FREQUENTLY ASKED QUESTIONS

How is AtmosAir technology different from other air purifiers?

Most HVAC air purification systems are passive. They rely on filtration, UV, or PCO technologies that only treat air once it returns to the air handling unit.

AtmosAir is proactive. It cleans the air in the occupied space, where people actually breathe, by continuously introducing controlled levels of positive and negative oxygen ions through the HVAC supply air. This means contaminants are neutralised at their source, not after they circulate through the system.

Don't HVAC filters remove microorganisms, VOCs, and particles?

Standard HVAC filters are primarily designed to capture larger particles and are limited in their ability to remove:

- Microorganisms
- Volatile Organic Compounds (VOCs)
- Ultrafine particles

Even high-efficiency filters do not treat much of the air within the occupied space. They also do not neutralise contaminants, meaning bacteria and viruses can remain viable.

AtmosAir reduces contaminants before they accumulate or reproduce.

How is AtmosAir different from UV light systems?

UV systems are reactive technologies. They only work when air passes close enough to the UV lamp for long enough exposure.

Key differences:

- UV does not treat air in occupied spaces
- UV is ineffective against VOCs and odours
- UV requires air to return to the AHU

AtmosAir works continuously in the occupied zone. In many healthcare facilities, UV and AtmosAir are used together—UV for coil cleanliness and AtmosAir for whole-space air quality.

What is AtmosAir Bi-Polar Ionization?

AtmosAir Bi-Polar Ionization (BPI) is an indoor air purification technology that introduces controlled levels of positive and negative oxygen ions into the HVAC supply air.

These ions:

- Neutralise airborne pathogens
- Break down VOCs and odours
- Reduce fine particulate matter

The result is air quality closer to natural “fresh air” conditions—without chemicals or ozone.

Does AtmosAir replace HVAC filters?

No. AtmosAir works with mechanical filtration, not instead of it.

By causing particles to agglomerate (stick together), AtmosAir actually improves filter performance, allowing filters to capture larger, heavier particles more effectively and often extend filter life.

How does AtmosAir reduce particulate matter (PM)?

AtmosAir ions cause particles to attract each other and form larger clusters through a process called agglomeration.

These larger particles:

- Fall out of the breathing zone faster
- Are more easily captured by HVAC filters
- Reduce inhalation of ultrafine particles linked to respiratory illness

How does AtmosAir work against bacteria and viruses?

AtmosAir ions interact with the surface proteins of microorganisms, disrupting their molecular structure.

This process:

- Damages viral envelopes and spikes
- Prevents bacteria and viruses from replicating
- Renders pathogens non-infectious

This mechanism has been validated through independent laboratory testing.

How does AtmosAir reduce VOCs and odours?

Bi-polar oxygen ions surround VOC molecules and break down hydrocarbon chains, converting them into harmless by-products such as carbon dioxide and water vapour.

This makes AtmosAir particularly effective for:

- Hotels
- Hospitals
- Schools
- Casinos
- Food service and smoking environments

Does AtmosAir produce ozone?

No. AtmosAir is ozone-free.

The technology has been independently tested to:

- UL 867
- UL 2998 (Zero Ozone Certification)

AtmosAir does not produce measurable ozone in occupied spaces.

Is AtmosAir safe?

Yes. AtmosAir systems are:

- UL listed
- ENERGY STAR certified
- ANSI/AHAM tested
- Independently validated

They use no chemicals, produce no ozone, and consume very low energy.

Is AtmosAir effective in 100% outside air systems?

Yes. AtmosAir works equally well in:

- 100% outside air systems
- 100% recirculated air systems
- Mixed air systems

The ions are distributed via supply air and actively clean the occupied space regardless of air system configuration.

How is an AtmosAir system sized?

AtmosAir uses a proprietary sizing tool based on:

- Building type
- Floor area
- Occupancy
- Environmental conditions

Application engineers can also provide custom IAQP-aligned designs for complex projects.

Will I still need to change my HVAC filters?

Yes. AtmosAir does not trap particles; it neutralises them.

However, because particles agglomerate, filters often:

- Capture more effectively
- Load more evenly
- Last longer

How often do the ionization tubes need replacement?

AtmosAir composite ionization tubes should be replaced approximately every 24 months to maintain optimal performance.

Is it dangerous to touch or look at the ionization tubes?

- Touching a powered tube: Not safe. Always disconnect power before servicing.
- Looking at a powered tube: Safe. Unlike UV lamps, ionization tubes pose no eye hazard.

What temperatures can AtmosAir tubes tolerate?

Ionization tubes should not be exposed to temperatures exceeding 150°F (65°C).

Can AtmosAir help with smoke odours?

Yes. AtmosAir is widely used in:

- Casinos
- Cigar lounges
- Hospitality venues

It is highly effective at reducing smoke-related odours and airborne contaminants.

Is AtmosAir independently tested?

Yes. AtmosAir has been tested by:

- UL
- ETL
- MicroChem Laboratories
- ATL
- Other accredited laboratories

The technology is installed globally across healthcare, aviation, education, offices, and hospitality.

How do I know my AtmosAir system is working?

- Confirm the green status light is illuminated
- Adjust ion output if needed
- Replace tubes if older than 24 months

For verification, AtmosAir also offers ion level measurement devices.

What is Sick Building Syndrome (SBS)?

Sick Building Syndrome occurs when occupants experience health symptoms linked to time spent in a building without a clearly identifiable illness.

It is commonly associated with:

- Poor indoor air quality
- Inadequate ventilation
- Improper HVAC operation

Improving IAQ through proactive air purification is one of the most effective prevention strategies.

What is AtmosAir Bi-Polar Ionization?

AtmosAir Bi-Polar Ionization (BPI) is an indoor air purification technology designed for HVAC systems. It works by introducing a controlled level of both positive and negative oxygen ions into the supply air.

An ion is simply an atom or molecule that has gained or lost an electron. By increasing the concentration of naturally occurring oxygen ions, AtmosAir improves indoor air quality to levels comparable with fresh outdoor air—directly within occupied spaces.

How does AtmosAir reduce Volatile Organic Compounds (VOCs)?

AtmosAir bi-polar oxygen ions interact with VOC molecules in the air. These ions break the hydrocarbon bonds that make up VOCs, converting them into harmless by-products such as carbon dioxide and water vapour at immeasurable levels.

This process actively reduces VOCs in the occupied space rather than relying solely on filtration in the HVAC return air.

Does AtmosAir Bi-Polar Ionization really work?

Yes. The effectiveness of Bi-Polar Ionization is supported by hundreds of peer-reviewed studies and third-party laboratory tests. AtmosAir systems have been independently tested by recognised organisations including UL, ETL, ATL, and MicroChem Laboratories.

AtmosAir Bi-Polar Ionization is used globally across commercial, healthcare, hospitality, education, and government buildings.

Does the ionization system increase oxygen levels in the air?

No. AtmosAir does not increase the amount of oxygen in the air. Instead, it increases the number of oxygen ions.

These ions are created by temporarily energising existing oxygen molecules, making them reactive so they can neutralise airborne pollutants. Once they react, they return to a stable oxygen state.

Are AtmosAir HVAC air purification systems UL listed?

Yes. AtmosAir commercial air purification systems are UL listed under Category Code ABQK (Accessories, Air Duct Mounted) and certified to UL Standards 1995 and 867.

AtmosAir systems are also ENERGY STAR certified, compliant with EU standards, and independently tested under ANSI/AHAM protocols.

How often should AtmosAir ionization tubes be replaced?

AtmosAir composite ionization tubes typically remain effective for approximately 24 months. To maintain optimal performance, tubes should be replaced every two years as part of routine system maintenance.

Is it dangerous to touch the ionization tubes?

Yes, if the system is powered on. Touching an energized ionization tube can cause injury.

Before handling or replacing a tube, always switch off and disconnect power to the unit.

Is it dangerous to look at the ionization tube while it is operating?

No. Unlike ultraviolet (UV) lamps, AtmosAir ionization tubes do not emit harmful radiation. There is no risk to eyesight when viewing an operating tube.

What is the maximum operating temperature for AtmosAir ionization tubes?

AtmosAir ionization tubes should not be exposed to temperatures above 150°F (65°C) to ensure safe and reliable operation.

Can an AtmosAir system help with smoke and odours?

Yes. AtmosAir HVAC air purification systems are widely used in environments such as cigar lounges, casinos, and hospitality venues where smoke and strong odours are present.

The system reduces smoke-related contaminants and odour-causing compounds, improving indoor air quality and occupant comfort.

What is the warranty on my AtmosAir HVAC air purification system?

AtmosAir commercial HVAC air purification systems are covered by a standard **two-year manufacturer's warranty**.

In many commercial installations, warranties can effectively extend for the life of the system, provided ionization tubes are replaced on schedule and the system is maintained in accordance with AtmosAir guidelines.

Is AtmosAir effective in 100% outside air (OA) units?

Yes. AtmosAir Bi-Polar Ionization is effective in **100% outside air, 100% recirculated air, and mixed-air HVAC systems**.

Bi-polar ions are generated in the air handling unit and carried by the supply air through diffusers into the occupied space. The technology is engineered to **saturate the space with ions**, allowing them to actively react with airborne contaminants where people are present.

Most ions are consumed through continual reactions within the space. Any ions returning through the HVAC system are neutralised by filters. When properly designed and commissioned, AtmosAir systems consistently deliver cleaner indoor air regardless of air system configuration.

How does AtmosAir reduce particulate matter (PM)?

AtmosAir Bi-Polar Ionization reduces particulate matter through a process called **agglomeration**.

Oppositely charged oxygen ions cause fine particles to attract one another, forming larger, heavier clusters. These larger particles are more easily captured by HVAC filters or fall out of the breathing zone, reducing occupant exposure.

This is especially effective for ultrafine particles generated indoors that would otherwise remain suspended in the air for long periods and be inhaled.

How does AtmosAir work against bacteria, viruses, and germs?

AtmosAir positive and negative ions interact with the surface proteins (such as hemagglutinin) of microorganisms. These interactions form highly reactive **hydroxyl (OH) radicals**, which remove hydrogen atoms from the organism's surface structures.

This process disrupts viral envelopes and spikes at a molecular level, rendering bacteria and viruses unable to infect or reproduce.

Does AtmosAir have a device that measures ion levels?

Yes. AtmosAir offers a purpose-built **ion level measurement device** that allows verification of ion concentrations within indoor environments.

Does AtmosAir produce ozone?

No. AtmosAir does **not** produce ozone.

All AtmosAir air purification systems are tested under **UL-867** standards and certified to **UL-2998**, confirming zero ozone emissions. No measurable ozone is produced in occupied spaces.

How do I know if my AtmosAir HVAC air purifier is working properly?

To confirm proper operation:

1. Check that the **green indicator light** on the ionization unit is illuminated.
2. If the light is off, contact the installing contractor for service.
3. If the light is on but air quality improvement is insufficient, the ionization output can be adjusted using the control knob.
4. If ionization tubes have not been replaced within the last **24 months**, they should be replaced to restore optimal performance.