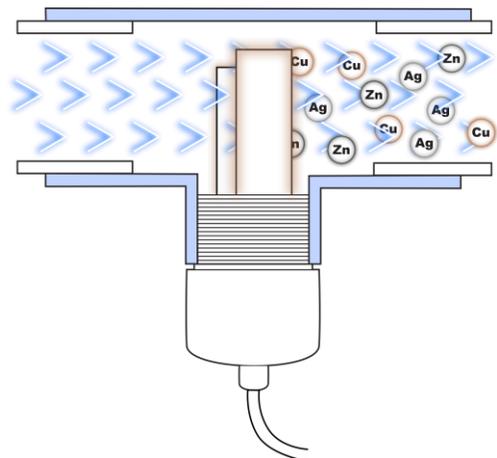


# ATTENTION

- 1) For your ClearBlue Ionizer to work properly, these steps must be taken *before* installation:
  - i. Ensure **hardness, pH, alkalinity and TDS** are within acceptable levels (see *Maintenance* section in operating manual for details)
  - ii. Excessive amounts of algae or bacteria must be controlled prior to installation
- 2) Run the pump a minimum of 4 hours per day.
- 3) A residual of **0.6ppm** chlorine or bromine (equivalent to one 3" tablet every week or two) or alternative non-toxic oxidizer should be maintained to break down organics (sweat, hair, urine, make-up, sunscreen, etc.)
- 4) Keep your ion level between **0.2ppm – 0.4ppm**. Test your water with the Copper Test Kit periodically to ensure ion level is within this range. **Do not reduce the amount of sanitizer used until the ion level reaches 0.2ppm.**
- 5) Shock may be required in cases of extreme weather conditions or increased bather loads resulting in high contaminants.
- 6) Do not plug the controller into a timer. It should always have power.
- 7) Install electrodes parallel to the water flow and ensure the tee is always full of water.





MODEL A-400 / A-800 / A-850

MINERAL ION RELEASING DEVICE

HELPS PREVENT ALGAE  
GROWTH IN SWIMMING POOLS  
AND SPAS

COMMERCIAL

WARNING: Copper levels over 0.5 and a pH reading over 7.8 may cause copper to precipitate.

MADE IN CANADA

READ THE LABEL AND THE INSTALLATION AND OPERATION MANUAL BEFORE USING

KEEP OUT OF REACH OF CHILDREN

REGISTRATION NUMBER 29954 PEST CONTROL PRODUCTS ACT



[facebook.com/ClearBlueIonizer](https://facebook.com/ClearBlueIonizer)



[twitter.com/CleanClearWater](https://twitter.com/CleanClearWater)

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[www.clearblueionizer.com](http://www.clearblueionizer.com)

**INSTALLATION & OPERATION MANUAL**

PLEASE CAREFULLY READ AND SAVE THESE INSTRUCTIONS

Thank you for purchasing a ClearBlue Ionizer. This device will assist in controlling bacteria and algae in pools and spas by augmenting the bactericidal and algicidal activity of primary disinfectants such as chlorine or bromine. Once the copper concentration has reached the required level of 0.2 – 0.4ppm, maintain 0.6 – 3ppm of free available chlorine in pools and 3 – 5ppm of free available chlorine in spas. Regulated pools must follow provincial, state or municipal guidelines.

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**IMPORTANT SAFETY INSTRUCTIONS**

When installing and using this electrical equipment, basic safety precautions should always be followed. Please read all instructions before using this system.

- Do not reduce chemical usage in pools until the ion level reaches 0.2 - 0.4 parts per million (ppm)
- Protect controller from direct elements (rain, sun). A weatherproof outdoor enclosure is recommended.
- To prevent corrosion and extend the longevity of your controller, add lithium grease to the inside of the pink connector before the mineral cell is plugged in.
- To reduce the risk of injury, do not permit children to operate this device.
- Follow all aspects of the local and national electrical code(s) when installing this device.
- Install or locate this equipment only in accordance with the provided installation instructions.
- This unit is only water resistant when the mineral cell cable is plugged into the pink connector. Failure to do this may result in internal water damage.
- Use this equipment only for its intended use as described in this manual.
- This system should be serviced only by the manufacturer. Contact the manufacturer for examination, repair or adjustment.
- Do not operate this system if it has a damaged cord or plug.
- Do not immerse cord or plug in water.
- Keep cord away from heated surfaces.

- Heavy bather loads may trigger the need for additional chlorine/bromine.
- Check the expiry date of the test kit as test results may be inaccurate if used after that date.
- Use a registered or scheduled pool or spa sanitizer to maintain an appropriate chlorine/bromine residual in the water.
- The expected life expectancy of the mineral cell is one year (2160 "on" hours) under normal use conditions.
- When replacing the mineral cell, only use replacement cells having a label that clearly states that it is a replacement mineral cell for the mineral ion releasing device ClearBlue Ionizer, REGISTRATION NUMBER 29954, *PEST CONTROL PRODUCTS ACT.*"
- Refer to the Directions for use of your chlorine/bromine sanitizer for appropriate water parameters.

### GROUNDING INSTRUCTIONS



Caution: This system must be grounded while in use to protect the operator from electric shock. If it should malfunction or break down, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This system is equipped with a cord having an equipment-grounding conductor and grounding plug. The plug must be plugged into an appropriate outlet that is

properly installed and grounded in accordance with all local codes and ordinances.

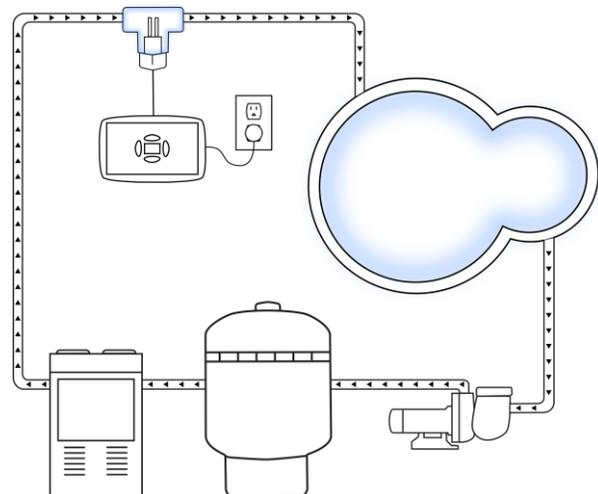
### Electrical Requirements

The electrical requirements are a 120 or 240 volt 60 Hz, AC only, 15+ AMP protected electrical supply. Please check the label on the back of the controller for voltage requirement. The retailer and manufacturer cannot accept any liability for damage to the equipment or personal injury resulting from failure to observe the correct electrical connection procedures.

### INSTALLATION INSTRUCTIONS

The ClearBlue Ionizer can be installed in under 30 minutes. The ion chamber (PVC tee) is usually installed in the pool circulation system after the pump, filter and heater. It is recommended that you install the tee as close to the pool as possible. If that location does not work for some reason you may install anywhere between the pump, filter or heater. Please follow these instructions:

1. Ensure the total alkalinity is between 100 and 120 ppm. Also ensure hardness, pH and TDS are within acceptable levels (see maintenance section) Excessive amounts of algae should be controlled prior to start-up.
2. Turn off the pump.
3. Plan the placement of the tee and controller so that there is adequate cable length for the cell to reach the controller and the controller to reach the power source. A qualified electrician can extend the mineral cell cable if required using standard 18/3 cable.
4. Drain the water pipe in which you have chosen to install the tee.
5. Cut out a 2.5" section of the run of pipe where you have chosen to install the tee.



6. Replace this part of the pipe with the tee assembly and fasten with standard PVC primer and glue making sure that the direction of water flow goes between the two electrodes and the tee is always full of water.
7. Mount the controller with the screws provided on a suitable surface.
8. Connect cable from mineral cell into the controller.
9. Wrap Teflon tape around the threads on the mineral cell six to twelve times, or enough to cover the threads completely. Use your hand to turn the cell clockwise into the tee until it is secure. To ensure even wearing of electrodes, turn until they sit parallel to the water so water flows between the two metal prongs evenly.
10. Plug into suitable ground fault protected outlet.
11. Do not reduce your current sanitizer until the ion level reaches 0.2 ppm.

### THE DIGITAL DISPLAY



#### Ionizing

When the “Ionizing” light is illuminating, it confirms that the system is ionizing the water. To illuminate, the electrodes must be fully submersed in water, and at least 80mA of current must be flowing from the electrodes into the water. The more ions that are being released into the water, the faster the light will blink. The light will look solid at maximum dose.

#### Ion/Action

This user defined setting represents the percentage of time in each hour the ionizer is on for. The suggested setting follows in the operating instructions.

#### Large Dose

Press this button to release the maximum amount of ions for the number of hours you choose. The default setting is 24 hours. The display will count down the amount of hours left. The system will return to the previously set Ion/Action setting when the large dose ends. Use this function at your discretion whenever a burst of ions is required. You may choose to use this when the ionizer is first installed, upon re-filling, or during large amounts of rain or spillage.

#### “-”

This button will *decrease* the setting for Ion/Action or Large Dose.

#### “+”

This button will *increase* the setting for Ion/Action or Large Dose.

#### Program Lock

This feature will lock the controller at the currently programmed settings. To lock the program, hold down the “-” button and the “+” button simultaneously for 20 seconds, you will see “PL” (program lock) appear on the screen. To unlock, use the same process.

### OPERATING INSTRUCTIONS

- 1. Power Up** Plug in the controller. The digital display will turn on.
- 2. Program** Press the “Ion/Action” button to set the ion cycle time. Follow the guidelines below based on the gallons or liters you are ionizing.
- 3. Optional** Press the “Large Dose” button to set the hours of large dose. You may set from 1 to 99 hours. 24 hours will activate as the default setting. Follow the guidelines below. When the large dose cycle is finished it will return to the previously set Ion/Action setting.

#### Model A-400 (Maximum 2,500 gal / 9,500 L)

Liters	Gallons	Ion/Action	Large Dose
750	200	8	8
1,500	400	14	16
1,900	500	18	20
3,800	1,000	35	37
5,700	1,500	53	55
7,550	2,000	72	75
9,500	2,500	90	95

#### Model A-800 (Maximum 25,000 gal / 94,650 L)

Liters	Gallons	Ion/Action	Large Dose
18,900	5,000	18	19
37,850	10,000	32	40
56,800	15,000	55	58
75,700	20,000	72	75
94,650	25,000	90	95

#### Model A-850 (Maximum 40,000 gal / 151,400 L)

Liters	Gallons	Ion/Action	Large Dose
37,850	10,000	20	24
75,700	20,000	45	48
113,560	30,000	70	72
151,400	40,000	95	96

*Please note these are only general guidelines. You will need to adjust the levels based on your copper test kit readings. See the maintenance section for more information.*

*Based on the ion output, it will take approximately 7 days to attain the minimum copper residual of 0.2ppm and 14 days to attain the copper residual of 0.4ppm in the maximum pool volume stated on the label.*

## MAINTENANCE

1. **Copper Ion Test:** Using the included copper test kit, ensure ions are between 0.2 - 0.4 ppm; spa applications can increase ion level up to 0.6ppm. Test the ion level once a week until you have found the proper Ion/Action setting for your pool or spa. Increase or decrease the Ion/Action setting as required. Carefully read and follow the instructions for your copper test kit. Check the expiry date of the copper test kit as test results may be inaccurate if used after that date.
2. **Mineral Cell:** The mineral cell that delivers minerals to the water needs to be checked once per season and typically lasts for one year (2,160 "on" hours) under normal use conditions. You can purchase additional cells from your authorized dealer. To replace your cell, simply turn old cell counter-clockwise to release it from the tee. Wrap Teflon tape around the threads of the new cell six to twelve times, or enough to cover the threads completely. Use your hand to turn the cell clockwise into the tee until it is secure. To ensure even wearing of electrodes, turn until they sit parallel to the water so water flows through them evenly.
3. Occasionally, you will need to oxidize the water to help break down excess organic matter (i.e. sweat, urine, makeup, suntan oils). In pools, we suggest running your ionizer system in conjunction with 0.6 ppm chlorine or bromine. Chlorine tablets are recommended before liquid shock as they are extremely stable and slow releasing. Or, you may prefer a non-chlorine oxidizer such as Spaboss Energize (or equivalent brand) which is pH neutral.
4. **Keep the total alkalinity between 80 and 120 ppm.**
5. **Keep pH between 7.2 -7.6.** Unlike chlorine, ions are pH neutral so they will not change the pH level of the water. But your choice of oxidizer or environmental factors may.
6. **Keep calcium hardness between 200 and 300 ppm.**
7. **Keep total dissolved solids (TDS) between 500 and 2,000 ppm.**
8. Ensure **phosphates** are at 100ppb or less by testing phosphates on an algae free pool (chlorine must be below 5ppm). If phosphates are above 100ppb use **PHOSfree** or similar product to remove the bulk of the phosphates. Once the phosphates are below 100ppb, maintain with **Pool Perfect+PHOSfree** or similar. If phosphate levels continue to rise, the following may be the cause: fertilizers, organics, metal sequestering products, scale products, or extreme rainfall. The above will cause phosphates to continue to rise above what **Pool Perfect+PHOSfree** can maintain. It is important to reduce/eliminate the source of the phosphates for **Pool Perfect+PHOSfree** to work properly. If possible, prevent runoff from gardens and lawns from entering the pool. Remove leaves from the pool regularly and promptly.
9. You may need to add a **clarifier or flocculent** if you see cloudy water or fine particles in the water which the filter cannot catch. With the pump turned off, the clarifier clumps fine particles together and causes them sink to the bottom. When the particles have settled on the bottom of the pool they are easily removed by vacuuming. This is not a dangerous chemical and it is used in small quantities. Please follow the directions on the product label.

- 10. Closing the pool.** Close your pool according to the instructions from your pool store or pool builder. If you use a closing kit, it may include a 'stain and scale' or other type of sequestering product. The purpose of this is to remove contaminants from the water that might cause staining to your pool surfaces. Sequestering products will also remove the ClearBlue minerals from the water so you will need to ramp them up again in the Spring. If you use a clean water source and are confident that there is no iron, manganese, or other contaminants in the water that might cause staining, you can skip the 'stain and scale' step of closing. There are two benefits to this. First, the minerals will keep fighting algae over the winter so your water will be cleaner in the spring. Second, it will not take as long to build up the copper to the recommended 0.2ppm to 0.4ppm so you will save the life of your mineral cell.

**Note: 'Stain and Scale' or other sequestering products conflict with ClearBlue.**

If you use a stain and scale or other sequestering product, it will remove the ClearBlue minerals from the water and neutralize new minerals for several weeks. Before adding a sequestering product, turn off the ClearBlue controller by unplugging it from the power source, or turning down the 'Ion/Action' setting to 00 to preserve the life of the electrodes. After three to five weeks, you can turn the controller back on. You will need to ramp up the copper level to 0.2ppm to 0.4ppm again using the method described above.

If you have a serious staining and scaling problem, it can also be treated at the point where the water enters the pool or spa using a metal trap filter. This filter can be attached to the garden hose and will provide better water quality for your pool or spa.

## CLEANING & CARE

**Mineral Cell Electrodes:** Some deposits may form on the electrodes depending on the water conditions. Clean the flat face of the electrodes using a smooth metal file and some water. The surface does not have to be polished; simply remove any traces of oxidization and other sediments. Remove the old Teflon tape, use new tape and wrap it around six to twelve times, or until the threads are completely covered.

**System Controller Exterior Housing:** The housing of the controller is made from a durable PVC plastic. Clean the outside with a mild soap and water; rinse and dry with a soft cloth. Do not use any type of household or abrasive cleaner.

**System Controller Panel:** Care should be taken in cleaning the controller panel. If the panel becomes soiled, wipe it with a cloth dampened slightly with water only. Dry with a soft cloth. Do not scrub or use any sort of chemical cleaners.

## WARRANTY

The ClearBlue Ionizer carries a five (5) year limited warranty to be free from all manufacturing defects. This warranty does not include replacement mineral cells, which are subject to normal wear and must be replaced periodically. You must obtain a Return Materials Authorization (RMA) number from Customer Service before returning a product. The device will be repaired or replaced within fifteen business days following a claim. This warranty is in effect starting the date of purchase and is only applicable to units with an unopened enclosure and a serial number that is in its original unaltered state. This warranty does not apply to the following incorrect operating procedures, breakage, or (transport/impact) damages caused by fault, abuse, misuse, carelessness, misapplication, alteration, modification, improper maintenance, over voltage of the unit as well as act of God, fire, chemical alteration or natural corrosion or any other casualty. This warranty does not apply to the spa or pool but solely to the components manufactured by ClearBlue Ionizer Inc.

### **SPECIFICATIONS**

Input Voltage: 120 or 240 Volts AC  
Input Frequency: 50 to 60 Hertz  
Output Voltage: 12 VDC  
Output Current: 2 AMP Max  
Outside Dimensions: 5" x 3" x 2.5"  
Controller: 0-99 variable settings  
Tee: Slip x Slip x 1 ½" FIP S40 PVC Tee  
Mineral Cell Size: 3" x ½" x 5/16" Each x (2) Bars  
Mineral Cell Weight: 8 ounces  
Typical Mineral Cell Life: 2,160 "on" hours  
Capacity: Max 2,500, 25,000 or 40,000 Gallons

### **REPLACEMENT PARTS & ACCESSORIES**

#### **Description / Part No**

Controller (120v or 240v) / A-400 (2,500 Gallon Max) or A-800 (25,000 Gallon Max) or A-850 (40,000 Gallon Max)  
Mineral Cell / A-750E  
Copper test kit / A-CUI  
Copper test kit liquid refills / A-CUI-R  
1 ½" PVC tee / PLA-85150  
2" PVC tee / PLA-85142

### **NEED HELP?**

REGISTRATION NO. 29954 PEST CONTROL PRODUCTS ACT

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