

INSTRUCTION MANUAL
CAT. 64490-56, 64491-56 Lab-Air Model PA 2500



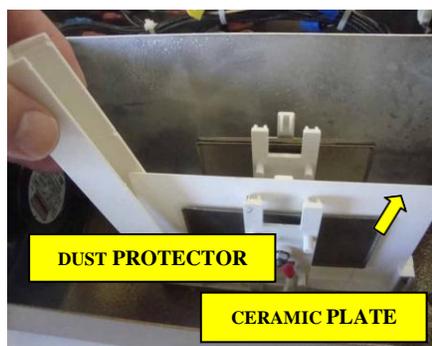
Electron Microscopy Sciences
1560 Industry Road Hatfield, PA 19440
TEL: 215-412-8400 FAX: 215-412-8450 TOLL FREE: 1-800-523-5874
EMAIL: sgkcck@aol.com WEB: www.emsdiasum.com

Please note that all new Zontec PA 2500 machines are supplied with a Spor-Ax Air Filter(s), which are installed on the back panel. Spor-Ax antimicrobial air filters provide a broad range of control for many molds, mildews, algae, and bacterium present in the environment. The FDA, USDA and EPA have approved this antimicrobial.

OPERATING INSTRUCTIONS

DO NOT TURN ON THE MACHINE. FIRST, UNPACK THE MACHINE AND TAKE THE PACKAGING ENVELOPE OUT AND INSTALL THE CERAMIC PLATES AND FUSES.

1. Remove the 6 screws (2 screws from each side and 2 screws on top) and lift the cover off the machine. Make sure that the unit is UNPLUGGED and time is on "AUTO".
2. Remove the packaging located inside the unit and carefully unwrap. You will find the ceramic plates, fuses and fuse holders inside.



3. Before you install the ceramic plates, lift up and remove the 4 plastic dust protectors that are located at the back end of the plates (closer to the fans). Carefully pry open the titanium bracket and slide the ceramic plates back in between the titanium plate brackets (they will fit snugly). When the ceramic plates "bottom out" in the bracket, they are fully installed. Make sure that they slide into the slot on the bottom. Once you have all plates installed, replace the 4 dust protectors.
4. Place the .200 fuses into the (2) fuse holders on each side labeled .200 amp and insert the large fuse holder (2 amp) into the middle of the fuse housings on the back of the unit.



Electron Microscopy Sciences
 1560 Industry Road Hatfield, PA 19440
 TEL: 215-412-8400 FAX: 215-412-8450 TOLL FREE: 1-800-523-5874
 EMAIL: sgkcck@aol.com WEB: www.emsdiasum.com

5. Turn the OZONE setting to "HIGH". This knob controls the ozone output; the higher the numbers, the greater ozone output.

***NOTE: If you are in a high humidity area, you will need to keep your machine's output running higher than in a dry climate.**

6. Plug the machine in and press the timer manual button to "ON" and make sure that the **green lights** in front of the machine come on. If so, immediately press the manual button back to "AUTO".

***NOTE: Your timer should indicate "AUTO" at all times.** If the machine does not have either of the two green lights on, refer to the troubleshooting section of this manual. ***NOTE: the green lights are indication lights. "Green" means that the machine is functioning properly. "Unlit" means that the machine is not functioning properly. There are 2 lights, and each one is an indicator. One for the left side and the other is an indicator for the right side of the machine.**



***NOTE: if a machine does not have the green light on, that means that a fuse has blown on the machine, which is a good indication that the ceramic plates need to be changed or that the machine needs to be changed. If it is close to the 6-12 month period for maintenance, we suggest that you order your maintenance kits. The machine will not blow out ozone when the plates are worn out. It will only blow out air.**

WARNING! Make sure that the machines are unplugged when putting parts in (fuses, plates, filters, etc.). Always run machines in unoccupied spaces. Prolonged exposure to ozone could be harmful to your health.

MAINTENANCE

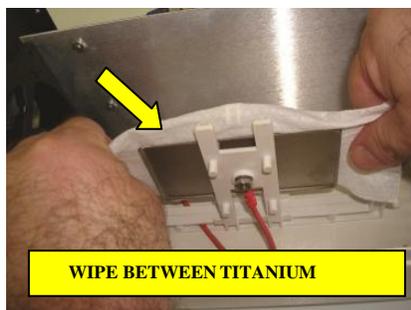
1. Open the top of the machine to clean. Remove the 6 screws (2 from each side and 2 screws on top) and lift the cover off the machine.
2. Lift the dust protector straight up and remove and take the ceramic plates out. Before you take the ceramic plates out, lift up and remove the 4 plastic dust protectors that are located at the back end of the plates (closer to the fans) and remove the 4 ceramic plates from the machine.



***NOTE: set dust protectors aside and after you clean the plates inside the machine. Reinstall them by sliding them back onto the slot that they were removed from on the back of the plate holder.**

3. The ceramic plates should be replaced every 6-12 months or as necessary, depending on frequency of use. Cleaning the machine is very important to its lifespan and efficiency. After continuous use and as a course of normal wear, the ceramic plates will develop microscopic holes, compromising the integrity of the machine due to the buildup of contaminants inside the machine, especially on the brackets and plates. In order for the machines to create a true “corona discharge”, which creates the output of the ozone, the following parts must be free from debris and corrosion and should be cleaned for changed out each time during your scheduled maintenance.

***NOTE: Change out the white ceramic plates and throw away old plates. The ceramic plates must be replaced. Throw the plates out that are in the machine. Do not keep them. They will get mixed up with the new plates. Similar to batteries, you do not want to replace only a few plates and keep a few of the old plates inside the machine.**



***NOTE: Clean the titanium plates. The titanium plates must be cleaned every 6-12 months. They look like stainless steel piece of metal on each side of the bracket.**

***NOTE: Clean inside the titanium plates that hold the ceramic plates. Cleaning between the plastic titanium plate brackets that hold ceramic requires complete attention. Be careful not to spread the titanium bracket holders not too far because they will snap due to their glass/plastic alloy.**

4. The air filters are used to filter debris away from the ceramic plates and keep the machine clean. The filters should be changed every 6-12 months. Simply lift out the filter holders and replace the filters. Model PA 2500 has 2 filters, both which are located on the rear panel, one on each side of the machine.
5. After cleaning the machine thoroughly, reinstall the plates and put back the dust protectors. Replace the screws in the machine and test the machine. Carefully pry open the titanium bracket and slide the ceramic plates back in between the titanium plate brackets and make sure they "bottom out". Once you have all plates installed, replace the dust protectors to their positions in the brackets.



- To test the machine, plug the machine in and press the timer manual button to "ON" and make sure that the **green lights** in front of the machine come on. If so, immediately press the manual button back to "AUTO". Your timer should indicate "AUTO" at all times.

Electron Microscopy Sciences
 1560 Industry Road Hatfield, PA 19440
 TEL: 215-412-8400 FAX: 215-412-8450 TOLL FREE: 1-800-523-5874
 EMAIL: sgkcck@aol.com WEB: www.emsdiasum.com

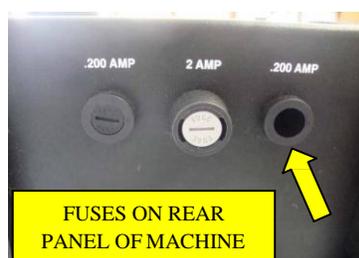
- If the machine does not have either of the two green lights on, refer to the troubleshooting section of this manual.



6. Check for the “corona” discharge” in front of the machine. When the 2 green lights on the front (face) of the PA 2500 are lit, this means that the electrical output is constant. To verify that you are getting the maximum output of ozone, periodically examine the front of your machine. You should see a vertical “black light” line that is straight with no spotting, sparking, waves, or arcing. If this is not the case, then this indicates that the titanium plates need to be cleaned again.(If you cannot see the black light, plug the machine in a darker area of the room). If you see the straight line, then your machine is running at optimum performance.

TROUBLESHOOTING

If either of the 2 green lights is not lit, this indicates that the ceramic plate on that side of the machine has a microscopic hole in it and will continue to blow the fuse. We recommend replacing the .200 fuse on the unlit side of the unit, and all 4 plates. This will restore the maximum ozone output and protect the machine. Replace only the fuse that is currently blown out at this time.



When the 2 green lights on the front (face) of the PA2500 are lit, this indicates that the electrical output is constant but to verify that you are getting the maximum output of ozone, periodically examine inside the machines. You should see a vertical “black light” line that is straight with no waves or arching, if this is not the case then this is an indication that the titanium plates need to be cleaned again. Refer back to Step 4 of the MAINTENANCE section.

Electron Microscopy Sciences
1560 Industry Road Hatfield, PA 19440
TEL: 215-412-8400 FAX: 215-412-8450 TOLL FREE: 1-800-523-5874
EMAIL: sgkcck@aol.com WEB: www.emsdiasum.com

When the machine does not come on at all and there are no lights on machine, this could be an indication that the timer may be bad. Call and ask for technical support at 813-936-9200. Check the power outlet to ensure that it is supplying power. Check the 2-Amp line fuse (larger fuse; Part # FUS2). Replace with spare if required.

TIMER INSTRUCTIONS

- Press and hold clock and then press DAY key, HOUR key, MIN key respectively to adjust clock of timer to accurate DATE, HOUR, MINUTE. IN 24-HOUR FORMAT, and shall appear on LCD screen. In 24-Hour-Format LCD screen shall indicate 0:00 (23:59)

Setting the time for timers to turn on:

- Press TIMER key. LCD screen shall show (1 on --: --)
- Press DAY key 1X till you see all 7 days appear on screen.
- Press HOUR key and type in time example 9 p.m. = 21:00 in military time.
- Press MINUTE key if you want to put in minutes.



Setting the time for timers to turn off:

- Press TIMER key again to set the off time.
- Press DAY key 1X till you see all 7 days appear on screen.
- Press HOUR key and type in time example 6 a.m. = 06:00 in military time.
- Press MINUTE key if you want to put in minutes.

Finish Programming by pressing CLOCK to get out of timer mode. To finalize, press MANUAL until the indicator line shows AUTO.

To finalize, press MANUAL until the indicator line shows AUTO.

OZONE LEVEL CONTROL

Review the FORMULA below and then:

1. Set OZONE to desired setting
2. Set TIMER to the desired setting
3. Plug the unit into any convenient wall socket
4. Switch the power to ON
5. Monitor odor level and adjust output as required to control odors.

Electron Microscopy Sciences
1560 Industry Road Hatfield, PA 19440
TEL: 215-412-8400 FAX: 215-412-8450 TOLL FREE: 1-800-523-5874
EMAIL: sgkcck@aol.com WEB: www.emsdiasum.com

The following formula and chart is suggested as a general guideline only. Use of the formula and chart will enable the user to determine the approximate milligrams per hour (MG/HR) of ozone required to odor situations. Ozone output will vary substantially with changes in temperature and humidity.

$$\text{AREA} \times \text{ODOR FACTOR} = \text{MG/HR required PA2500 MG/HR (Milligrams per hour in dry air)}$$

OZONE SETTING	500 LO	625 1	833 2	1042 3	1250 4	1485 5	1667 6	1875 7	2083 8	2292 9	2500 HI
CUBIC METERS						CUBIC FEET					
1. Measure the Cubic Meters (L x W x H) of the AREA being treated 2. Estimate the ODOR FACTOR as follows: ••• Light Odor Factor = 0.18 Medium Odor Factor = 0.65 Strong Odor Factor = 1.29 3. Multiply the AREA by the ODOR FACTOR to determine the MG/HR on the chart below 4. Set OZONE on the machine to the setting nearest the required MG/HR						1. Measure the Cubic Footage (L x W x H) of the AREA being treated 2. Estimate the ODOR FACTOR as follows: ••• Light Odor Factor = 0.005 Medium Odor Factor = 0.018 Strong Odor Factor = 0.036 3. Multiply the AREA by the ODOR FACTOR to determine the MG/HR on the chart below 4. Set OZONE on the machine to the setting nearest the required MG/HR					

Example: 1,000 cubic meter room x 1.29 Strong Odor Factor = 1290 MG/HR. Set OZONE at 4 (1250 MG/HR) and adjust	Example: 35,000 cubic foot room x 0.036 Strong Odor Factor = 1260 MG/HR. Set OZONE at 4 (1250 MG/HR) and adjust
WARNING: RUN MACHINES IN UNOCCUPIED SPACE ONLY. Prolonged exposure to ozone could be harmful to your health	