Ozone Generator

Complete Kit Instructions

Installation, Programming, and Maintenance Instructions for the O3Zone Generator

Table of Contents

OZONE GENERATOR KIT

Model No. OZ1-A-WR

The Ozone Generator Kit is an optional system designed exclusively for use on air filtration units. The generator, when installed and operated correctly, will assist in keeping your filtration unit and media clean and functional without harmful chemical byproducts. The generator works automatically during regeneration periods and requires very little maintenance.

How it Works:

During regeneration, air filters recharge the top portion of the media tank with air. This recharged air oxidizes contaminants in the water, allowing them to be filtered out through the media below.

The Ozone Generator activates during the air-draw cycle of regeneration. As air is being drawn into the tank, it passes through an electrical field created by the ozone generator which converts normal oxygen (O_2) to ozone (O_3).The generated ozone is then drawn into the tank which helps clean the unit of nuisance, slime producing bacteria. The ozone generator will automatically turn itself off after regeneration.

While producing ozone, the unit will measure and record the electrical amperage consumed by the generator itself. The alarm feature, if turned on (default is off), will enter into alarm status if a low amperage situation occurs for three consecutive regenerations. This will be indicated by an alarm and the control valve will read “Service Ozone.” This indicates the ozone generator is not operating correctly and may need to be adjusted (See page 9 for more information on maintenance and troubleshooting).

Applications:

The Ozone Generator kit is compatible with filtration units using the following medias:

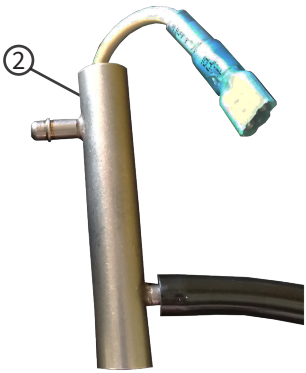
- Turbidex
- Catalytic Carbon
- Greensand Plus
- GST/Calcite

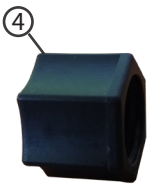
Warning: Do not install kit on an air filtration system that utilizes Birm.

Parts:

Prior to installation, confirm that the parts below are included with the kit. Some components may arrive pre-installed. For replacement parts, contact Customer Service at 1-800-777-1426.

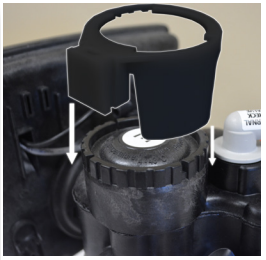
Item #	Legacy Part #	Current Part #	Description	Qty
1	OZ1-A-WR	100249923	Ozone Kit Assembly with Replacement Board	1
1	OZ1-A-99	100349795	Ozone Kit Assembly with No Replacement Board	1
1	OZ1-CASE	100174201	Enclosure Top, Bottom, and Clip	1
2	OZ33217-WRP3	100343535	Replacement Cell	1
3	CH4642-WR-A	100243963	Air Draw Elbow/Check Valve	1
4	CJCPG-6PBLK	100245902	3/8” Compression Nut	1
5	CJCP-P-4	100245904	1/4” Polypropylene Insert	1





Installation Instructions

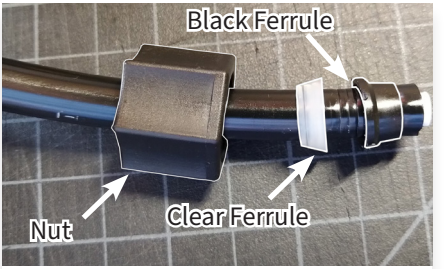
Prior to installing the ozone generator, ensure that you have all of the required parts listed on page 1. Some parts, such as the mounting clip, may have been factory assembled or pre-installed. No tools are required to install the ozone generator or any of its components.



step 1: Position mounting clip over the injector cap and press down until the clip clicks into place over the cap. Ensure that the sliding bracket on the clip is facing away from the controller body.

NOTE: Pull up on the large tab to unlock and remove the clip from the injector cap.

step 2: Mount ozone generator box by sliding it onto the mounting clip.



step 3: Install nut, clear ferrule, and black ferrule on the tube connected to the generator box.

NOTE: Parts must be installed on the tube in the orientation shown above. Removing stiffener from end of tube may aid in installation of ferrules. Be sure to re-install stiffener on the end of tube when finished.

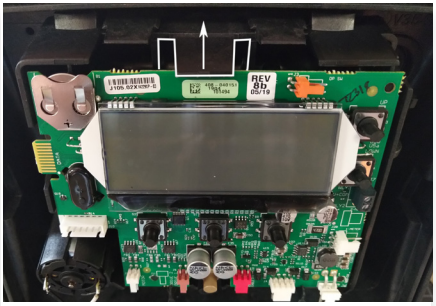
step 4: Remove and set aside the existing air-draw elbow by pulling out the red clip and lifting up on the elbow.

step 5: Install the new air-draw elbow by pushing it down into the port and inserting the red clip until it clicks.

Installation Instructions

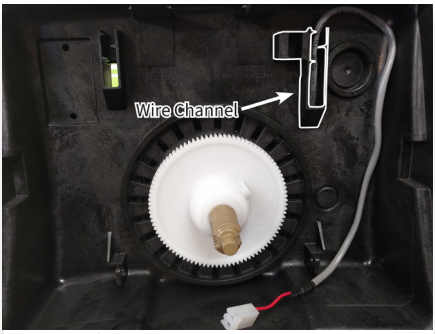
step 6: Insert the tube connected to the ozone generator into the air-draw elbow. Hand-tighten the nut onto the

step 7: Unplug the unit from power supply (on already installed units) and remove the front cover from the backplate.



step 8: Disconnect all connections to controller board. Take note of which connections were removed. Remove the board from the backplate by lifting up slightly on the upper tab, tilting the top of the board down, and pulling up and away from the bottom plastic connectors.

step 9: Remove board bracket from the backplate. Lift up on the two upper clips and pull bracket down and away from the backplate to remove.

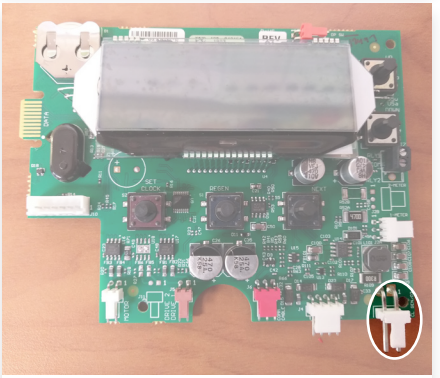


step 10: Route the 2-pin connection cable attached to the ozone generator through the hole in the backplate of the valve and through the channel above to keep wiring in place.

NOTE: Ensure that there is enough wire length inside the backplate body to reach the 2-pin connection at the bottom of the board. Keep wire fitted snugly into the channel or bracket will not be able to click back into place.

Installation Instructions

step 11: Replace the board bracket into the backplate until it snaps into place. If the generator kit came with a new board, install it into the board bracket, making sure it clicks into place. If no new board is supplied, reinstall the previously removed board.



step 12: Re-connect the board connections. Plug the 2-pin ozone connector into the designated receiver.

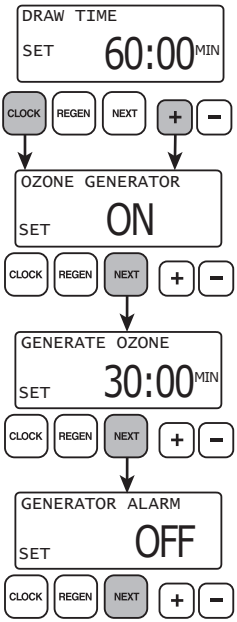
step 13: Re-install the front valve cover to the backplate. Plug the control valve transformer into a 110-volt power supply. Continue to programming procedures on the following pages.

Programming Procedures

Once the ozone generator has been properly installed, it must be turned on and programmed in the controller's settings prior to operation. Settings for ozone generators take place in the Service/OEM Filtering level of programming.

To access the Service/OEM Filtering level, the control valve must first be unlocked. Controllers are factory set in the locked position to avoid any unwanted access to programming parameters. To unlock the controller, press –, NEXT, +, and CLOCK in order. The screen will read "UNLOCK" if the sequence is inputted correctly from a general operating screen. Following the programming procedures below, re-lock the controller by inputting the same sequence.

Once unlocked, press and hold the NEXT and – buttons simultaneously for three seconds to access the Service/OEM Filtering screens below. Press NEXT to advance to the "Draw Time" screen.



On the "DRAW TIME" screen, press and hold the CLOCK and + buttons simultaneously for three seconds to access Ozone Generator Settings.

Use the + or – buttons to select "ON." This turns the Ozone Generator on.

Adjust the time to determine how long the ozone generator will run. The default is 30 minutes.

Use the + or – buttons to turn alarm "ON" or "OFF." When "ON," a "SERVICE OZONE" message will display when failure is detected.

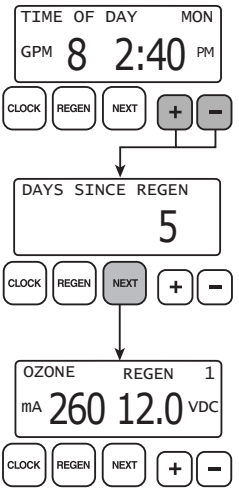
Maintenance Instructions

For optimal performance, it is necessary to perform yearly maintenance on the filter and ozone generator in use by replacing the ozone check valve and injector. Failure of the check valve may result in water flowing to the ozone generator. This may, in turn, result in the failure of the generator and cause water damage to the surrounding area.

When three consecutive regenerations occur where the recorded amperage of the generator is below 200mA or above 400mA, the generator will signal an alarm and will require maintenance. Follow the instructions below to determine the cause behind an Ozone Generator alarm.

1. Check Ozone History

When on and functioning correctly, the valve controller records a snapshot of the voltage and amperage of the ozone generator for the past 50 regenerations. It is important to check these statistics to determine how the generator was performing prior to the alarm being triggered. These stats can be accessed via the first-level history area of the controller programming. To access it:



1. From a general operating screen, press and hold the + and – buttons simultaneously for three seconds.

2. Once the screen changes, press NEXT until the Ozone Generator history screen displays.

NOTE: If the Ozone Generator History screen does not display, ensure that the ozone generator has been turned on in the programming.

3. Use the + or – buttons to view ozone generator performance during the last 50 regenerations. A regen sequence indicator (A) will alternate being viewed with "mA" if the Alternate Regen Feature was active for this regen. Regens with multiple regenerate draws will only record the first one in the sequence. Values displayed are determined immediately after a low output current is detected, or will be the average values measured during generator period of operation.

AAA = Generator current draw in mA
VVV = Generator voltage in VDC

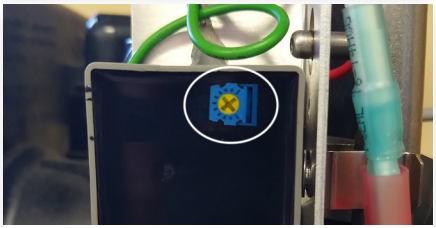
The normal operating amperage should be between 220mA and 260mA. The normal operating voltage should be between 12.0 and 12.1. When viewing the generator history, be aware of these values and note any anomalies.

Maintenance Instructions

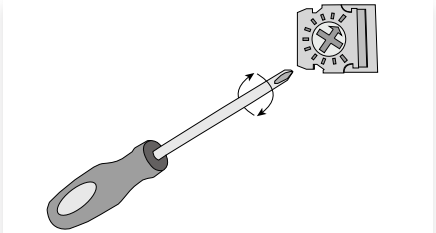
2. Adjust the Potentiometer

If the recorded amperage or voltage is outside of normal levels, the potentiometer may need to be adjusted. This dial is accessible on the back of the ozone generator unit once removed from its enclosure and can be adjusted using a screwdriver. To access and adjust, follow the steps below.

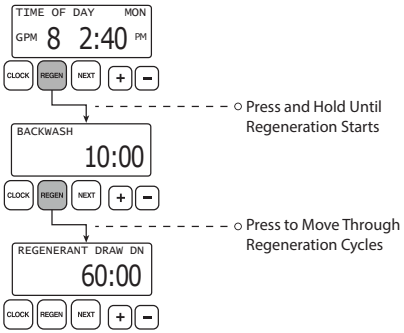
step 1: Remove the cover of the ozone generator enclosure.



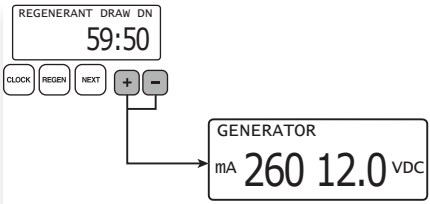
step 2: Locate the Potentiometer on the back of the generator internals.



step 3: Using a screwdriver, turn the potentiometer dial fully clockwise. The potentiometer dial controls the amount of amperage being supplied from the board to the generator. Turning it fully clockwise will supply the lowest amperage to the generator.

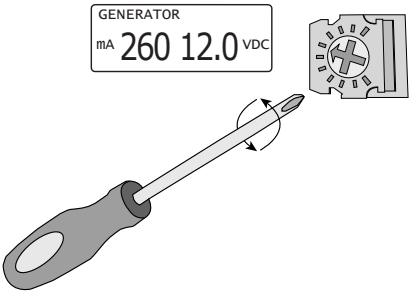


step 4: On the controller, press and hold the REGEN button until a manual regeneration is initiated. Press the REGEN button to cycle through regeneration steps until the Regenerant Draw Down (Air-Draw) step is reached.



step 5: Wait on the “Regenerant Draw Down” Screen for ten seconds. Press and hold the Up and Down buttons for three seconds to reach the “ozone generator live-view” screen.

Maintenance Instructions



step 6: The live-view screen provides a live reading of the amperage and voltage being supplied to the generator. The ozone generator should read between 220mA-260mA and 12.0VDC-12.1VDC. Using a screwdriver, gently turn the potentiometer dial counter-clockwise. Note the increase in amperage as you do so. Continue to turn the dial until the amperage is within the 220mA-260mA range. Confirm that the voltage reading is either 12.0 or 12.1.

Turning the dial too far in the counter-clockwise position can force the generator to shut down (399mA or over). If this occurs, the controller screen will appear "frozen". Press and hold the NEXT and REGEN buttons for three seconds to reboot the board. Once the controller reboots, return to STEP 3 and continue.

step 7: Once the amperage and voltage are within acceptable ranges, press the NEXT button on the controller to exit the live-view. Replace the enclosure cover.

If successful, the unit will resume normal operation and the alarm will cease.

If moisture is suspected to have affected the cell, such as with a check valve failure or the result of environmental conditions, leave the cell to dry by resuming normal operation. In some cases, the electrical current running through the cell can dry it, restoring it to its normal functionality.

If the alarm continues after three consecutive regenerations, it is advised to replace the cell.

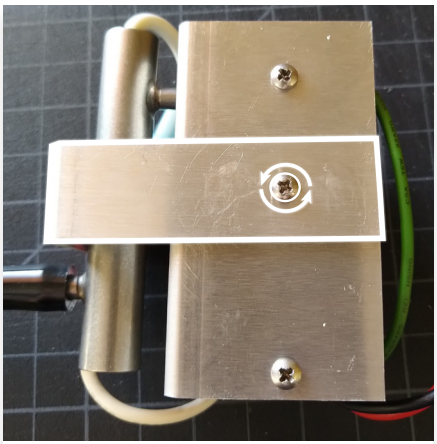
Maintenance Instructions

3. Replace the Cell

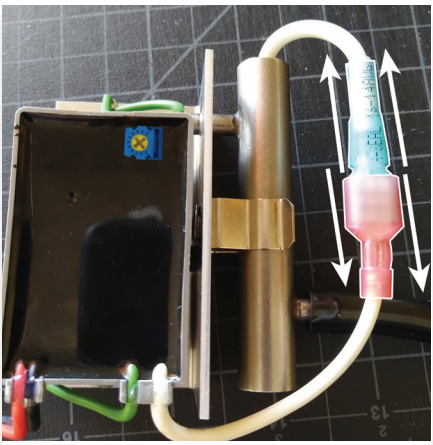
Over time, the ozone generator cell will become clogged with debris, will lose its generating capabilities, and will require replacement. If adjusting the potentiometer does not solve an ozone alarm issue, replacing the cell is necessary.

step 1: Disconnect the unit from power by unplugging the 110V transformer from its power supply.

step 2: Remove the cover of the ozone generator enclosure.



step 3: Remove the ozone generator internal components from the enclosure. Flip internals over to reveal a screw on the back. Using a screwdriver, remove and set aside the screw and the cell clip.



step 4: Detach the current ozone cell from the generator by pulling connectors apart and removing it from the cell clip by pulling away from the generator.

step 5: Attach new cell to the wire connectors and insert it into the clip. Re-attach the cell clip and replace the enclosure cap.

step 6: Reconnect the 110V transformer to its power supply.

Maintenance Instructions

4. Replace the Ozone Check Valve and Injector

Replacement of the check valve and the injector is required yearly for optimal performance of the ozone generator and filter. This yearly maintenance also prevents check-valve related failure, which can cause significant water damage to the filtration unit and the area surrounding it.

step 1: Using a service wrench, loosen and remove the injector cap.

step 2: Pull out and dispose of the existing injector. Install the replacement.

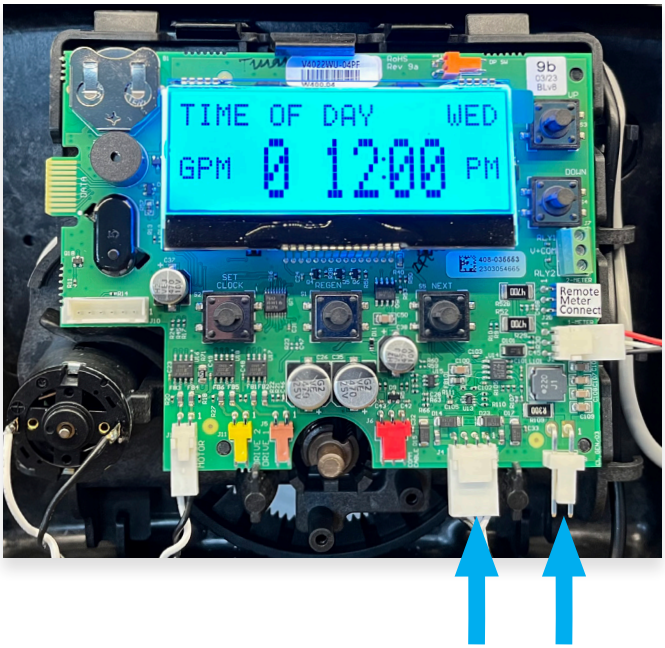
step 3: Loosen the nut and remove the hose connected to the existing air-check elbow.

step 4: Remove the red clip and pull upwards on the air-check elbow to remove it. Install the new air-check elbow by pushing it down into the port and inserting the red clip until it clicks.

Board Compatibility

The Ozone Generator Kit is compatible with boards that have a smaller 4-pin power connector and an ozone port to the right of the power connector.

If your board does not have the two connection ports required to support an ozone generator, please contact Customer Service for an upgrade at 1-800-777-1426.



4-pin power connector (left)

O3 connector (right)

Maintenance Log

Date	Generator Cell	Check Valve/Air Draw Elbow	Injector
	☐	☐	☐
	☐	☐	☐
	☐	☐	☐
	☐	☐	☐
	☐	☐	☐
	☐	☐	☐
	☐	☐	☐
	☐	☐	☐