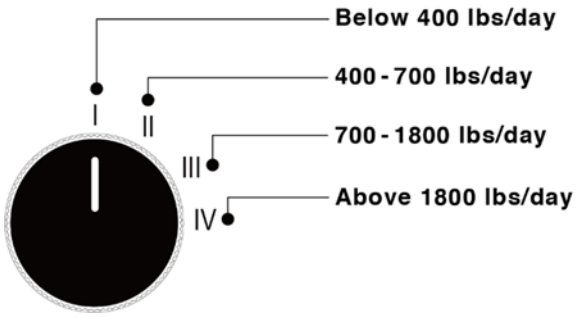
3.4 Operation Mode

The IDS is designed to operate and deliver the output continuously, with different ozone output amount for each mode. Please follow the guidelines below to select the output level.

Sizing & Mode Setting

Standard Application

- According to Daily Ice Production (in lbs) of the ice machine.



Special Application

To customize your application for specific requirements, you can heighten the mode selection one grade up to the standard setting in order to enhance the treatment effect.

For instance, for ice machines used in healthcare or inadequate conditions (i.e., bad quality of water or air), you can heighten the level setting as suggested in below table:

ICE MACHINE CAPACITY (Daily Production, lbs/day)	APPLICATION & SETTING RECOMMENDATIONS	
	F&B (typical)	Healthcare or F&B with inadequate conditions
Below 400 lbs/day	I	II
400 - 700 lbs/day	II	III
700 - 1800 lbs/day	III	IV
Above 1800 lbs/day	IV	

Water Fill Frequency (Water Consumption)

With different ozone output amount for each mode, the requirements of water fill frequency are therefore different for each mod.

Mode	Water Fill Frequency	Water Fill Frequency (External Water Feeder)
I	60 days	550 days
II	45 days	410 days
III	35 days	330 days
IV	25 days	250 days

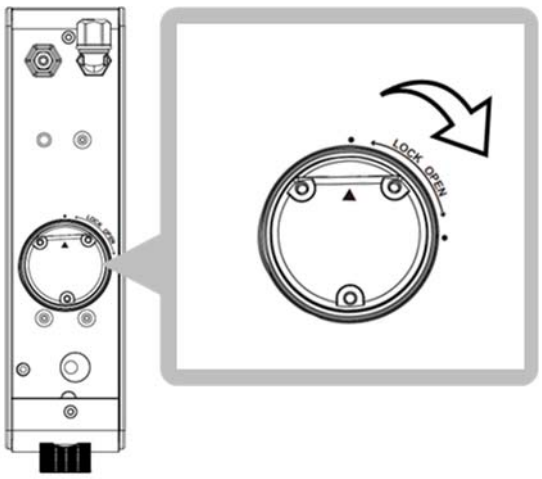
4 MAINTENANCE

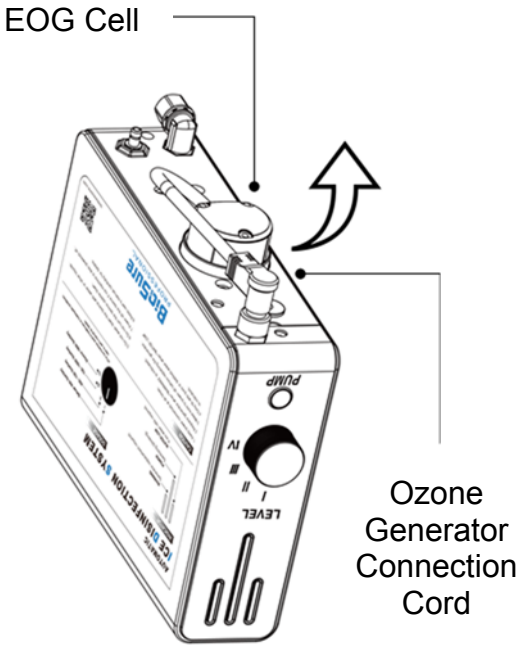
4.1 EOG Cell Life Cycle

The IDS replaceable EOG Cell is designed to typically last 12-13 months. Using poor quality of water to fill up for the device may shorten the life. The Red “Replace Cell” LED indicator is present on the front panel of the device to warn when the cell is nearing the end of its effective life cycle. Replace cell at the expected life cycle intervals, or when Red LED indicator light turns on, whichever comes first.

4.2 Replacement of EOG Cell

1. Disconnect the power.
2. Disconnect the EOG Cell’s wiring on the device.
3. Twist to open the connection of the cell.
4. Pull out the cell for replacement.
5. Install a new EOG Cell.





5 TROUBLESHOOTING

Use the following guide to self-check your problems before requesting repairs. If problem has occurred, do NOT attempt to disassemble and repair the product yourself, but contact BioSure or your dealer for support.

Sometimes suspected problem is remedied by disconnecting the power plug and then re-connecting it.

Trouble	Cause / Status	Remedy
No light	Not plugged in a power outlet	Plug the power plug into the outlet
	Adaptor not working properly	Please contact your dealer
Quick Flashing Yellow with Alarm	Absence of Water	Fill / refill pure water IMMEDIATELY
Slow Flashing Yellow	Water is reaching the standard level	Water fill is almost done
Steady Yellow with Alarm	Water Fill failed	Check if the pure water bottle or the tube is loose and repeat water filling again. Contact your dealer if the Steady Yellow light is still on after finished.
Slow Flashing Red With Alarm	Cell is coming to the end of its effective life cycle	Replace EOG cell ASAP
Quick Flashing Red With Alarm	Cell is over effective life cycle	Replace EOG cell ASAP
Steady Red LED with alarm	Cell malfunction	Re-install the EOG cell. Contact your dealer if the Steady Red light is still on after finished.
	Cell disconnected	

Please have the model number and serial number of the device available when calling for support.

BioSure PROFESSIONAL

Biotek Environmental Science Ltd.

Address: 5F, 98 Xingde Rd., Sanchung Dist., New Taipei, 24158 Taiwan
Telephone: +886 2 8511 1048
Webpage: www.besgroups.com