

Airflow Control

Critical Healthcare Environment

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Proven Partners

Since 1983, Energy Improvement Products Inc, (e.i.p.) has played a vital role in enhancing the indoor environment of buildings across Illinois and Northwest Indiana. We provide top-quality, high-performance products to engineers, end users, and contractors through our exclusive partnerships with leading manufacturers in the industry. Our comprehensive services include consulting, on-site assessments, tailored solutions, installation support, and training.

In **laboratories, pharmacies** and **healthcare facilities**, we understand the importance of airflow control and reliable, accurate performance of your system. Our team will evaluate your critical environment and work with you to establish a plan customized to your unique application and needs.

The Results?

Risk Reduction | Better Control | Energy Savings | Less Wear and Tear on Mechanical Systems | Compliance with Ashrae Standards, IDPH and Local Codes

e.i.p. remains steadfast in its commitment to assisting clients in meeting their building's requirements and energy efficiency goals.



Improve Patient Safety

Reduce Risk & Ensure Compliance

Critical environments, such as healthcare facilities, must adhere to strict ventilation and pressurization standards to prevent the spread of airborne pathogens, contaminants, bacteria, volatile organic compounds (VOCs), and other pollutants. Operating rooms, isolation rooms, patient rooms, and laboratories are examples of areas that require stringent control over air quality, temperature, humidity, pressurization and more. By implementing high-accuracy airflow monitoring in spaces previously served by variable air volume (VAV) systems we can achieve:

IMPROVED PATIENT CARE | SAFER LABS | LOWER ENERGY COSTS



THE PROBLEM

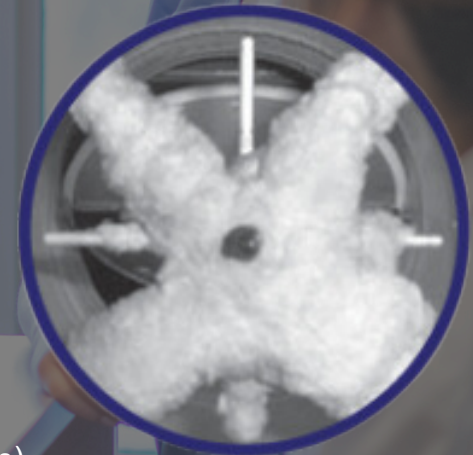
Facility Dependent on VAV Flow Cross System

The critical nature of a healthcare environment demands 24/7 system operation with sophisticated backups in the event of a shutdown or outage. Although variable air volume (VAV) systems can be applied, they are not ideal due to **inefficient operation**, which leads to **wasted energy**.

Often, VAV boxes cannot maintain the proper room pressurization as designed, don't have the ability to accurately calculate air change rates and cause safety issues.

VAV Box Limitations:

- Transducer error/inaccuracy drift
- Low turndown rate
- Inability to control at lower velocity pressure
- Flow cross can be easily soiled or clogged (primarily on return)
- Requires maintenance and may not be accessible



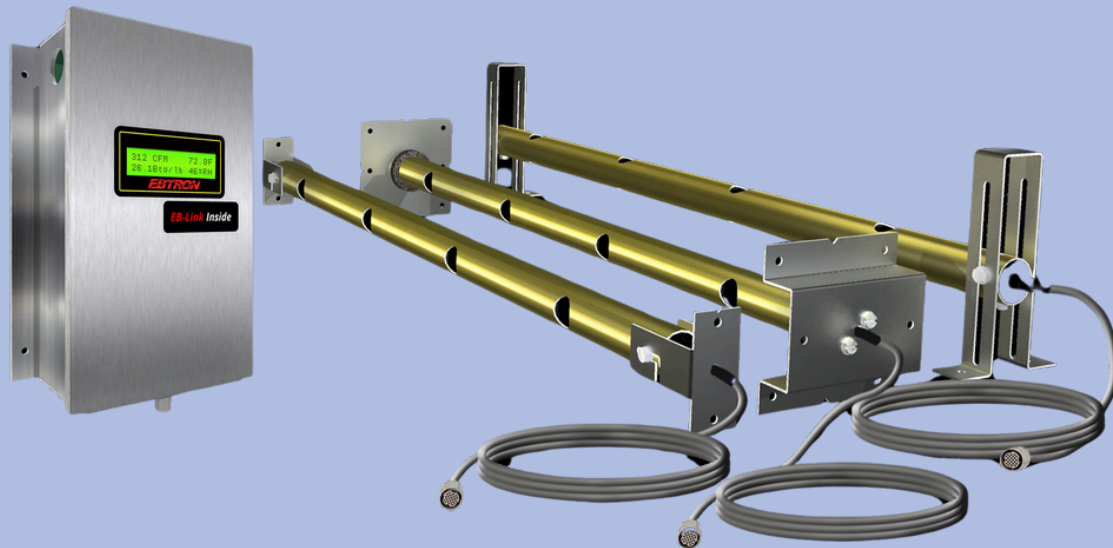
THE SOLUTION

EBTRON Products

One of the Industry's Most Respected

Selecting the right system components for your facility requires careful planning and design. EBTRON's management philosophy starts with a no-compromise approach to design, manufacturing, application, and support. The company's innovative measurement solutions have made them one of the most respected manufacturers in the industry.

At e.i.p., we're confident you'll find a measurable difference in your facility using EBTRON technologies!



SCAN TO LEARN MORE



A Truly Measurable Difference

Control strategies paired with EBTRON airflow measurement technologies are proven to optimize ventilation, improve occupant health, reduce energy consumption, limit IAQ liability and increase building life, among other benefits.

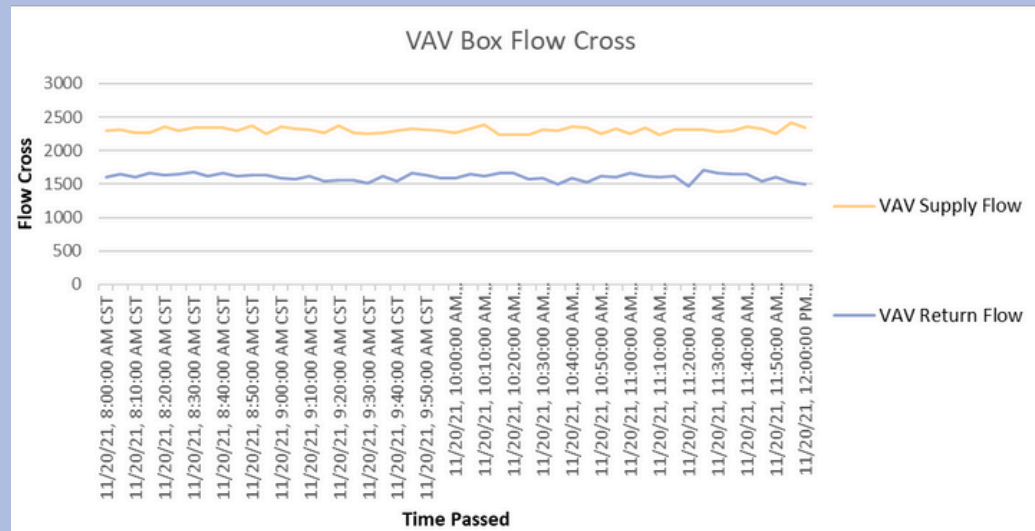
EBTRON Product Benefits:

- +/- 2% of reading accuracy
- NIST-traceable calibration
- Ability to read low flow
- Plug-and-play operation
- Bluetooth Capabilities
- Airflow and status alarms
- Easily accessible
- No calibration required
- High-accuracy, integral temperature and humidity sensors
- No drift

CASE STUDY

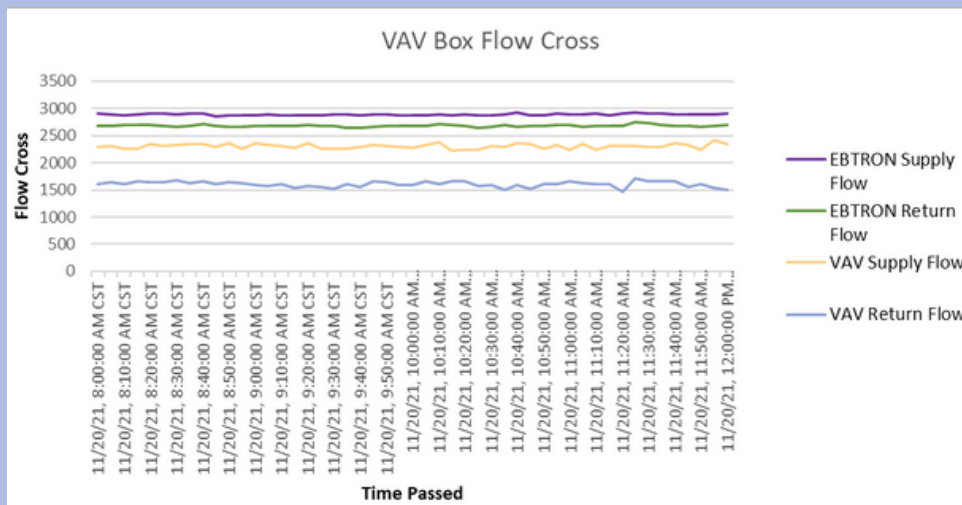
Before Installation

This graph shows a typical operating room in a 10-year old hospital. Based on the charted information, everything in the room “appears” to be working correctly. It implies the space is positively pressured and return is tracking the supply.



After Installation

Once the EBTRON airflow measuring stations were installed, we begin to see a different story. The actual airflow in and out of the operating room (verified by a third party balancer) was substantially



higher than what the flow cross read. The information obtained by the new readings allowed building engineers to reduce the static setpoint on the air handling unit and slow the supply and return VFDs to maintain the design airflow for the critical space.

Better Airflow is Achievable and Important


“I encounter EBRON flow stations often and find them to be extremely accurate and reliable devices.”

-Brendan Loftus
Project Manager/Senior Technician
Superior Test & Balance, Inc.

“EBTRON airflow measuring stations not only allowed us to maintain better control of our operating room pressure, but we are now confident that air changes per hour are accurate.”

-BAS Facility Engineer



A photograph of the Chicago skyline at sunset, with the Willis Tower prominently in the center. The sky is a mix of orange, pink, and blue, and the city lights are beginning to glow.

52%

According to a June 2021 report, hospitals are the second most energy-intensive building type in the U.S., with heating, cooling and ventilation comprising 52% of their energy use.

-U.S. Department of Energy

687K

Healthcare-associated infections (HAIs) account for an estimated 687,000 infections and 72,000 deaths annually.

-American Academy of Family Physicians 2022 Report

BELOW 40%

Dry air below 40% relative humidity has been shown to increase transmission of some airborne viruses and droplets and reduce healthy immune system function. Optimal relative humidity is between 40-60%.

-ASHRAE

52%

Inadequate ventilation is the primary source of IAQ problems at 52%, followed by contamination from inside the building at 16%.

-National Institute for Occupational Safety and Health (NIOSH)

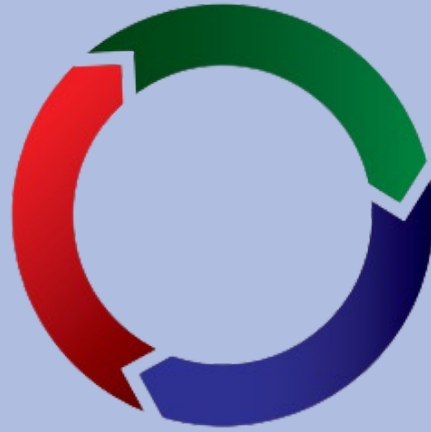


You're not alone, we're good at this!

Healthcare Facilities throughout the country serve hundreds of thousands of patients, employees and visitors 24/7. These critical environments require best-in-class products and support. Rely on e.i.p. to deliver quality solutions to enhance building health and increase energy savings.

WE HAVE A REPUTATION

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e.i.p.

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