

Ozone Systems

Installation & Operation Manual Vacuum Break



ClearWater Tech, LLC.
Integrated Ozone Systems

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Theory of Operation/Product Description

The ClearWater Tech vacuum break was developed for use with the entire line of ClearWater Tech corona discharge ozone generators. It need not be utilized with ClearWater Tech ultraviolet ozone generators. This simple and effective device provides a positive atmospheric “break” between the ozone injector manifold and the ozone generator, preventing water from flowing back into the ozone generator should the venturi check valve fail.

Under normal operating conditions, the vacuum break’s flapper valve (see illustration) is closed, allowing the vacuum created by the venturi to draw the output gas from the ozone generator. If the check valve at the venturi begins to leak or fails completely, vacuum is interrupted and water will flow toward the ozone generator. With the vacuum break properly installed between the venturi and the ozone generator, the water will flow down the riser tube (away from the ozone generator) and out the drain port, protecting the ozone generator from potential water damage.

Installation Steps

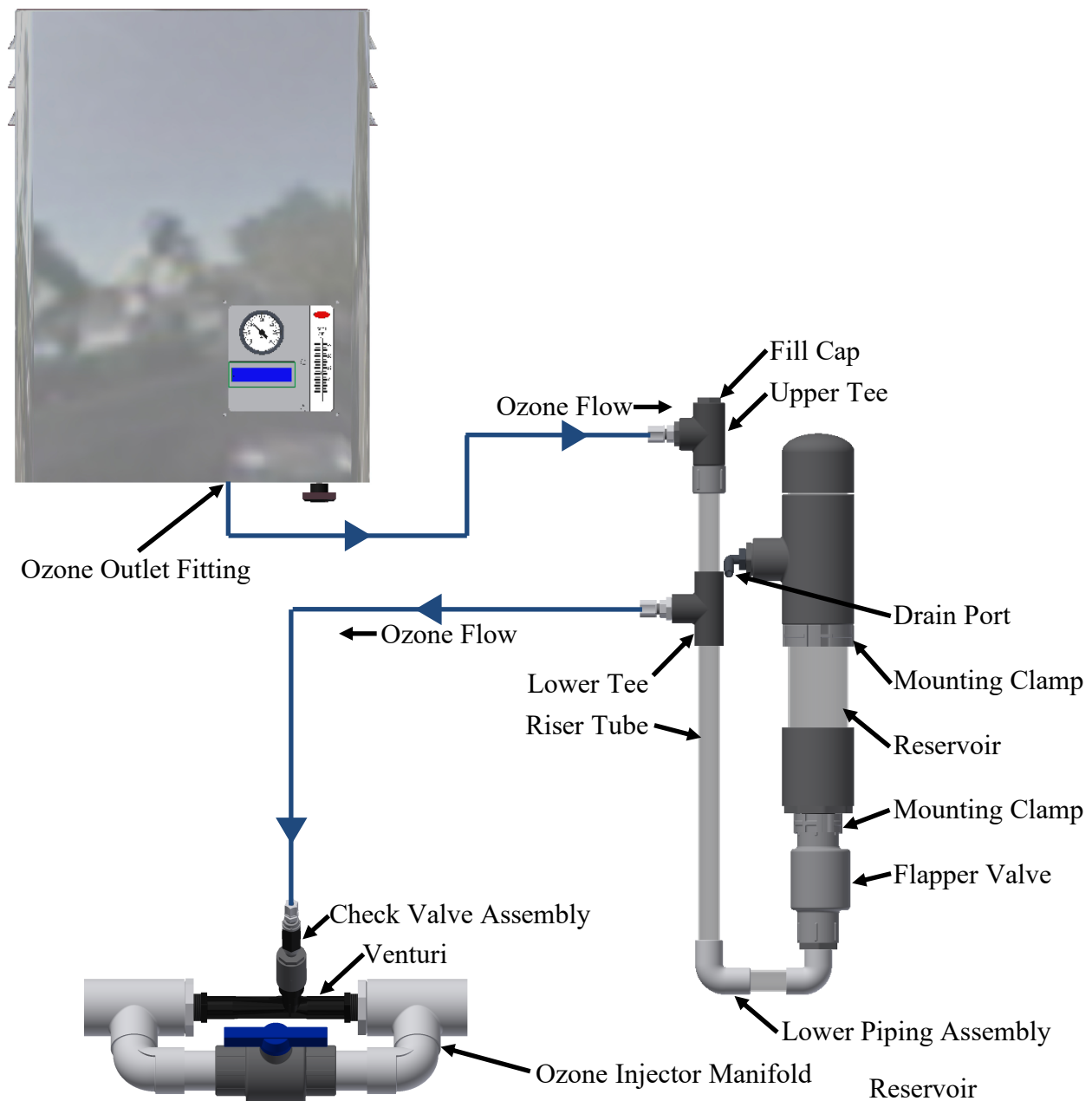
1. Remove the vacuum break and associated parts from the shipping carton.
2. To mount the vacuum break, select a suitable vertical surface that is accessible and in close proximity to both the ozone generator and the ozone injector manifold.
3. Install the two Clic® mounting clamps provided onto the vertical surface so that the vacuum break is in a vertical position and the Drain Port is *below* the level of the ozone generator’s ozone outlet fitting(s). One clamp should be located so it fits around the Riser Tube Elbow, and the other so it fits around the bottom of the Lower Tee (see illustration).
4. Remove the Fill Port Cap located on top of the Riser Tube and fill the Riser Tube with clean water (no particulate matter) until water begins to flow into the Reservoir.
5. Re-install the Fill Port Cap, using pliers or a wrench to tighten. Note: Do not over- tighten as damage to PVC fittings may occur.
6. Connect one end of a suitable length of Teflon® ozone delivery line to the ozone generator’s ozone outlet fitting. Attach the other end of the delivery line to the fitting threaded into the Upper Tee. As an additional backflow prevention measure, loop this length of tubing as high as is practical between the two connection points.
7. Connect one end of a second length of Teflon® ozone delivery line to the fitting threaded into the Lower Tee. Attach the other end of the delivery line to the fitting located on top of the check valve assembly.
8. If necessary, attach one end of a suitable length of 3/4” braided vinyl tubing (not included) to the barbed fitting on the Drain Port. For safety considerations and/or to prevent potential damage to other equipment in the area, direct the other end of tubing to suitable waste.

NOTE: THE DRAIN PORT IS A SAFETY FEATURE, THE DRAIN ON THE VACUUM BREAK SHOULD NOT BE RESTRICTED IN ANY WAY. IF THE CHECK VALVE FAILS AND WATER CAN NOT EASILY FLOW OUT OF THE DRAIN, WATER COULD BACK UP INTO THE OZONE GENERATOR CAUSING DAMAGE.

9. Adjust the vacuum level and air flow rate according to the specifications outlined in the ozone generator’s Installation and Maintenance Manual.

NOTE: Due to evaporation, the water level in the vacuum break may drop. If water is not pressing downward on the flapper valve, the valve will open, causing a loss of vacuum. This will prevent air from flowing through the ozone generator, which may in turn (and depending on the model) shut down the ozone generator. Make sure the water level never drops below the flapper valve.

Vacuum Break Detail



Shown: ClearWater Tech CD30nx Ozone Generator, VJB157 Vacuum Break, and IM240 Injector Manifold

Maintenance

- Clean unit at least once a year or if debris is present.
- If bubbles are drawn from the “Reservoir” to the “Bottom Piping Assembly”, the check valve may need to be cleaned.
- Monitor water level periodically, add water if no water is present in the Reservoir.

Warranty Information

ClearWater Tech, LLC. Limited One-Year Warranty

Summary of the Warranty

ClearWater Tech, LLC ("CWT") makes every effort to assure that its products meet high quality and durability standards and warrants the products it manufactures against defects in materials and workmanship for a period of one (1) year, commencing on the date of original shipment from CWT, with the following exceptions: 1) The warranty period shall begin on the installation date if the installation is performed within 90 days of the original shipment from CWT; 2) The warranty period shall begin on the date of the bill of sale to the end user if the installation date is more than 90 days after the original shipment date. To validate the warranty, a warranty card, accompanied by a copy of the bill of sale, must be returned to CWT and must include the following information:

- End user name
- Complete address, including telephone number
- Date installed
- Complete model and serial number information
- Name of company from which the unit was purchased

Repairs and replacement parts provided under this warranty shall carry only the unexpired portion of this warranty or 90 days, whichever is longer.

Items Excluded from the Warranty

This warranty does not extend to any product and/or part from which the factory assigned serial number has been removed or which has been damaged or rendered defective as a result of:

- An accident, misuse, alteration or abuse
- An act of God such as flood, earthquake, hurricane, lightning or other disaster resulting only from the forces of nature
- Normal wear and tear
- Operation outside the usage parameters stated in the product user's manual
- Use of parts not sold by CWT
- Service or unit modification not authorized by CWT
- Check valve/solenoid valve failure
- Damage which may occur during shipping
- Failure to meet service requirements as outlined in the I & O manual
- Overtightening Fittings
- Clear PVC becoming cloudy due to UV and/or ozone exposure

Obtaining Service Under the Warranty

Any product and/or part not performing satisfactorily may be returned to CWT for evaluation. A Return Goods Authorization (RGA) number must first be obtained by either calling or writing your local authorized dealer, distributor or CWT direct, prior to shipping the product. The problem experienced with the product and/or part must be clearly described. The RGA number must appear prominently on the exterior of the shipped box(es). The product and/or part must be packaged either in its original packing material or in comparable and suitable packing material, if the original is not available. You are responsible for paying shipping charges to CWT and for any damages to the product and/or part that may occur during shipment. It is recommended that you insure the shipment for the amount you originally paid for the product and/or part.

If, after the product and/or part is returned prepaid and evaluated by CWT, it proves to be defective while under warranty, CWT will, at its election, either repair or replace the defective product and/or part and will return ship at lowest cost transportation prepaid to you except for shipments going outside the 50 states of the United States of America. If upon inspection, it is determined that there is no defect or that the damage to the product and/or part resulted from causes not within the scope of this limited warranty, then you must bear the cost of repair or replacement of damaged product and/or part and all return freight charges. Any unauthorized attempt by the end user to repair CWT manufactured products without prior permission shall void any and all warranties. For service, contact your authorized dealer or distributor or CWT direct at (805) 549-9724.

Exclusive Warranty

There is no other expressed warranty on CWT products and/or parts. Neither this warranty, nor any other warranty, expressed or implied, including any implied warranties or merchantability of fitness, shall extend beyond the warranty period. Some states do not allow limitation on how long an implied warranty lasts, so that the above limitation or exclusion may not apply to you.

Disclaimer of Incidental and Consequential Damages

No responsibility is assumed for any incidental or consequential damages; this includes any damage to another product or products resulting from such a defect. Some states do not allow the exclusion or limitation of incidental or consequential damages, so that above limitation or exclusion may not apply to you.

Legal Remedies of Purchaser

This warranty gives you specific legal rights and you may also have other rights, which vary from state to state.

THIS STATEMENT OF WARRANTY SUPERSEDES ALL OTHERS PROVIDED TO YOU AT ANY PRIOR TIME.

