

airPHX PA2400 Quick Start Guide



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This quick start guide contains basic information for the safe operation of the airPHX PA2400 wall mount unit. The operation of this equipment is solely the responsibility of the end-user. Please read this guide before operating the equipment.



Notice:

- Please check the box that your unit arrives in for damage. If the box and or unit looks damaged, please contact an airPHX representative prior to use 855-424-7749 (855-4 AIRPHX).
- The airPHX PA2400 should never be exposed to liquids. If using cleaning products around the unit, please turn the unit off and cover prior to cleaning.
- Please follow all recommendation for mounting the unit. If you have any question, please contact an airPHX representative prior to use 855-424-7749.
- It is very important that the air filters on the PA2400 are changed every 30 days. The “filter” indicator will illuminate red when it is time to change the filters. If you need additional filers, please contact an airPHX representative 855-424-7749.
- It is recommended that any and all repairs are completed by qualified service personnel.
- airPHX is not responsible for problems resulting from improper use of the equipment.
- Do not introduce foreign objects into the plasm core.
- Always keep ALL air inlets and outlets clear of obstructions.
- The PA2400 is designed to work with a standard 120-volt AC outlet with a ground. Please verify the voltage of the outlet before plugging in the PA2400.

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Operation & Modes

The AP2400 has two modes of operation.

Normal Run Mode: In this mode, the power switch is in the ON position (switch will illuminate red). The 7-day timer switch is in the OFF position. The PA2400 will run continuously while still being regulated by the built-in ROS sensor.

7-Day Timer Mode: In this mode, both the power and 7-day timer switch are in the ON position. In this mode the 7-day timer will control the unit's ROS production based on the schedule that is programmed within the timer. During an off cycle, the unit will be silent, and the ROS production will be halted until the scheduled ON time is occurred.

Specifications:

Capacity	20,000 ft./3
Frequency	50/60 Hz
Nominal Power (W)	180
Nominal Power (V)	110VAC
Nominal Power (A)	1.5
Weight	40 lbs.
Height	17.75 in
Width	16 in
Depth	9.5 in

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Operation & Controls

ON/Off Switch

This switch controls the on/off function of the unit. This switch will illuminate RED once activated and the unit is powered on. Please note the turbine may not run when the unit is turned on if the 7-day timer mode is activated and the run schedule is in an OFF cycle. In this mode, the ROS sensor is active and monitoring the unit's ROS production. If the ROS concentration gets too high the reactor and turbine are halted until the ROS level drops.

7 Day Timer Switch

When the switch is in the ON position, the 7-day timer is activated. During non-activated hours (OFF cycle), the unit has power, but the reactor and turbine will not be running. They will remain off until the activation hours (ON cycle) is reached. In this mode, the ROS sensor is active and monitoring the unit's ROS production. If the ROS concentration gets too high the reactor and turbine are halted until the ROS level drops.

ROS sensor

The PA2400 is equipped with a built-in ROS sensor that monitors the ROS concentration on a continuous basis. The PA2400 will automatically halt the ROS production once the preset level of ROS (0.04ppm) is achieved. The unit will resume once the ROS concentration drops below the preset level.

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Operation & Status Indicators

The PA2400 has four status indicators on the front of the unit.

Sensor Indicator:

This indicator illuminates GREEN when the ROS sensor has activated, and the ROS production has been halted. The unit will resume ROS production once the ROS concentration level drops.

Reactor Indicator:

This indicator illuminates GREEN whenever the unit is producing ROS. It will illuminate RED when a problem is detected within the unit's reactor. If this happens, power the unit off for 10 seconds and power it back on. If the indicator remains Red, please contact your airPHX representative.

Time Indicator:

This indicator illuminates when the 7-day timer mode is activated. Please note that the unit may appear to be off if the timer mode is activated and the time is during a scheduled OFF cycle.

Filter Indicator:

This indicator illuminates GREEN during normal operation indicating that the filters for the intake and exhaust are in good working condition. This indicator will illuminate RED when it is time to change the filter.



Note:

The unit will turn off 15 days after the filter indicator first turns RED if the filters are not replaced and the filter status indicator has not been reset. Please refer to the *filter replacement and reset procedure* for further details. instructions.

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Filter Replacement and Reset Procedure

1. Turn unit off.
2. Locate the intake filter retainer on the left side of the unit.
3. Pull up on the plastic retainer carefully to remove retainer.
4. Remove filter media and replace with new media.
5. Replace filter retainer.
6. Repeat steps 2 through 5 for the output filter that is located on the top of the unit.
7. Turn unit on.
8. Press the filter reset button located on the left side of the unit and hold for 10 seconds. The filter indicator will change from RED to GREEN and the unit will resume function.

Replacement Filters

Your PA2400 comes with replacement filters. Please contact your airPHX representative if you require additional replacement filters at 855-424-7749. The replacement filter cycle is 30 days. This cycle may be increased depending on the environment and application.



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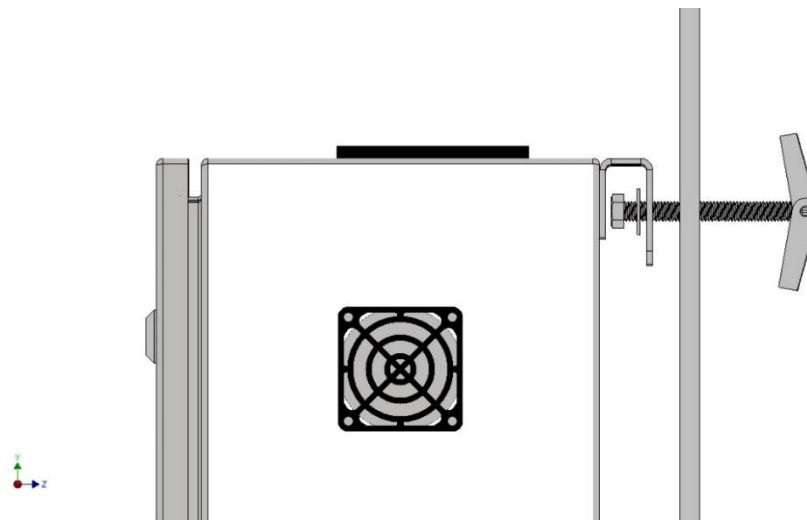
Installation Instructions

The PA2400 is secured to the wall unitarizing's its four mounting brackets located on the rear of the unit. These brackets are designed so that once the unit is mounted to the wall they are not seen from the front. Mounting hardware for a drywall installation is included with the unit. Below is an example of how the unit is mounted.

Procedure:

In the example below a bolt, flat washer and wing nut (included) are being used to mount the unit to the wall.

1. Using painters' tape, tape the provided template to the wall. Use a level and the leveling marks on the template, make certain the template is level.
2. Be mindful of objects within the wall, like pipes and electrical cables use a punch to mark all four mounting holes.
3. Drill each hole, keeping in mind that the hole must be large enough for the wingnut to pass though.
4. Insert a bolt through a flat washer and into the wingnut. Thread the wingnut on far enough that it will not fall off during installation.
5. Insert the wingnut into the hole allowing the bolt and fat washer to stick out of the wall enough so that the unit's brackets can hang on it.
6. Tighten all four bolts, with included wrench, checking the level of the unit as you go.



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Maintenance

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Safety

The AirPHX PA2400 produces Reactive Oxygen Species (ROS). This process is achieved through the use of non-thermal plasma. Using plasma, the airPHX technology breaks down the oxygen molecule to its individual species. Each specie will attach to a pathogen, mold, bacteria and viruses and destroy it at the cellular level. This is done by rupturing the cell wall itself. One specie that is produced is trioxxygen O₃ (ozone). One of the questions that is most asked is, "if your unit produces ozone, is it safe"? The answer is yes.

The PA2400 produces a low concentration of ozone and therefore is safe to use. In addition, the PA2400 has a built in ROS sensor that continuously monitors the ROS concentration and will halt the system if the ROS level gets too high.

Ozone facts

FDA – Has listed the *air*PHX technology as a safe disinfectant and has been incorporating it as a GRAS element.

OSHA - Occupational safety and health agency - have stipulated that the safe allowable level of residual ozone to be present in the work place is 0.1 ppm. Note that this permissible level is for continuous exposure throughout an entire 8 hour working day for 5 days a week.

EPA Establishment Number - 94099-NC-1

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Q&A

ROS:

Q – What is ROS?

A - **Reactive Oxygen Species** (ROS) includes oxygen ions, free radicals and peroxides both inorganic and organic. They are generally very small molecules and are highly reactive due to the presence of unpaired valence shell electrons. The effects of ROS on cell metabolism have been well documented in a variety of species.

Q – How long does ROS last?

A – This depends on the overall bioburden (contaminate load) of the environment.

Q – Will ROS have a negative impact on my environment?

A – No.

Q – What are the different half-lives of ROS?

A – It varies depending on the bioburden. In a lab environment

- Atomic Oxygen (O1) - microseconds
- Superoxide (O2-) - <1 sec
- Singlet (1O2), atomic O2, OH radical- microseconds
- Peroxynitrite (ONOO-) - at physiol. pH -1-2 seconds
- Hydrogen Peroxide (H2O2) - hours –days or more
- Ozone (O3) / Trioxygen - up to 20 minutes-carbon load dependent

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Q&A cont.

Trioxxygen oxygen (ozone O₃):

Q - Is the *airPHX* technology an ozone-based technology?

A – No.

Q – Why does the *airPHX* technology produce ozone?

A – Trioxxygen (ozone) is a byproduct of ROS production.

Q – Does ozone have a purpose in the *airPHX* technology?

A – Ozone, while a strong oxidizer, is not as strong as the other species created. However, it does have the longest half-life that can be measured with an air sensing device and therefore the *airPHX* technology uses it as a trace element to measure the overall ROS concentration level within the environment.

Q – Will ozone have a negative effect on my environment?

A – No. The concentration produce is very low.

Q – Does ozone have a benefit for my environment?

A – It is one of the Reactive Oxygen Species and can neutralize pathogens.

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Operation

Q – What should I do if the reactor indicator is illuminated RED and it will not reset?

A – Contact your *airPHX* representative 855-424-7749 (855-4 AIRPHX).

Q – I have plugged the unit into a 120-volt AC grounded outlet, but the unit will not turn on when I press the on switch. What should I do?

A – Verify that the outlet has power, if so, contact your *airPHX* representative.

Q – Is it safe to work within close proximity of the unit?

A – Yes

Q – How often should I change the filters?

A – It is recommended that the filters are changed every 30 days. This time can be decreased if the filters seem to be very dirty at the 30 cycle. The filter indicator will illuminate RED at 30 days and the PA2400 will stop functioning if not changed at day 45. Please refer to *filter replacement and reset procedure* for further information.

For service and or question please contact an *airPHX* representative at 855-424-7749 or email us at Technicaloperations@airphx.com.

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Warranty cont.

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