NELSEN™
WATER SOLUTIONS
Signature Series
AIO® Control Flow

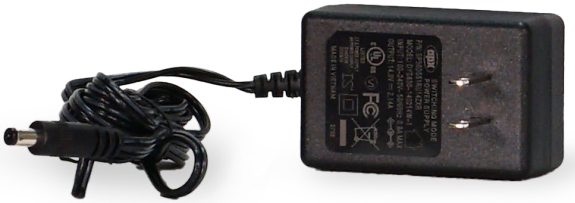
AIO_3 Systems

with Enhanced Oxidation Generator



OZOTECH
Applied Ozone Technologies











AIO with CONTROL FLOW TECHNOLOGY™
by NELSEN CORPORATION

AIO_3 Ozone Installation & Programming Guide

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Enhanced Oxidation Generator(EOG) Models

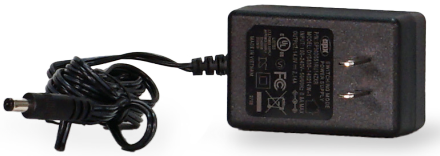
Nelsen EOG

AIO3-OZONE-NELSEN (Installed on system)

AIO3-OZONE-NELSEN-FIELD-KIT (Dealer install kit)

Includes integrated power supply jack and integrated power supply cord.





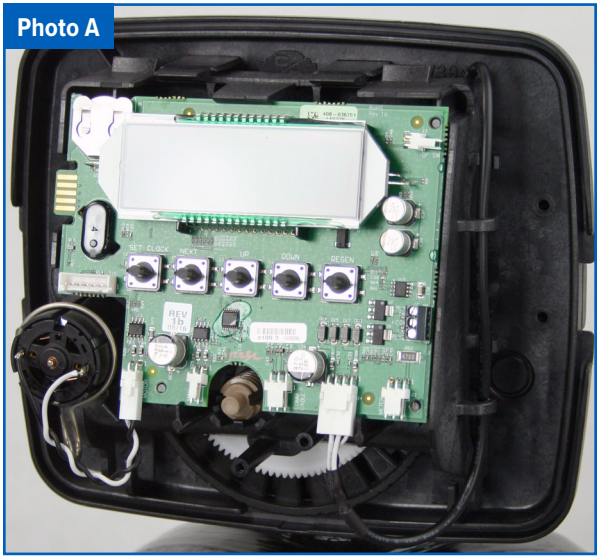
Enhanced Oxidation Generator
Power Supply Cord

Installation of EOG Unit (For Dealer Install Kits)

Step 1: Unplug the power supply for the control valve from the wall outlet.

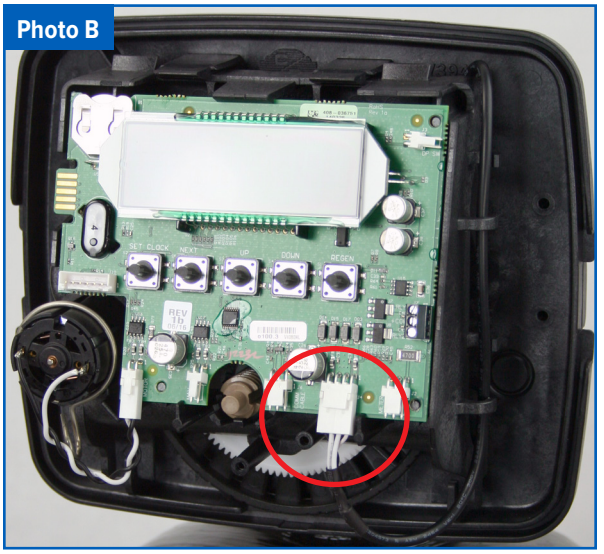
Step 2: Remove the cover from the control valve, Photo A.

Photo A



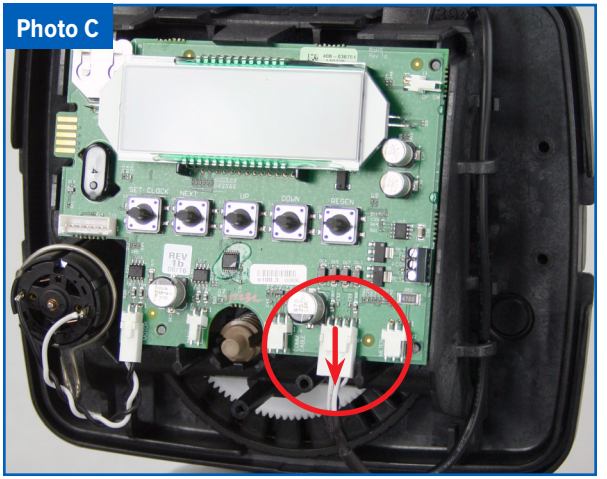
Step 3: If not using the integrated power supply, leave the power supply connected to the control board, Photo B. Move to Step 6

Photo B



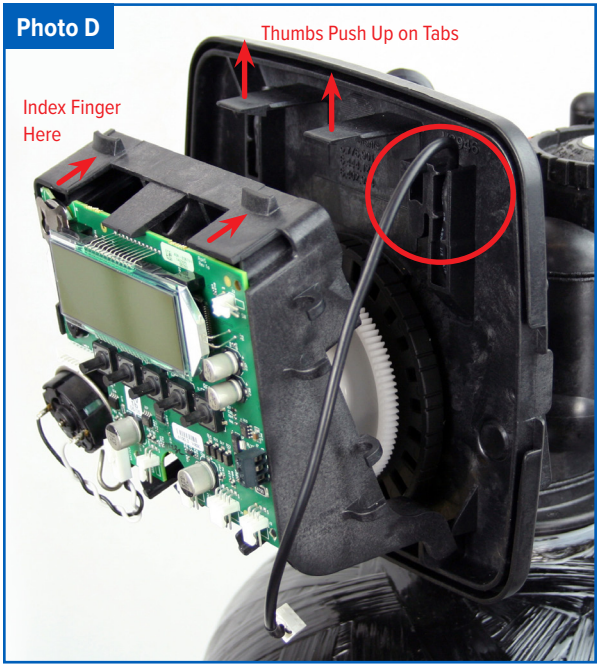
Step 4: Disconnect the power supply from the control board.
Photo C.

Photo C



Step 5: Unsnap the top of the drive bracket using your thumbs and index fingers to expose the backplate. Remove the power supply by pulling it through the back of the backplate, Photo D.

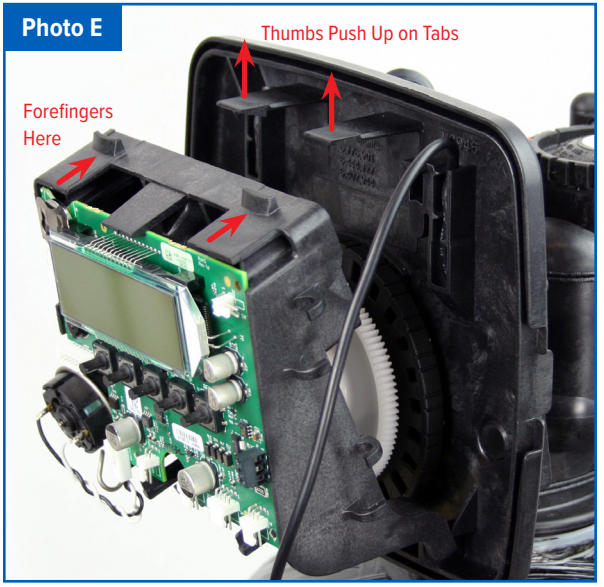
Photo D



Installation of EOG Unit continued

Step 6: If you have not already done so. Unsnap the top of the drive bracket using your thumbs and forefingers to expose the backplate. Photo E.

Photo E



Step 7: Remove the Domed Screen from the Brine Fitting and remove the Brine Fitting from the Control Valve. Remove the white Check Valve from the Brine Fitting and install the Black Ozone Compatible Check Valve in the fitting as shown and replace Brine Fitting, Photos F, G & H.

Photo F

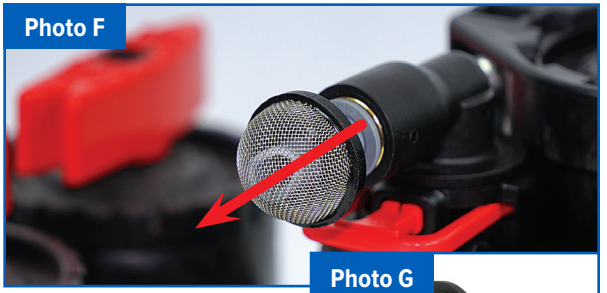


Photo G



Photo H



Step 8: Install the EOG brackets, Photo I, to the control valve, Photos J & K and tighten the screw to secure bracket in place.

Photo I

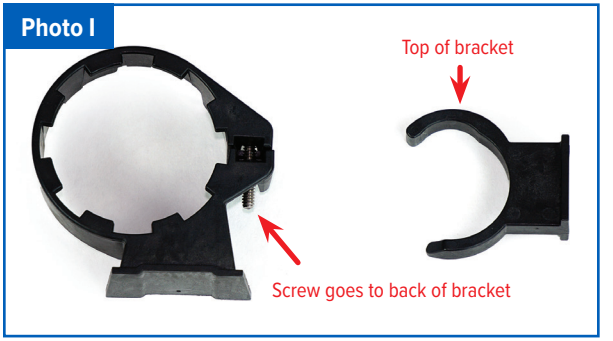


Photo J

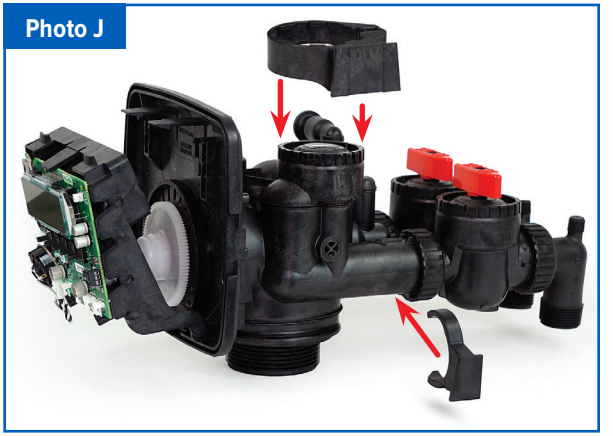
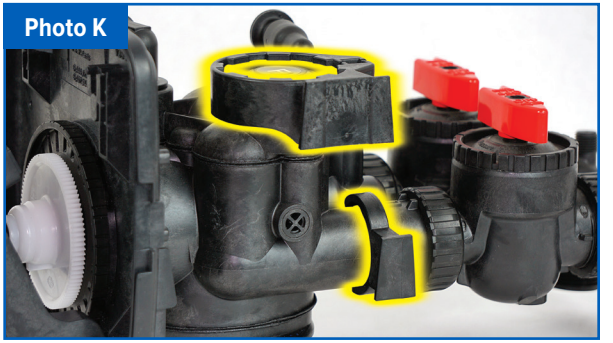


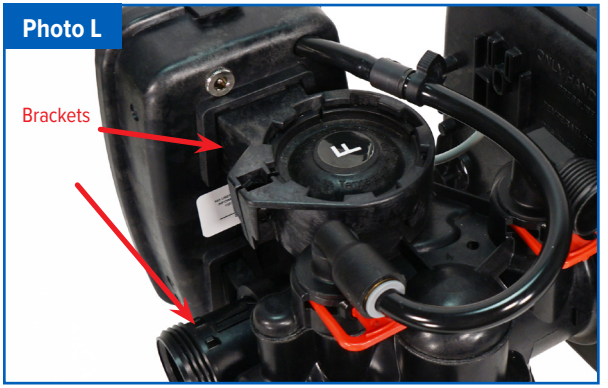
Photo K



Installation of EOG Unit continued

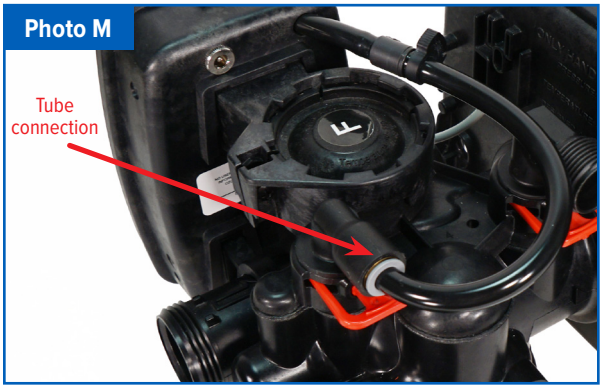
Step 9: Side the EOG unit onto the brackets Photo L.

Photo L



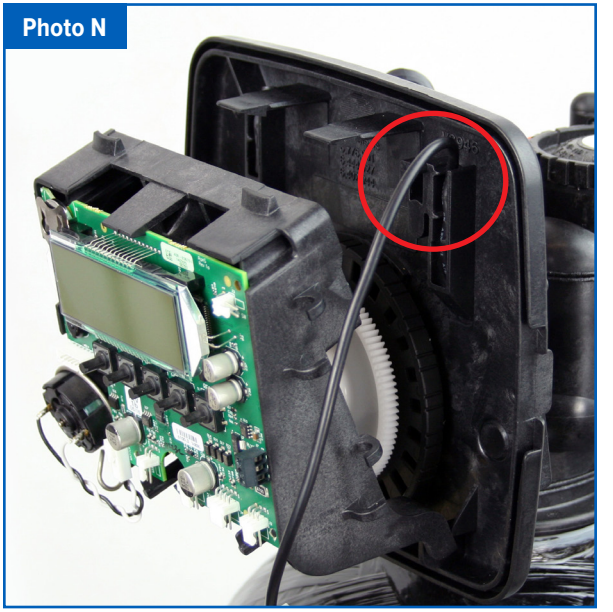
Step 10: Attach the tubing to connection where inlet screen and short gray tube were removed, Photo M.

Photo M



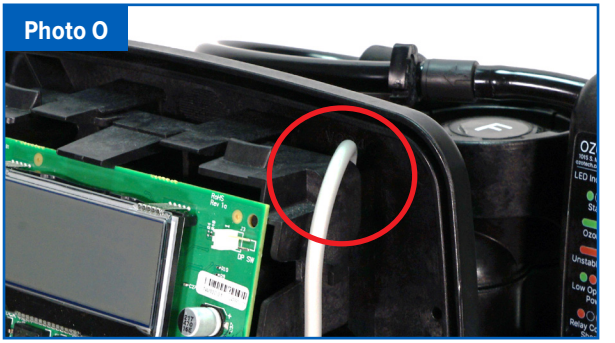
Step 11: Replace the integrated power cord and EOG wire by feeding it through the backplate where original power supply ran, Photo N.

Photo N



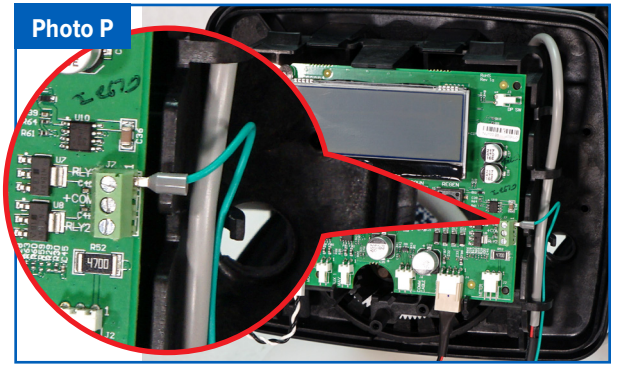
Step 12: Route the gray EOG wire through the hole along with the power supply as shown in Photo O.

Photo O

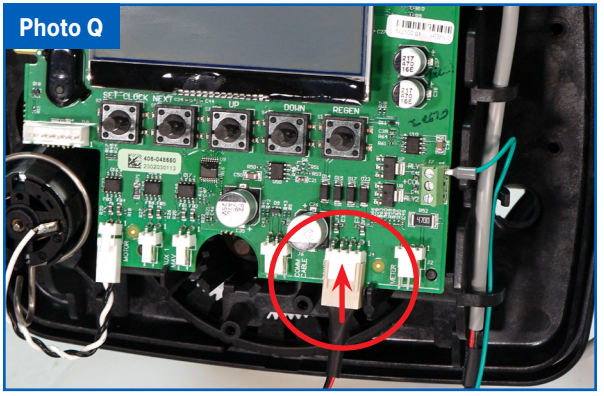


Installation of EOG Unit continued

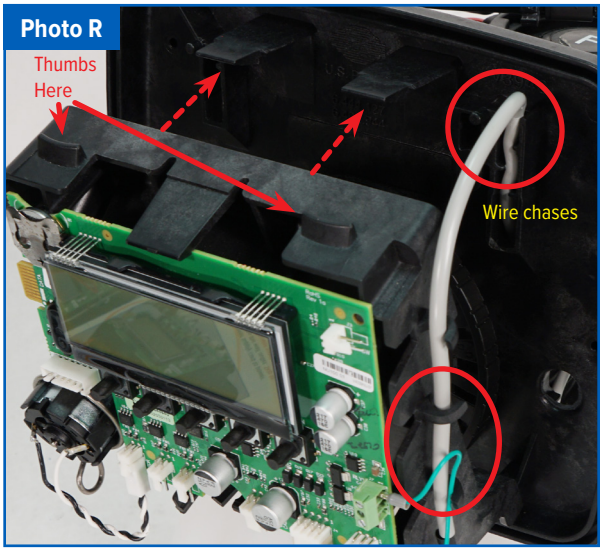
Step 13: Make sure the EOG unit is not plugged in, connect the EOG unit's wire lead to Relay 1 on the control valve. The black wire connects to COM and the red wire connects to RLY1. See Photo P inset.



Step 14: Connect power supply to the control board if not already connected.
Photo Q.



Step 15: Both the gray wire and power supply must fit into the wire chases. Snap the bracket back into place. (Do Not Press on Control Board, use the bracket to snap into place.) Photo R.



Step 16: Connect the EOG power supply cord to power supply jack and plug the EOG into the wall outlet. Skip to Step 17 if using optional integrated power supply cord.



Installation of EOG Unit continued

Step 17: Using the integrated power supply cord connect the control valve power supply cord to the power supply jack. Plug in the EOG to the wall outlet.

Once you power either system, the pulsing green LED may turn to pulsing orange. Pressing the reset button will reset it to pulsing green.

Nelsen EOG Model



At this point installation of your Enhanced Oxidation Generator is complete. Continue to page 8 for programming instructions.

EOG Unit Indicator Light - Photo 1

Green Light Blinking Slowly - Standby mode

Green Light Blinking Quickly - High voltage startup

Green Light Solid - High voltage is ON & stable; CD cell producing ozone. Red light will blink once a minute indicating unit is recalibrating

Red Light Solid - Unstable high voltage; CD cell may need cleaned

Green/Red Light Alternating Twice/Second - HV is ON, but current is low

Red Light Flashing - NO or NC contacts are shorted

Orange Light - 1 year timer has expired; clean CD cell, then push reset button to reset timer **Photo 2.**

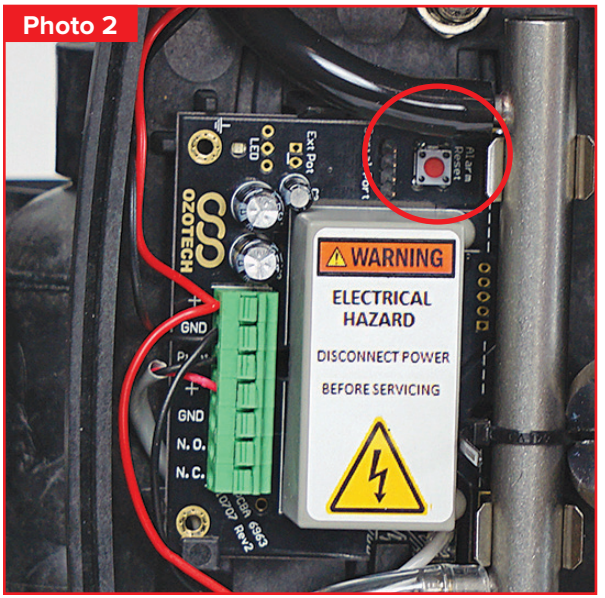
Note: Holding reset for 3 seconds will change pulsing green LED to solid green if the cell is in good operating order. If LED changes to solid red, the cell needs cleaned.

Flashing Green/Red means that the circuit is looking for an optimum frequency to operate within. It is still making ozone in the mode and will eventually go to solid green or red.

Photo 1

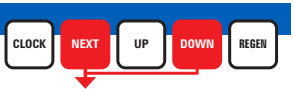


Photo 2



AIO Controller - Ozone Programing Settings

Step 1



Press **NEXT** and release.

Press **NEXT** and **DOWN** simultaneously and hold for 5 seconds and release. If the screen in **Step 2** does not appear, the lock on the valve is activated.

To unlock, press **DOWN**, **NEXT**, **UP** and **CLOCK** in sequence, then press **NEXT** and **DOWN** simultaneously for 5 seconds and release. Press **NEXT** and **DOWN** simultaneously for 5 seconds and release.

Use **UP** or **DOWN** to select

Step 2

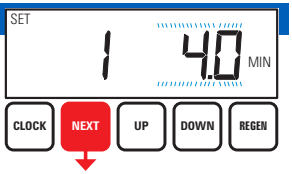


FILTERING AIR.

Press **NEXT** to go to *Step 3*.
Press **REGEN** to return to previous step.

Use **UP** or **DOWN** to set

Step 3

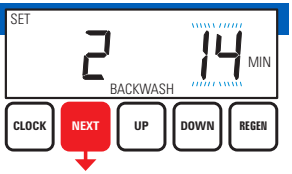


AIR RELEASE duration or set to OFF.

Press **NEXT** to go to *Step 4*.
Press **REGEN** to *exit* Configuration Settings.

Use **UP** or **DOWN** to set

Step 4

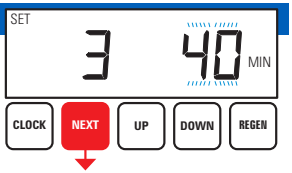


BACKWASH time or set to OFF.

Press **NEXT** to go to *Step 5*.
Press **REGEN** to return to *previous step*.

Use **UP** or **DOWN** to adjust

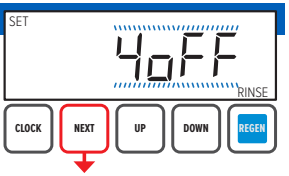
Step 5



AIR DRAW time or set to OFF.

Press **NEXT** to go to *Step 6*.
Press **REGEN** to return to previous step.

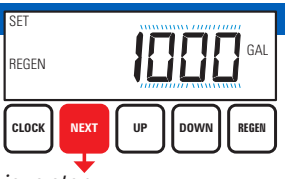
Step 6



Use **UP** or **DOWN** to set RINSE to OFF.

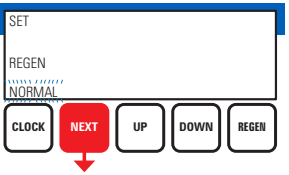
Press **NEXT** to go to *Step 7*.
Press **REGEN** to return to *previous step*.

Step 7



Use **UP** or **DOWN** to set REGEN CAPACITY.
Press **NEXT** to go to *Step 8*.
Press **REGEN** to return to *previous step*.

Step 8

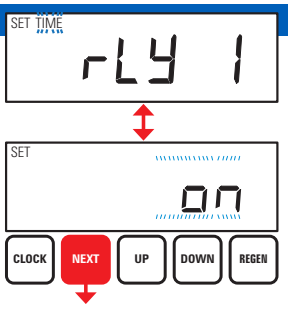


Use **UP** or **DOWN** to set REGEN TYPE.

Press **NEXT** to go to *Step 9*.

Press **REGEN** to return to *previous step*.

Step 9

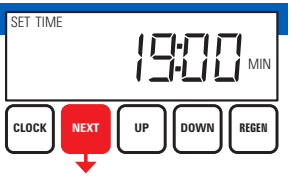


Step 9 alternates between the two displays shown.

Use **UP** or **DOWN** to set RELAY 1 to ON.
Press **NEXT** to go to *Step 10*.
Press **REGEN** to return to *previous step*.

AIO Controller - Ozone Programing Settings Continued

Step 10



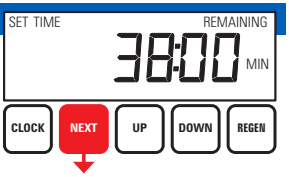
Step 10 sets Relay Actuation Time, when the EOG unit turns on.

Relay activates after the beginning of regeneration cycle and then deactivates after a set period of time. The start of the regeneration is defined as the first back-wash cycle or DN brine cycle, whichever comes first.

Set for 15 minutes or 1 minute after the time set in Step 3. This means the relay will turn on the EOG unit 1 minute after the air/ozone draw starts.

Use **UP** or **DOWN** to set RELAY 1 to 15.
Press **NEXT** to go to *Step 11*.
Press **REGEN** to return to *previous step*.

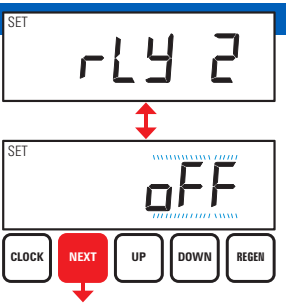
Step 11



Step 11 indicates the length of time the EOG unit is activated.

Use **UP** or **DOWN** to adjust the amount of time to 38:00 minutes.
Press **NEXT** to go to *Step 12*.
Press **REGEN** to return to *previous step*.

Step 12



Step 12 alternates between the two displays shown.

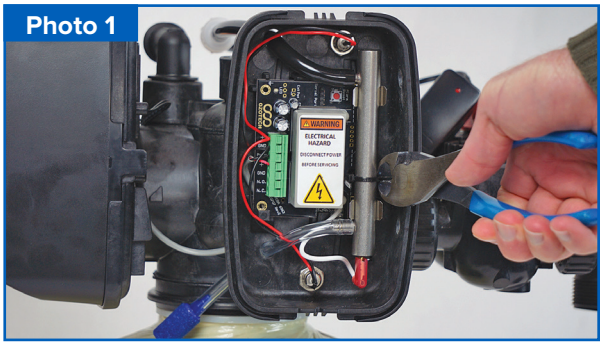
Use **UP** or **DOWN** to set RELAY 2 to OFF.
Press **NEXT** to EXIT Configuration Settings.
Press **REGEN** to return to *previous step*.

EOG CD Cell Cleaning Process

A yearly cleaning of the CD cell within your Ozotech product is important and will keep your generator operating effectively and efficiently. Cleaning the cell can be done quickly...in six easy steps. **Disconnect Power Supply from wall outlet.**

Step 1: Remove the cell from the unit by snipping the zip-tie, **Photo 1.**

Photo 1



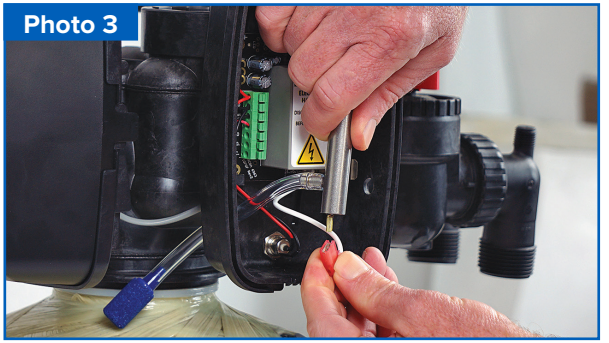
Step 2: Remove the cell from the metal clips, **Photo 2.**

Photo 2



Step 3: Disconnect the wire connection on the bottom of the cell, **Photo 3.**

Photo 3

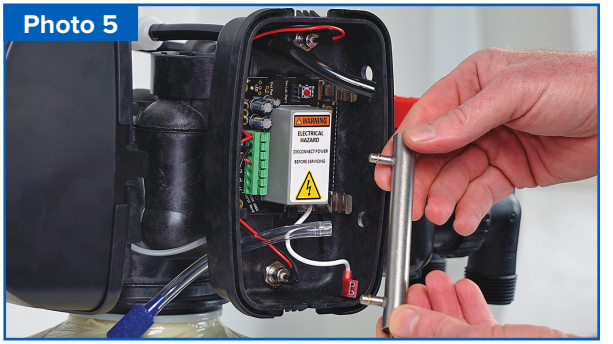


Step 4: Pull the Tygon tubing from the cell itself **Photo 4-5.**

Photo 4



Photo 5





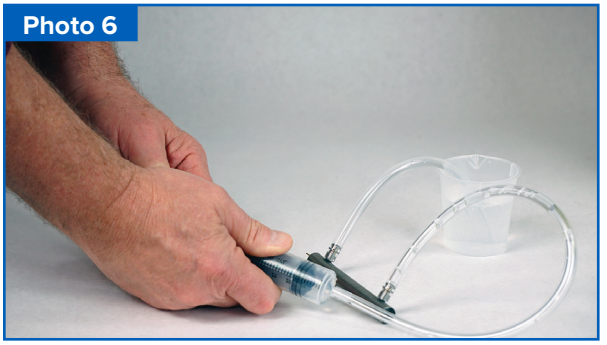
Part #
OZONE-CLEANING KIT



EOG CD Cell Cleaning Continued

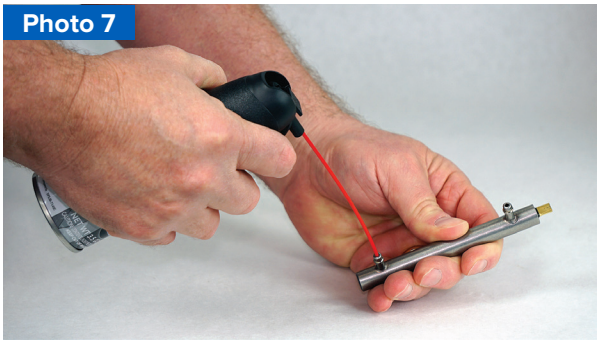
Step 5: Insert a piece of clear tubing at one end of the cell and place the open end in a cup of warm water. At the other end of the cell, insert a piece of eight-inch clear tubing fitted with the plastic syringe. Now you're ready to flush the cell. Pull back the syringe to draw water into the cell and push in to flush water back out. Refresh water with clean warm water. You'll need to continue this process until the water in the cup is completely clear. **Photo 6**

Photo 6



Step 6: Once the cell has been completely flushed and the water is clear, it's time to dry the cell. Use a compressed gas duster (or computer dust spray) by placing the nozzle into one of the barbs on the cell and depressing the trigger until the moisture is gone from the cell, Photo 7.

Photo 7



Now that the CD cell is clean, it can be reassembled and secured with a zip-tie.

Maintaining the EOG Unit

The EOG ozone generator is delivered factory tested, calibrated, and adjusted for maximum efficiency and long life. Simple maintenance and appropriate operating conditions are the only requirements to keep the unit functioning within manufacturer's specifications.

The EOG CD (Corona Discharge) cell should be cleaned every 12 months. Refer to the Ozotech Service Manual for in-depth instructions for proper cleaning. A cleaning kit is also available.

Check Valves - Both check valves, OZONE-BARB CV and OZONE-BRINE CV, need to be changed every 12 months. Failure to do so increases chances of a check valve failing and possible water leakage.

EOG Important Safeguards

WARNING - DO NOT install the EOG unit on any system using Birm® filter media. Ozone will strip the properties from the media rendering it useless.

WARNING - DO NOT install the EOG unit on any other control valve other than specialty Clack based controls. Internal components may not be compatible with Ozone.

CAUTION - When re-installing electronic control board in the valve, make sure the wiring is fully seated in the wire chase. Wires that are not fully seated will prevent control board bracket from seating in the valve and covers not fitting correctly.

Maintenance Parts

OZONE-BARB CV ..... Ozone 3/16" X 3/16" Barb Check Valve

OZONE-BRINE CV ..... Ozone Brine Check Valve

OZONE-CLEANING KIT ..... Ozone CD Cell Cleaning Kit

OZONE-CD CELL ..... Replacement CD Cell

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