

Renovating Legacy HVAC Controls for Healthier Critical Environments



4 Benefits of Updating Your Pneumatic Venturi Valve Controls

Renovations are a necessary part of cultivating a modern, healthy, and energy efficient building, but they can be especially challenging for occupied critical environments like patient isolation rooms, surgery suites, and laboratories. Discover how updating your valve controls can improve your facility.

The power behind **your mission**





For major renovations there are many factors to consider - like how to mitigate the distribution of dusts and particulates (ASHRAE Standard 170-2017 5.5), patient planning around available beds and decommissioned ORs, and liaising with primary investigators about their research requirements.

The Valve Upgrade Kit provides a simple solution with a large impact.

In consideration of renovation challenges, Johnson Controls offers a cost-effective and flexible solution to retrofit one of the most vital components of your critical environment HVAC system: [Venturi air valves](#).

Supply and exhaust Venturi air valves work to:

- Deliver clean air to spaces to help dilute and disperse airborne pathogens
- Create negative or positive pressured spaces
- Help maintain the optimum temperature and humidity levels
- Provide the required air changes per hour

Our [Venturi Valve upgrade](#) solution can easily retrofit your legacy valves or tracking pair control system with fast-acting digital controls that integrate into any building automation system (BAS) so you can eliminate gateways and optimize your critical spaces.

If the original valve body is in good condition, it can remain in the duct work and the installer can simply remove the existing valve hardware and install the Upgrade Kit components.



“This is a great option to renovate laboratories because it doesn’t require the installation team to come in contact with dangerous chemicals that have built up in the valve and ductwork over time.”

Christian DiCarlo, HVAC Installation Manager

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1. Increased Health and Safety

Studies show that the decision to correct the problem can take 20 times longer than the repair. Three steps move your maintenance strategy off the starting line.

- Adding fast-acting actuators and digital controls enables your HVAC infrastructure to provide immediate responses to changing conditions to help ensure your critical spaces are kept compliant.
- For healthcare facilities, this strategy is an ideal approach because the valve body can remain in the ductwork if it is in good condition, minimizing the disruption and distribution of dusts, odors in particulates in congruence with ASHRAE Standard 170 Section 5.5: Planning for Infection Control During Remodeling of an Existing Facility.
- For laboratories, the Upgrade Kit can provide greater fume hood safety and BAS visibility. Along with modern digital controls on your room supply valves and hood exhaust valves, installing our [HMS-1655 Fume Hood Controller](#) and other hood sensors provides a closed loop system for more accurate readings and integrates your fume hoods and valves into your BAS.

2. Energy Savings

- With digital controls installed on your Venturi valves, you’ll have greater visibility and flexibility through your BAS to utilize zone presence sensors, scheduled setbacks, and unoccupied modes to reduce energy consumption.
- Upgrading your valves to fast-acting actuators provides more precise airflow control, without overcompensating and wasting energy, enabling overall better building performance and energy efficiency.

3. Maintenance Convenience

- The Upgrade Kit eliminates potentiometers for hall effect sensors with longer life spans and less maintenance.
- Pneumatic controls and clunky gateways are removed so scheduling proprietary maintenance visits are no longer required.
- The installation process is simply and convenient – you can install the upgrades in phases on your schedule.
- Integrating your Venturi valves directly into your BAS enables remote monitoring and control.

4. Cost Savings

- Upgrading your valves enables facility managers to troubleshoot and maintain valves, eliminating expensive visits from proprietary technology companies.
- This solution is cost effective compared to a full valve replacement and includes a 3-year standard warranty on the Upgrade Kit components.
- This approach allows for phased-in upgrades to fit your budget and schedule – avoid long OR and lab shutdown periods.

[Download the Brochure](#)

Here's what "Healthy Buildings" means in real life—and how you benefit

Success Story:

Negative Pressure Clinical Research Laboratory

Clinical research laboratories are complex critical environments that require precise HVAC controls to maintain proper room pressure, prevent contamination, and preserve research integrity.

Due to the strict lab requirements, renovations can be very challenging if not planned properly. Find out how Johnson Controls met the challenge of renovating an occupied clinical research facility to create a more flexible, healthier space.

[Read the Success Story](#)



Contact the Critical Environment team today to see if your facility is a good fit for the Venturi Valve Upgrade strategy.

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About Johnson Controls

At Johnson Controls, we transform the environments where people live, work, learn and play. From optimizing building performance to improving safety and enhancing comfort, we drive the outcomes that matter most. We deliver our promise in industries such as healthcare, education, data centers, and manufacturing. With a global team of over 100,000 experts in more than 150 countries and over 130 years of innovation experience, we are the power behind our customers' mission. Our leading portfolio of building technology and solutions includes some of the most trusted names in the industry, such as Tyco®, YORK®, Metasys®, Ruskin®, Titus®, Frick®, PENN®, Sabroe®, Simplex® and Grinnell®.

