

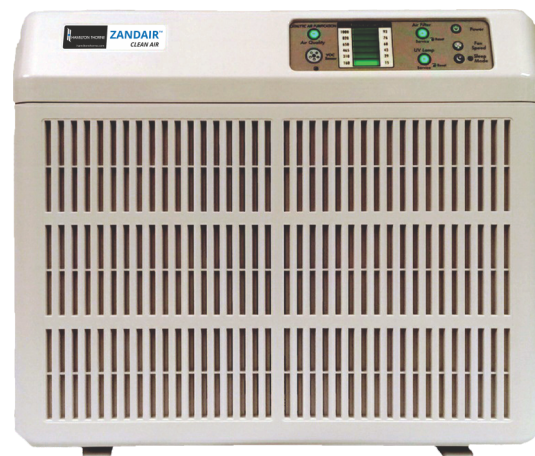
# ZANDAIR™ IOOP Clean Air

## Portable Photocatalytic Air Purification System

No matter how well you maintain your laboratory, your work area can still be filled with air pollutants, dust particles, mold spores, dander, pollen, dust mites, cleaning chemicals, volatile organic compounds (VOCs), aldehydes, carbon monoxide, viruses and bacteria.

Carpeting, insulation behind walls, construction materials, off-gassing from plastic materials, cleansers, and waxes have a direct influence on the ambient air in your lab.

Through use of the internal dual activated carbon filters and Photocatalytic Oxidation Chamber, the ZANDAIR 100P Clean Air helps to reduce microparticles in the air and neutralize VOCs.



### A Four-Step Purification Process to Improve Air in the Lab

1

#### Adsorbs Toxic Chemicals and Gases

Front position **activated carbon filter** with specially formulated gas adsorption media adsorbs organic hydrocarbons, formaldehyde (from particle boards used in construction, paints, solvents, cleaning chemicals, chlorine, etc.) and VOCs.

2

#### Higher Adsorption of VOCs

The second back position **activated carbon filter** increases the "dwell time" resulting in higher adsorption of VOCs and optimum odor removal.

3

#### Neutralizes VOCs

**Photocatalytic Oxidation** neutralizes VOCs and eliminates odors. The photocatalytic process converts VOCs into benign compounds, such as water (H<sub>2</sub>O) and carbon dioxide (CO<sub>2</sub>).

4

#### Attacks Molecular Structure

**Ultraviolet (UVC) light** attacks the molecular structure of viruses and bacteria that are too small to be filtered out. The UVC light, together with the photocatalyst agent, converts the bacteria and viruses into H<sub>2</sub>O and CO<sub>2</sub>.

### ZANDAIR IOOP Electronic Sensors

Built-in electronic sensors monitor air quality and when unusually high chemical activity is detected, the performance is automatically increased to compensate. Warning lights alert staff to the presence of toxic chemicals and fumes before they reach detectable levels or become detectable to the human senses. To conserve power, the unit enters "sleep mode" in the absence of high-activity and "wakes up" as soon as it detects activity.

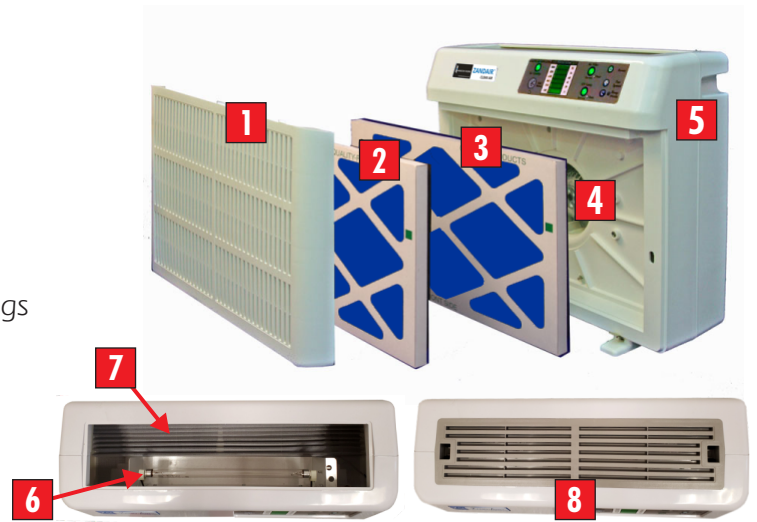
### Air Quality References

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DOI <https://doi.org/10.1016/j.rbmo.2018.02.005>

Lawrence C., et. al. VOC Levels in a New IVF Laboratory. (August 2007)  
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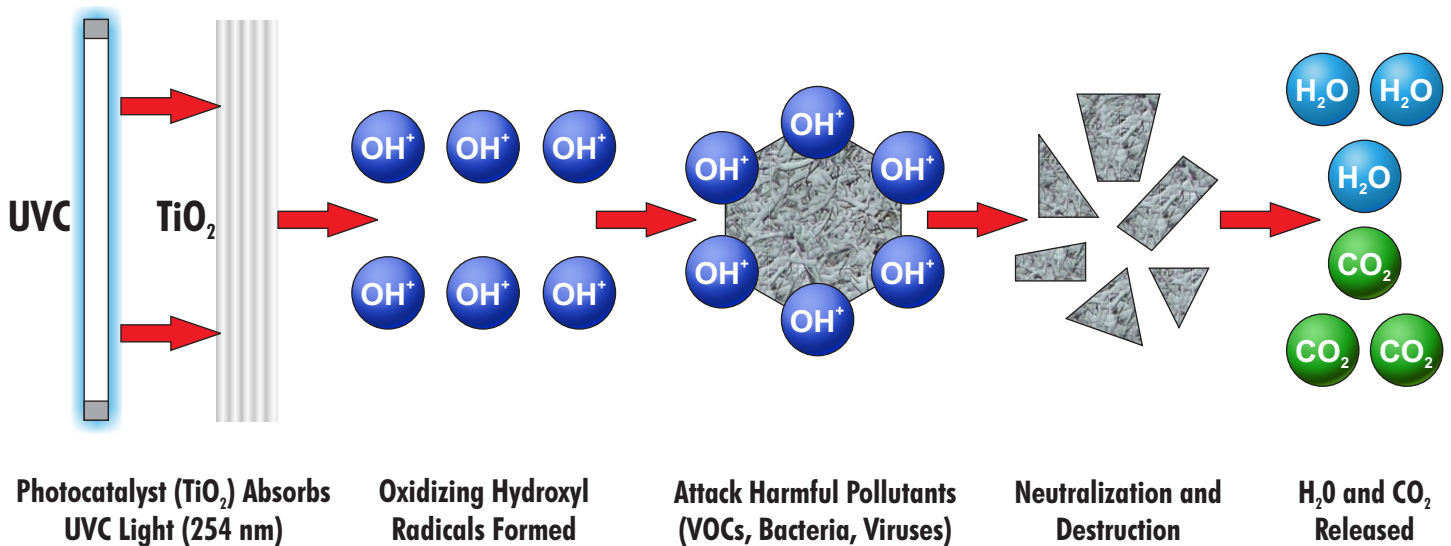
## ZANDAIR IOOP Components

1. Air inlet grill with safety lock
2. Front activated carbon filter (6-month life)
3. Back activated carbon filter (6-month life)
4. High efficiency, low noise impeller with sealed ball bearings
5. High impact ABS plastic housing
6. UVC output lamp (1-year life)
7. Photocatalytic Oxidation Chamber
8. Air outlet grill with safety lock



## Photocatalytic Oxidation Process Overview

The key to effective air filtration is the Photocatalytic Oxidation process, in which UVC light is used to excite and activate the metal oxide catalyst ( $\text{TiO}_2$ ) to begin the chemical reaction that neutralizes VOCs and destroys the molecular structure of bacteria and viruses too small to be captured by the filters.



## ZANDAIR IOOP Technical Specifications

Catalyst:	Metal oxides
UVC Wavelength:	254 nm (produces no ozone)
Gas Adsorption:	Activated carbon x 2
Max Air Flow:	265 CFM / 7.5m <sup>3</sup> per minute
Application:	1000 cubic feet / 29 cubic meters*
Blower:	Reversed - curved motorized impeller
Max Watts:	110 watts
Voltage:	120V - 60 Hz / 220V - 50 Hz
Dimensions (w x h x d):	21.5" x 18" x 8" / 55cm x 46cm x 20cm
Weight:	23 lbs. / 10.43 kg
Service Life:	UVC Lamps - 1 year / Filters - 6 months
Warranty:	Two (2) year limited warranty subject to provisions. Does not include UVC lamp or filters.

## ZANDAIR IOOP Cleans Air of\*\*:

- Cleaning Chemicals
- Solvents
- Ozone & Smog
- Hair Spray
- Perfume
- Alcohols
- Ammonia
- Chlorinated Solvents
- Nitrous Oxide
- Carbon Monoxide

\* Optimal results obtained with multiple air passes. Contact us for an evaluation of air quality needs in your lab space.

\*\* Not tested on live viral or bacterial challenges.



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