

CASE STUDY

qlair

Measuring the Effects of Bipolar Ionization

What is Bipolar Ionization?

Bipolar Ionization is a process in which a system produces positive and negative oxygen ions to reduce airborne particulates. The negative ions contain an extra electron while the positive ions are missing an electron, resulting in an unstable condition. The bipolar ions seek out atoms and molecules in the air to trade electrons with, effectively neutralizing particulate matter, bacteria and virus cells, odorous gases and aerosols, and VOCs.

Bipolar Ionization Challenges



Data Collection

Leading industry publications like ASHRAE and the CDC have not acquired enough evidence to support or refute claims of BPI success, citing insufficient data as cause for decision.



Solution Effectiveness

With no strategy for collecting and analyzing relevant air quality data, it can be nearly impossible to accurately measure the effects of BPI on cleaning particles from the air.

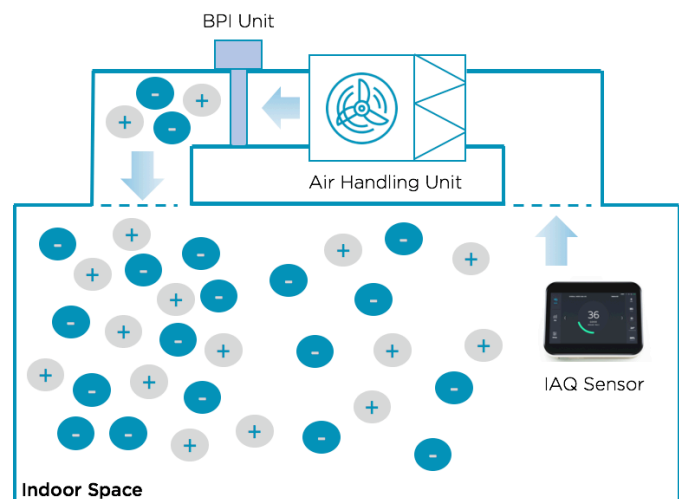


Communicating Results

It has never been more important for occupants to feel safe and comfortable entering public facilities – presenting evidence of solution success is important for public trust.

Our Approach

- 1 Bipolar Ionization unit installed within the Air Handling Unit.
- 2 qlair SPS 208 IAQ sensor used to collect real-time data on VOC levels within the space.
- 3 Data collection and analysis spanned several weeks before and after installation.



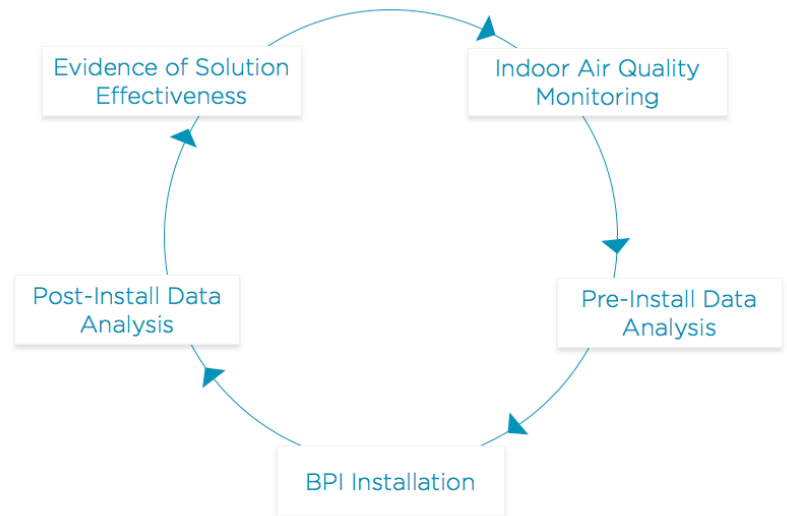
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Procedure & Results

Case Study Procedure

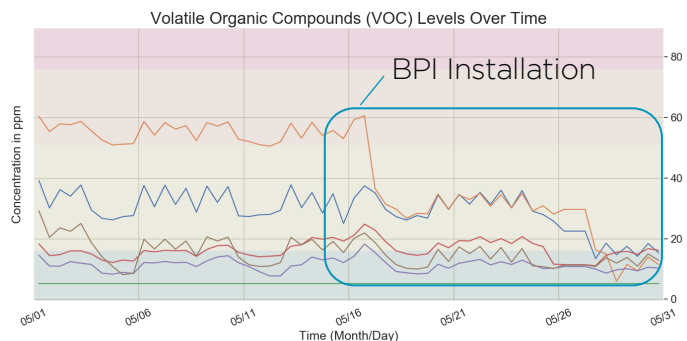
- 1 24/7, real-time data collected on VOC levels to determine if sufficient ionization has occurred.
- 2 Data analysis took place several weeks before and after installation for comparison.
- 3 Change in VOC concentrations was mapped over time using the qlair Clean Air Service Platform.



Case Study Results

50-80% reduction in volatile organic compound (VOC) levels.

- ✓ Bipolar Ionization was effective in reducing VOC concentrations when a critical mass of positive ions was reached.
- ✓ Data from continuous indoor air quality monitoring showed a 50-80 percent reduction in VOC levels.



Start your next BPI project with qlair.

Monitor

Leverage best-in-class sensors to gather continuous data before and after installation.

Improve

Visualize trends in air quality data to ensure that your system has been effective.

Prove

Showcase your results to stakeholders and occupants with the qlair dashboard and app.