

OpenBlue

Myths and Misconceptions About Clean Air



There's a lot of noise in today's marketplace about the air inside buildings. How do you keep it clean? What measures must you take to help keep occupants healthy? How much should you expect to spend?

OpenBlue Clean Air from Johnson Controls can help. Let's start by addressing some common misconceptions surrounding clean air.

1. **Myth:** Outside air = clean air

The outside air used to dilute "dirty" inside air may itself require treatment. Think of the ash and other particles in air from areas affected by forest fires. Less obvious components such as chemicals or dirt may also need to be removed from the outside air.

What's more, outside air is not the only source of clean air. "Inside" air can be treated via filtration and disinfection to increase clean air delivery rates.

2. **Myth:** There's a "magic bullet" technology that ensures safe, healthy air

There are multiple options to improve clean air delivery rates – but no single option takes care of everything.



Ventilation dilutes dirty air with clean air as available from the outside—but that outside air may need filtering or disinfecting.



Filtration mechanically removes particles from the air—but that air could still contain pathogens.



Disinfection deactivates bacteria and viruses—but the air could still contain dust or other particles.



Isolation contains particles to prevent them from moving throughout the building—but air elsewhere in the building could still need treatment.



In short, you need to consider your building systems, equipment, energy use, infection risk, and budget to determine how best to achieve desired clean air delivery rates. Our team works with you to clarify which solutions make sense for your facility and develop a strategy specific to your needs.

3. Misconception: There's a financial penalty for increasing filtration

You may have heard that adding filtration will significantly increase energy costs. Our research shows that the increase, if any, is minimal. In fact, a recent ASHRAE Journal article ("Debunking Myths About MERV, Air Filtration," 12/8/20) says adding filters could save money: "Using appropriate filters can lower the need for bringing in outdoor air. This lowers the costs for heating, cooling and conditioning outdoor air."

4. Misconception: CO2 is bad!

It's true that high concentrations of CO2 can affect respiratory function. However, CO2 itself is not poisonous; at low concentrations, it is not harmful. What's more, it's an important tool in clean air strategies. Measuring trace amounts of CO2 helps us determine whether ventilation is effective.

5. Misconception: My HVAC system is so old, there's nothing I can do/My HVAC system is so new, there's nothing I need to do

An older system can be cost-effectively updated with options such as zone filtration and disinfection to increase clean air delivery rates. And while a new system may incorporate the latest technologies and approaches, you must monitor performance and regularly maintain the system to ensure you're getting the desired results.

6. Misconception: Setting up your HVAC system for clean air outcomes is a one-and-done deal

As noted above, ongoing monitoring and maintenance are essential. Track performance, conduct regular inspections, and service your equipment to maintain clean air.

- Routinely review controls sequences for overrides or changes
- Maintain mechanical components and consider inspecting more frequently
- Change filters on the recommended schedule
- Confirm operation of UV-C technology and maintain according to the manufacturer's directions
- Consider adding remote monitoring and analytics to identify and correct system issues quickly

