

28 April 2018

# **Zentox Pure Air** by **Photox™**

Operations and Maintenance  
Manual

for

**Model 200**

***Advanced Indoor Air Purification  
System***

Please read and follow all instructions prior to operation  
of the unit.



This air cleaner complies  
with the federal ozone  
emissions limit.  
**ARB CERTIFIED**

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Zentox Corporation cannot be held responsible for any accidents or injuries as a result of misuse or abuse of the equipment covered by this manual.

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Zentox Corporation in Virginia manufactures the Zentox Pure Air purification system by Photox™.

The Photox™ unit is covered by U.S. Patents No. 5,766,455 and No. 5,834,069; Canadian Patents No. 2253706 and No. 2253707 as well as patents in the U.K., and Germany.

## **I. THEORY OF OPERATION**

The Zentox Pure Air system 200 unit by Photox™ can destroy organic compounds in the air according to independent laboratory testing. The Zentox Pure Air purification system by Photox™ treats indoor air with a proprietary process that utilizes UV light and a unique catalyst.

Zentox Pure Air is effective for the reduction of organic compounds (VOC). Zentox Pure Air will effectively remove normal levels of a variety of hazardous and objectionable airborne contaminants including but not limited to viruses, bacteria, mold spores, ammonia, cleaning solvents, paint odor, hydrogen sulfide, urine and fecal odors, cooking odors, carbon monoxide, and formaldehyde.

**The Zentox Pure Air Advanced Air Purification System is not intended to remediate existing active mold growth or abnormally high levels of chemical pollutants. Sudden accumulation of pollutants caused by fire or the unventilated use of volatile chemicals will not be reduced immediately. Sudden accumulation of pollutants should be alleviated by opening doors and windows to provide immediate ventilation. Sources of abnormal levels of pollutants should be remediated. The Zentox Pure Air Advanced Purification System is not intended to remove Radon.**



**NOTE**

This unit is not intended to remediate existing active mold growth or abnormally high levels of chemical pollutants.

- Sudden accumulation of pollutants caused by fire or the unventilated use of volatile chemicals will not be reduced immediately.
- Sudden accumulation of pollutants should be alleviated by opening doors and windows to provide immediate ventilation.
- Sources of abnormal levels of pollutants should be remediated. This unit is not intended to remove Radon.

## **II. DESCRIPTION**

The Zentox Pure Air 200 unit consists of one Catalytic Reaction Module (CRM), which acts as active surfaces through which the air being treated passes and undergoes the PHOTOX process with UV activation.

The CRM consists of a high airflow (low pressure drop) glass fiber media coated with a catalyst to oxidize VOCs.

The design is such that all air passes through the CRM with no undesirable short-circuiting or “bypassing” of the catalytic surface.

The Zentox Pure Air 200 is equipped with one 18 watt, UVA lamp. Air is circulated through the unit by means of a variable speed fan that is capable of moving up to 100 cubic feet per minute (CFM). Air is drawn into the unit, then moves into the reaction zone where it resides long enough for the Zentox Pure Air process to occur. The treated air is then discharged out the top of the unit. This design facilitates effective air circulation in the room and accomplishes a complete turnover of the room air every 23 minutes in a 15ft X 15ft X 10ft room. For typical

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usage, Zentox Pure Air Systems will provide coverage for areas up to 1,200 square feet.

The unit has only one moving part - a fan to draw in the air to be treated and re-circulated in the room. The unit consumes very little power and can be safely operated continuously when used according to this manual.


### **III. SPECIFICATIONS**


POWER REQUIREMENTS	110-120 volts AC, 60 Hz
AIR MOVEMENT	Approximately 100 cfm @ high speed

### **IV. OPERATION**

- A. Remove the unit from its packing box. Ensure all packing materials are removed from the louvers to insure correct airflow.
- B. The UV lamp for the unit is shipped with the unit but is not installed. The UV lamp must be properly installed prior to operation. Follow the installation instructions on pages 12 – 18 in this manual. (Sections B – G)
- C. Place the unit in a dry, out of the way area. Make sure that there is a minimum of six (6) inches of clearance around the unit to allow for a proper airflow. For best results, it is recommended that the unit not be placed directly on the floor.
- D. Set On/Off Switch in the “OFF” position.
- E. Insert power cord into power receptacle. Ensure there is power to the outlet.
- F. Turn the knob on the bottom of the unit in a clockwise direction until the unit “clicks” on. This will turn on the lamp and the fan to its maximum speed. (The unit has a variable speed fan. Unlike most variable switches, the “HIGH” position is to the left when knob is first turned, and the airflow and sound level is reduced by continuing to turn the knob in a clockwise direction.) There should be air movement through the unit. Airflow can be verified by detecting a slight breeze out the top of the unit. If air flow is

not detected, turn off unit and make sure there is a power connection.

 <p><b>CAUTION / ATTENTION</b></p>	<p>For dry locations only</p> <p>Pour emplacements secs tseulement</p>
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 <p><b>NOTE</b></p>	<p>The unit is for indoor use only and is designed to be operated in an enclosed environment. It will not be effective in an outdoor environment.</p>
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## **V. SCHEDULED MAINTENANCE**

It is recommended that the CRM and UV lamp be changed annually.

The CRM, in a normal room with light dust, should be changed once every 8,500 hours or approximately once per year. The CRM should be replaced with a genuine Zentox Pure Air CRM.

Although the CRM is not “consumed” during operation, it will become fouled with matter that gets through the dust filter which will interfere with airflow and the unit’s efficiency. In environments where the air is heavily laden with dust, the CRM should be changed more frequently. Optimal indoor air quality will be achieved by proper maintenance of the unit. Failure to replace the CRM as recommended will reduce the efficiency in the operation of the unit.



The UV lamps have an effective operating time of 8,500 hours each or approximately one year of operation at twenty-four hours a day. The lamps should be replaced with genuine Zentox Pure Air lamps.

Dust will also accumulate on the surface of the lamps, thus decreasing effectiveness. It is suggested that the lamps be checked periodically for particle build-up and cleaned with a soft, dry cloth.



**NOTE**

When handling a UV lamp, wear clean gloves or wrap a cloth around lamp to avoid oil from hands getting on surface of lamp. If a lamp picks up fingerprints or other smudges, wipe off thoroughly with glass cleaner and a clean cloth before operating the unit. Failure to keep lamps clean of fingerprints or smudges will significantly reduce the life of the UV lamp.

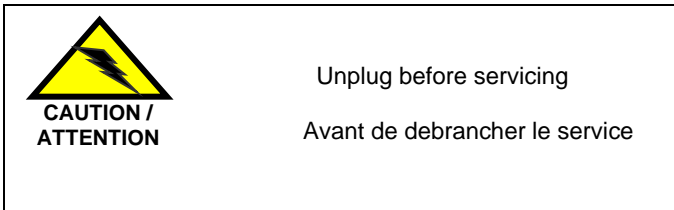


**NOTE**

Be sure to record the date and service done on the Service Record that is located on the inside of the back cover of this manual.

**A. Changing/Cleaning the Dust Filter**

1. Prior to removing the dust filter, disconnect the unit from the power source.



2. Turn unit over/upside down to gain access to the bottom of the unit.
3. Remove the retainer covering the dust filter. (See Figure 1)



**Figure 1. Retainer Removal**

4. Remove the dust filter. (See Figure 2)

5. Clean the filter by washing with warm soapy water and rinse well.
6. Allow to dry thoroughly before replacing.



**Figure 2. Dust Filter Removal**




**NOTE**

If the dust filter is torn or shows any deformation, replace the filter.


7. Replace the cleaned filter and secure it with the retainer.
8. Set the unit back on its feet.
9. Plug the unit back in and turn it on.

## **B. Opening the Unit to Service Lamp & CRM**

1. Prior to performing any maintenance to the unit, disconnect it from the power source.

 <p><b>CAUTION / ATTENTION</b></p>	<p>Unplug before servicing Avant de debrancher le service</p>
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2. To open the unit, remove the two Phillips™ head screws, one in each side of the bottom.  
(See Figure 3)

 <p><b>CAUTION / ATTENTION</b></p>	<p>This Unit contains Ultraviolet Lights. Avoid UV exposure to eyes or skin</p>
<p>Eviter l'exposition aux UV pour les yeux ou la peau</p>	



**Figure 3. Screw Removal & Replacement**

3. Lift the upper cabinet straight up and set it aside.

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**Figure 4. View With Upper Cabinet Removed**

### C. Removing the CRM

1. Lift up the cylindrical CRM cartridge vertically until it clears the lamp and set it aside. (See Figure 5)



**Figure 5. Removing the CRM Cartridge**

2. Discard the CRM. There are no special disposal requirements.



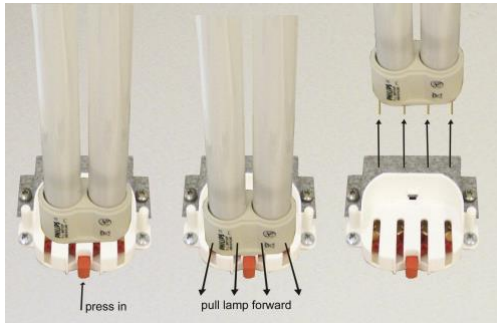
**NOTE**

The CRMs cannot be cleaned and re-used.

Replace the UV lamp, if necessary, before installing a new CRM.

#### D. Removing the UV Lamp

1. Press the button on the front of the lamp socket. The UV lamp will spring forward and allow the UV lamp to be removed. (See Figure 6).



**Figure 6. Lamp Removal**



**NOTE**

When handling the new UV lamps, wear clean gloves or wrap a cloth around lamp to avoid oil from hands getting on surface of the lamp. If lamp picks up fingerprints or other smudges, wipe of thoroughly with glass cleaner and a clean cloth before operating the unit. Failure to keep the lamp clean of fingerprints or smudges will significantly reduce the life of the lamp.



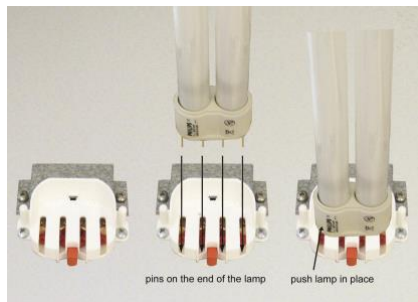
**NOTE**

UV lamps may be disposed of in a manner similar to fluorescent lamps.



### **E. Installing a new UV Lamp**

1. Wrap the UV lamp in a piece of clean, dry cloth and grasp the lamp just above the plug at one end.
2. Place the four pins on the end of the lamp into the slots in the lamp socket. (See first image Figure 7)
2. While holding the lamp GENTLY but firmly slide the lamp backwards until you feel the spring-loaded latch catch.



**Figure 7. Lamp Installation**

### **F. Installing CRM**

1. To install a new CRM gently lower it down over the lamp until it is centered in the square frame. (See Figure 8)



**Figure 8. CRM Replacement**

**G. Closing the unit.**

1. Replace the upper cabinet with the unit label toward the front side of the base, where the speed controller is located.
2. Reinstall the two Phillips™ head screws.  
(See Figure 3)

**VI. UNSCHEDULED MAINTENANCE**

No attempts should be made to service or replace any of the other components in the unit except those listed in this manual.

**VII. REPLACEMENT PARTS**

1. Replacement parts are available separately or as a complete kit.
2. Spare parts and service kits can be ordered.

PART	PART NUMBER
UV Lamp	40L6201-201 Specify Model & Serial Number
Catalytic Reaction Module (CRM) Cartridge	40-4003-101
Service Kit (Includes 1 UV Lamp, 1 CRM Cartridge, and 2 Filters)	45K1010-101
Dust Filter	45D4001-201

Zentox Corporation  
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Hopewell VA 23860 USA

FOR AN ELECTRONIC COPY OF THIS MANUAL:

e-mail request including model number to  
[info@zentox.com](mailto:info@zentox.com)

**VIII. Zentox Corporation  
Zentox Pure Air by Photox™ Limited Warranty**

A. Zentox Corporation (“Zentox”) warrants to the Customer that Zentox Pure Air by Photox™ (“Equipment”) purchased by the Customer will be free from substantial defects in material and workmanship for thirty-six (36) months from date of purchase (the “Warranty Period”). Zentox will extend the warranty period to 60 months with the purchase of an extended maintenance agreement.

B. The Customer agrees that the liability of Zentox for a breach of the Warranty contained herein shall be limited to replacing, repairing, or issuing credit for, at Zentox’s sole discretion, any Equipment which is returned FOB Zentox’s designated facility within the Warranty Period provided that (i) upon examination of the Equipment Zentox determines that the alleged defect constitutes a substantial defect, and (ii) the Warranty made herein is not invalid pursuant to Section (C) hereof. The Customer agrees that such replacement, repair, or credit shall be its sole and exclusive remedies in the event of a breach by Zentox of the Warranty made hereunder. For purposes hereof, a substantial defect shall mean any defect that prevents the Equipment from operating in any material respect in accordance with Zentox’s published specifications. In the event that Zentox determines that Equipment which is no longer manufactured by it contains a substantial defect and the Warranty covering the defective equipment is not invalid pursuant to Section (C) hereof, the Customer’s sole and exclusive remedy hereunder shall be the repair of such Equipment or the replacement of such Equipment with new

equipment, at Zentox's sole discretion. In no case is Equipment to be returned by the Customer without first obtaining a Return Authorization Number from Zentox. Equipment which is repaired or replaced pursuant to this Warranty shall continue to be warranted for the unexpired portion of the Warranty Period applicable to the Equipment so repaired or replaced. Zentox shall make the final determination as to the existence or cause of any alleged defect.

C. The foregoing warranty shall not be valid (i) if the alleged defect is the result of abuse, misuse, accident, alteration, neglect, unauthorized repair or the Equipment is otherwise operated improperly. Any repair other than scheduled maintenance per Zentox written instructions, shall be deemed unauthorized unless it is made (i) by Zentox or a duly authorized agent of Zentox or (ii) with the prior written consent of Zentox.

D. THIS WARRANTY IS THE SOLE WARRANTY MADE BY ZENTOX TO THE CUSTOMER AND IS IN LIEU OF ALL OTHER WARRANTIES OR OBLIGATIONS, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION, ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, APPLICATION OR USE, ALL OF WHICH ARE EXPRESSLY DISCLAIMED.

E. THE CUSTOMER AGREES THAT ZENTOX SHALL BE LIABLE HEREUNDER ONLY FOR ACTUAL AND DIRECT DAMAGES SUFFERED BY THE CUSTOMER AND THAT IN NO EVENT SHALL ZENTOX BE LIABLE FOR ANY SPECIAL, INCIDENTAL, INDIRECT, PUNITIVE, OR CONSEQUENTIAL DAMAGES, INCLUDING BUT NOT LIMITED TO LOSS OF PROFITS, LOSS OF USE, OR ANY OTHER ECONOMIC LOSS, WHETHER BASED ON CONTRACT, TORT OR ANY OTHER LEGAL THEORY.

F. THE REMEDIES PROVIDED HEREIN ARE CUSTOMER'S SOLE AND EXCLUSIVE REMEDIES.  
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06/07

**IX. SERVICE RECORD**

Date of Start-Up \_\_\_\_\_

Service Dates

Lamp	CRM	Date	Hour Meter Reading
<input type="checkbox"/>	<input type="checkbox"/>	___/___/___	_____
<input type="checkbox"/>	<input type="checkbox"/>	___/___/___	_____
<input type="checkbox"/>	<input type="checkbox"/>	___/___/___	_____
<input type="checkbox"/>	<input type="checkbox"/>	___/___/___	_____
<input type="checkbox"/>	<input type="checkbox"/>	___/___/___	_____
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