



**Roving Blue® O-Pen/Ozo-Pen®  
Users Manual**

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READ, FOLLOW AND SAVE THESE INSTRUCTIONS. **THERE ARE NO USER-SERVICEABLE PARTS.** EXPOSING PARTS IN THE PEN WILL VOID YOUR WARRANTY. INTERNAL PARTS SHOULD NOT BE EXPOSED OR TAMPERED WITH. DO NOT USE IN ANY OTHER MANNER THAN AS DESCRIBED IN THIS MANUAL.

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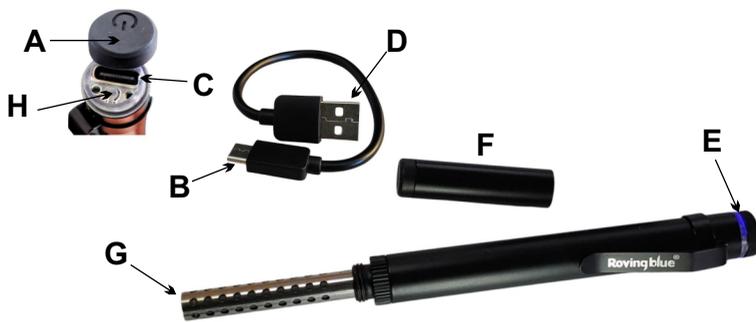
**Introduction:** This user guide is written to assist in the operation and maintenance of your unit. Please read this manual carefully and in its entirety before operating.

Failure to follow these instructions could result in personal injury, damage to the equipment or reduced product performance. In our ongoing effort to improve reliability and operating efficiency, Roving Blue®, Inc. may find it necessary to make changes to its products. The information contained in this guide may not conform in every respect to earlier versions. If you have any questions, please contact the Roving

**Intended Use:** Intended Use: The O-Pen® is designed to ensure safer drinking water from taps or other clear water sources such as rainwater or clear lakes or streams. It does this by infusing the water with high levels of ozone. Ozone is the most powerful oxidizer available that can be safely used in water treatment.\* Water that is visibly clouded with dirt, silt or algae should be allowed to settle and/or be filtered. The O-Pen® will render water containing tannins safe to drink. However, the tannins ("tea coloring") may remain

**Warranty reminder:** Please register your product to activate warranties. Go to [www.rovingblue.com/warranty](http://www.rovingblue.com/warranty), or call 855-492-8375 with the following information: name, address, date of purchase, and serial number of the pen. The serial number is engraved on the underside of the pen

\* Water Quality Association, "Ozone for POU, POE and Small Water System Water Treatment Applications," Lisle, IL 1999



**Use Instructions:**

- Make sure the unit is fully charged.
- Remove pen cap.(F)
- Submerge the tip (G) in a vessel that contains up to 16 oz or .473 L of clear water (the volume of a standard-sized water bottle). Avoid submerging the USB port end of the pen; it is not waterproof.
- Place the pen tip in the water so the stainless metal electrodes (G) are fully submerged.
- Press the ON/OFF button (H) on the end of the pen. HOLD FOR A FULL 3 SECONDS. An LED light will come on. The light indicates the charge state of the battery: Red = needs charging, Yellow = partially charged, Green = fully charged.
- When ready, push the ON/OFF button quickly one time to begin the run time. A BLUE LED light will shine. This is the ozone cycle. Constantly stir the pen in the vessel during the timed blue cycle. Each cycle lasts approximately 40 seconds. One dose is generally good for 8 oz (.236L) of water. Two doses are generally good for 16 oz (.473 L)
- Wait 3 minutes. To assist you, the pen flashes a YELLOW LED light for 3 minutes as the ozone disinfects the water. After the full 3 minutes, the light will change to GREEN, indicating the water is safe to use.

NOTE: If the water is dirty or contains silt, pour it into a receptacle such as a jerry can or bucket. Allow the water to settle prior to use, preferably overnight. It is not possible to "over-ozonate" water, so if the water is still suspect, repeat doses as many times as you wish for additional peace of mind. A good rule of thumb: When you smell ozone, the water reached its saturation point and is at a high level of ozone.

- Shut Down Procedures: Once you are done, remove the O-Pen® from the water and give it a shake to remove the excess water.
- Optional: Lay it out on a clean napkin or cloth to fully dry. Replace the cap and store the pen in its box. For more information and videos demonstrating these procedures, visit [www.rovingblue.com](http://www.rovingblue.com).

Treatment with ozone is a proven and long-accepted method for disinfecting drinking water. Users of ozone technology include municipal water treatment plants, water bottling companies, hospitals and hotels.

In 1997, the FDA approved the use of ozone as an antimicrobial agent with indirect contact with foods. In 2002, the FDA approved ozone for use on food contact areas and directly on food with its "Generally Regarded as Safe", or (GRAS) designation. Today, the Organic Foods Production Act (OFPA) identifies aqueous ozone (ozone dissolved in water) as a substance that is allowed for use in organic crop and livestock production.

Ozone has been shown to be effective in a variety of drinking water applications including: Disinfection, iron (Fe) and manganese (Mn) reduction, hydrogen sulfide removal and taste and odor reduction.

Ozone can also reduce formation of disinfection by-products such as trihalomethanes ("THMs") and halo acetic acids ("HAAs"). Ozonation can also be effective for removal of difficult to treat pathogens such as giardia and cryptosporidium. The amount of O3 generated by the O-Pen® will vary depending on water temperature, chemistry, conductivity and pH.

**Overview:** The Roving Blue® O-Pen® makes water safer to drink by using dissolved ozone as a sanitation agent. Ozone, or "O3", is the most powerful oxidizer available that can be safely used in water treatment. Ozone is a strong oxidant that is widely recognized as a biocide and has the ability to achieve more than 99.9% pathogen kill rates.

**Important — Before Your First Use:**

Your unit comes equipped with lithium-ion rechargeable batteries. Prior to its first use, fully charge the O-Pen®. Open the soft black dust cap (A) on the end of the pen by lifting gently and rotating it to the side. Plug the USB charger cord mini plug (B) into the plug port socket (C). Insert the USB plug (D) into any 5V USB power supply to charge. To show that the unit is charging, an LED light (E) will illuminate. The color of the light indicates the charge state. Red = charging, Yellow = partially charged, Green = fully charged. Charging will take 5 minutes to 3 hours depending on the charge state of the battery pack. When charging is complete, remove the power cord and replace the black cap by rotating it back into position.

Read the Use Instructions. If you have a water purification system such as an RO or reverse osmosis system, add a pinch of salt in the water for conductivity. Stir to dissolve. Surface waters or unfiltered tap water normally contain substances for the ozone to act upon, so no salt is needed.

You should operate your pen a minimum of 4 times. Use this time to acquaint yourself with the smell of ozone. Ozone has the fresh smell of the air after a thunderstorm. Smell is a great way to know that your pen is working properly, although some people have trouble smelling ozone.

Observe the electrodes in the water, and see how they produce a cloud of bubbles; that cloud is the ozone produced by the O-Pen. When the cycle is complete, the LED light will change to a flashing yellow light. This is a "caution" light that will flash for 3 minutes, to allow the ozone time to kill any micro-organisms in the water. You do not have to wait 3 minutes at this time. Go ahead and press the on/off button again, and allow it to run for another 40 seconds. Repeat one more time. This will ensure the electrodes are clean and clear of any dust from manufacturing, and the ozone generator will be fully primed for use. Dispose of the water. Your unit is now ready to be used.

**Caution:** The O-Pen® was designed for use with clear tap water, clear lake or stream water, or collected rainwater of unknown safety. Water with debris should be filtered through a cloth or coffee filter before treatment.

Place water in a treatment container, preferably clear plastic or glass, and examine the water carefully. Cloudiness in the water could indicate high bacteria levels. While ozone is highly effective at killing bacteria, the O-Pen® may not generate enough ozone to kill very high levels of bacteria. If in doubt, operate the pen repeatedly until there is a distinct smell of ozone. It is not possible to "over-ozonate" water. However, you can under-dose it. If you cannot smell ozone, the ozone probably is being used up by contaminants in the water. You may need to operate O-Pen® many times until you smell the ozone.

Be Aware: Infectious microbes can be encountered in many ways. Infectious diseases can be spread through:

- Foods washed in unsafe water
- Contact with infected people, animals or objects
- Unintentional water consumption, such as when brushing teeth, showering or swimming

Opportunities for infection are abundant and virtually everywhere. To avoid microbial infection, one must take all necessary precautions. Use of a Roving Blue® O-Pen® is an important precaution, but not the only precaution. The Blue® O-Pen® device does not guarantee that the user will avoid illness.

**Ongoing Care, Cleaning and Storage:** When not in use, the O-Pen® should be charged and kept in its box. If you use the O-Pen® only once or twice a year, charge it at 6-month intervals. Failure to do so will void your warranty! O-Pen® should not be exposed to temperatures above 140°F/60°C or below -4°F/-20°C. Store O-Pen® in its box with the black dust cover in place. To clean the unit, wash it with a soft cloth and mild soap solution. Rinse, shake dry, and lay out to dry completely. Replace cap and store.

**Periodic Maintenance:** Water often contains minerals such as calcium carbonate. Like the residue in a coffee maker, minerals will slowly accumulate on the electrodes. This will cause the electrolysis process to slow down. When the production of the ozone appears weak, clean the electrodes as follows:

- Prepare a solution of tap water and regular kitchen vinegar at a ratio of 5 parts water to 1 part vinegar. Alternative: use the cleaner "CLR", follow the dilution instructions for coffee makers
- Dip the ozone electrode into this solution for 10 minutes. Do NOT apply power.
- Stir a few times and remove from solution. Rinse the tip in cool tap water. After cleaning the electrodes, normal production will resume. Note: Heavy deposits may require several treatments.

If you follow these instructions, your O-Pen® will provide years of service. Enjoy your new O-Pen, and welcome to the world of safer water!

**Customer Loyalty Program:**

If you love your O-Pen®, please consider leaving us a review. Google: "Roving Blue Reviews" and add yours! If you desire to purchase another product for a friend or family member, contact us for a special discount. We also have rewards for those who send us photos of you using your O-Pen around the world, so please send them to [info@rovingblue.com](mailto:info@rovingblue.com). Active on Social Media? Post about your experience on Facebook, Twitter, Instagram or Youtube with #RovingBlue, @Rovingblue and consider joining us as a social media ambassador!