



Aircuity Overview

Benefits of an air monitoring platform for life sciences occupied REITs:

- 1. Healthier Buildings:** Installed in over 1,000 lab and commercial office facilities, Aircuity is the leading air quality management platform for critical environments. Aircuity's IEQ data is used to adjust ventilation rates in real time, ensuring air supplied to occupants meet research-based standards for CO₂, particles, and TVOCs. Aircuity's cloud-based analytics engine is used to flag recurring issues, trend IEQ data, and generate automatic alerts, enabling facilities and EH&S professionals to improve health and safety outcomes.
- 2. Reduced Utility Cost:** By adjusting ventilation rates based on real time IEQ data, Aircuity provides the right amount of air where and when needed. This strategy, known as Demand Based Control (DBC), reduces HVAC energy use 30–50%. Optimizing ventilation through DBC is typically the #1 efficiency strategy for research facilities.
- 3. Low to Zero Emission Research Facilities:** Through HVAC energy savings, the Aircuity system provides substantial scope 1 and 2 GHG emission reduction, allowing clients to meet aggressive sustainability objectives. Further, because Aircuity and DBC dramatically reduce heating loads, they allow for 100% electric heating. Coupled with the purchase of renewable energy, this strategy is key to providing zero emission research facilities.

An investment in Aircuity delivers:



Tenant Attraction
and Retention



Improved
Asset Value

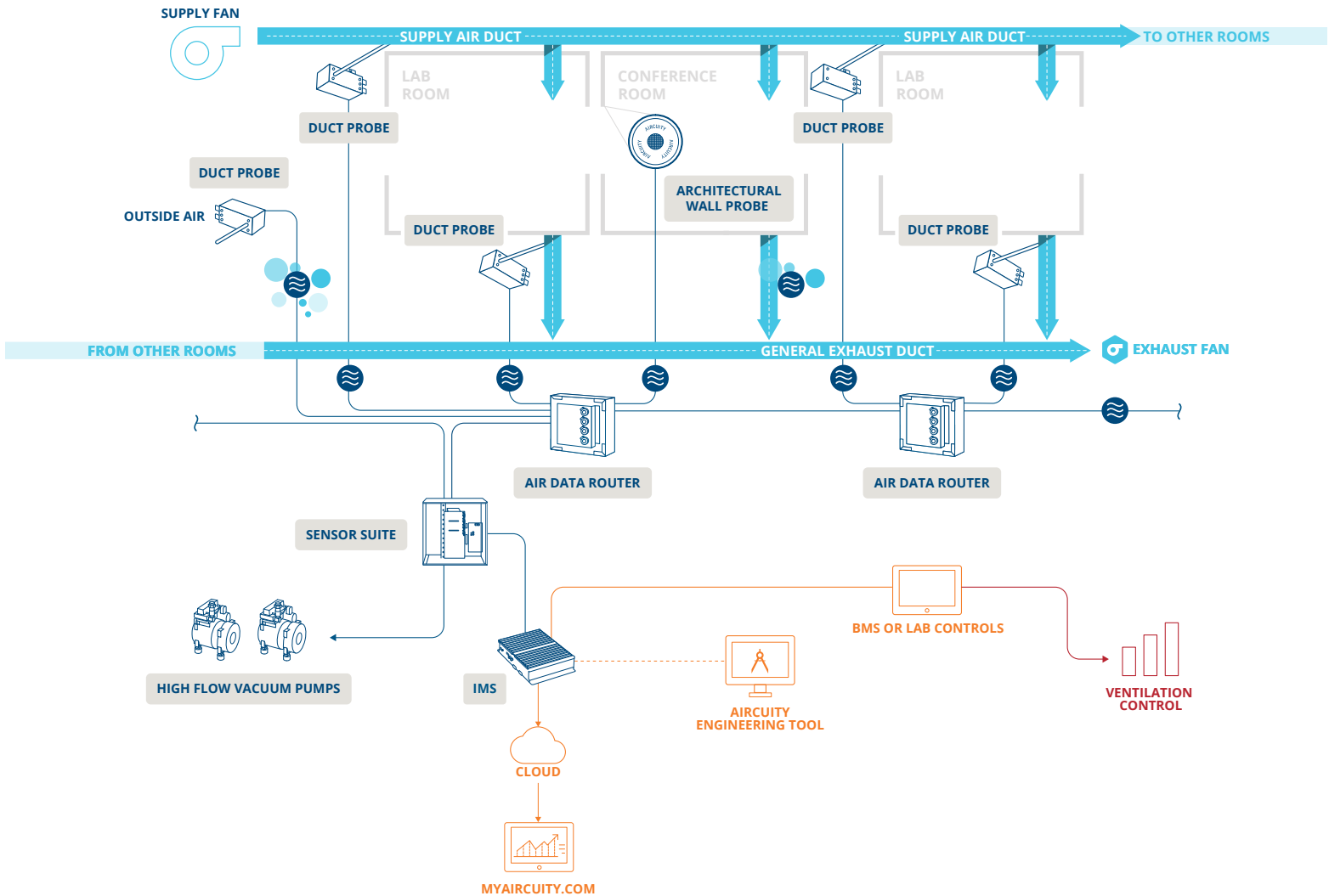


On-going
Operational Savings



Data
and Analytics

The Aircuity Platform - [Play Video](#)



How Aircuity works:

1. **Air Samples:** Air packets are drawn from individual test areas through the Air Data Router
2. **Routed:** Air packets are routed sequentially to the Sensor Suite
3. **Sensed:** Sensor Suite analyzes each air sample
4. **Feedback:** Smart signals are given to the lab or building management system for ventilation control

Aircuity FAQ

Do labs have minimum ACH requirements? Can my facility use Aircuity?

It may seem that there are many regulations governing ventilation rates in U.S. labs but in fact there are no mandatory requirements for ACH. The industry has moved to a performance-based approach that relies on specific engineering vs code mandated minimum rates, which can be found in ANSI, NFPA, and ASHRAE standards. Aircuity has deployed hundreds of critical environment projects in major biotech/research intense regions.

How does Aircuity make my lab safer?

“You can’t manage what you don’t measure.” A static ACH rate without IEQ measurement provides a false sense of security as air quality issues can persist for weeks undetected. Aircuity’s “information layer” gives EH&S, Industrial Hygienists, and Animal Husbandry professionals 24/7/365 air quality data, automated alerting, and deep dive trending and analytics capabilities.

What mechanical systems are required for Aircuity?

Aircuity requires the mechanical system to dynamically respond to changing conditions. Thus, VAV is the only required system design. Decoupled cooling via chilled beam and FCUs and use of DOAS systems for non-lab areas are further ideal as they allow for maximum HVAC efficiency.

Is Aircuity expensive?

Aircuity is a life cycle cost solution that delivers high quality IEQ sensing and hard energy paybacks between 2–3 yrs for lab spaces and 3–5 yrs in non-lab.

What are the maintenance costs?

Aircuity provides all clients with an Assurance Services Commitment (ASC). This is NOT a maintenance cost; it is a guarantee and warranty for the entire system and includes 6-month calibration for all sensors and all data analytics via the web services and mobile applications. ASC is far lower in total cost when compared to ‘do it yourself’ calibration and replacement approaches. ASC costs are typically 10% of annual energy savings.

What does Aircuity measure?

Aircuity measures five parameters: TVOCs, particles, CO₂, CO, and dewpoint. Most distributed IEQ sensors employ metal oxide sensors (MOS), which degrade quickly and do not sense a wide range of contaminants. In addition to a MOS sensor, Aircuity employs a lab grade photoionization detector (PID) that is required to get consistent, accurate measurements over a wide range of contaminants. Similarly, Aircuity uses a cleanroom grade laser-based particle counter that can accurately measure smaller particles of 0.3 to 1 micron that are specific to health concerns in vivariums and post COVID-19 world.

How does Aircuity compare to other IEQ sensors?

Aircuity uses differential measurement—using the same sensor to measure a reference, typically supply, and room air—to eliminate offset drift. This system architect makes Aircuity the most accurate IEQ sensing platform and the only platform used for labs and critical environments.

What are the system failsafes? Is it reliable?

Aircuity has installations in operation for 15+ years and it is engineered to be reliable. However, in the case where system data is offline, there are built in failsafes to increase air changes and maintain occupant safety.

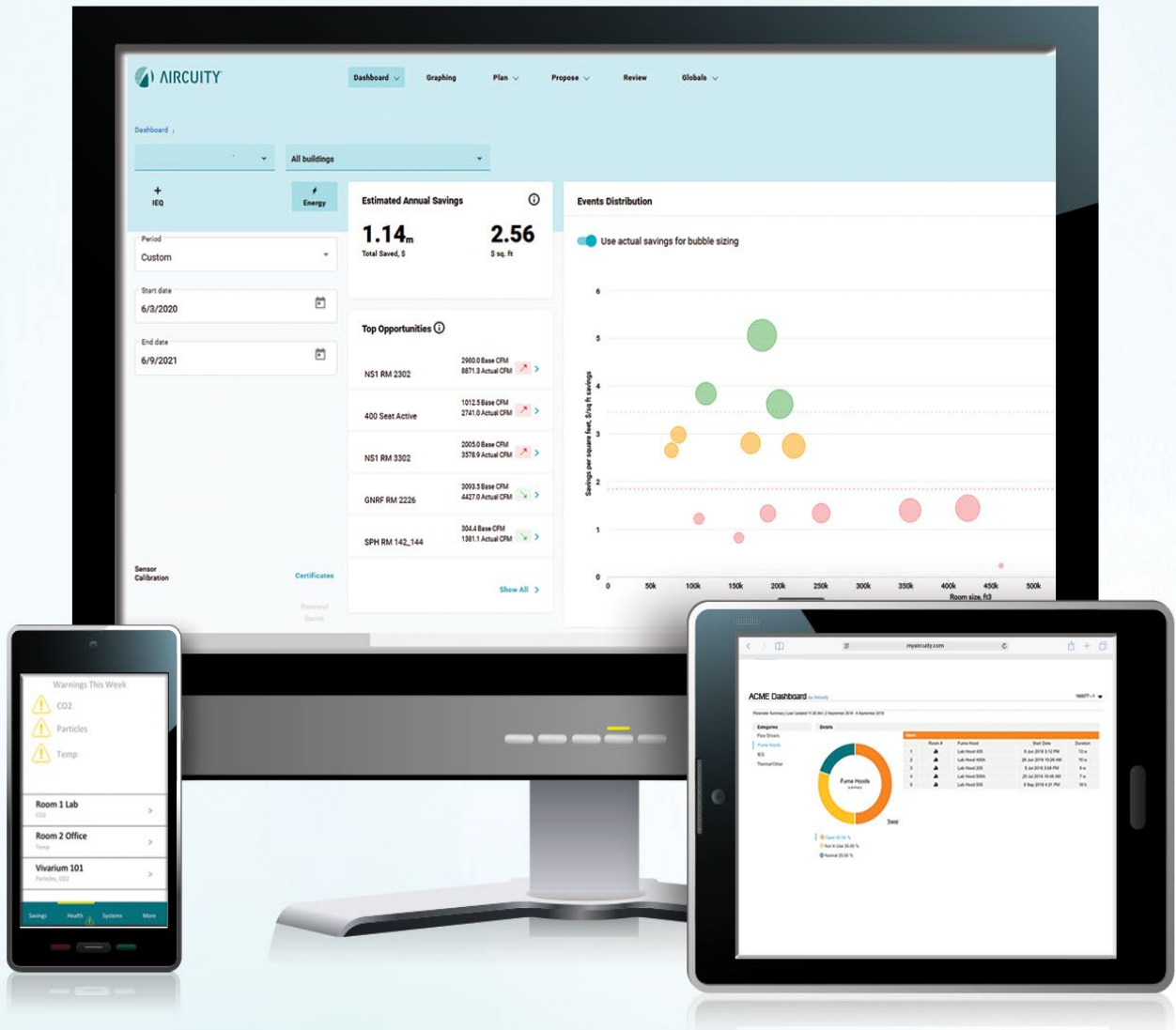
Does Aircuity impact the fume hoods?

Aircuity does not have any control over a fume hood’s operation.

Is Aircuity a life safety technology?

No. It is important to emphasize that Aircuity is NOT to be considered a part of a lab’s threat detection system, which is typical for oxygen depletion as an example.

Intelligent Analytics for Buildings and Lab Operation Insight



Accurate ventilation for healthy, sustainable lab buildings.



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