



YOUR **4-PART** CHECKLIST FOR **CLEAN & HEALTHY** INDOOR **AIR QUALITY**

Indoor air quality has suddenly become a top concern for businesses around the world.

However, at BMI Mechanical, indoor air quality has always been a top concern for us, and we've been helping companies throughout California keep their indoor air quality at its best for decades.

But what steps can you take right now to promote clean and healthy indoor air quality at your business?

Let's take a look at 4 categories you should address and detail specific tasks, tips, and methods to keep in mind as you start to look into these categories.

CATEGORY 1

ENHANCED FILTRATION

To really ensure good indoor air quality, it's important to make sure your building is using enhanced filtration methods. If it isn't, you should consider implementing changes. This has become increasingly more important with the introduction of COVID-19 into our society.

Here are a few options that can help with COVID-19 and other unwanted air pathogens and viruses:

OPTION 1: NEEDLEPOINT BIPOLAR IONIZATION (NPBI)

Known as Needlepoint Bipolar Ionization (or NPBI), this HVAC technology cleans and disinfects the air by sending electrically-charged ions into the air. Upon being released, these ions get to work — neutralizing odors, killing pathogens, and reducing unwanted particles in the air.

OPTION 2: MERV 13 AIR FILTERS

A MERV 13 air filter won't be able to get the job done like NPBI can. But as far as HVAC technologies are concerned, this is often considered the next best thing against the COVID-19 fight. However, most HVAC systems are not equipped to handle a MERV 13 air filter. It's important to speak with an HVAC company before diving into this method of filtration.

OPTION 3: UV LIGHTING KITS

Generally speaking, UV light is an effective method of disabling and killing pathogens. However, there are certain parameters that must be met before this can happen. The UV light has to be at the right level for the right amount of time for any pathogen-killing to occur. This is often easier said than done since the bulb itself can lose efficacy over time (which means... it won't be at the right level 100% of the time). So again, make sure you speak with a qualified HVAC company before investing in this method of filtration.

CATEGORY 2

OUTSIDE AIR VENTILATION

Proper outside air ventilation is vital for good indoor air quality.

According to the EPA,

“Ensuring proper ventilation with outside air can help reduce the concentration of airborne contaminants, including viruses, indoors. Proper ventilation also reduces surface contamination by removing some virus particles before they can fall out of the air and land on surfaces.”

Here are the steps you should take to improve your building’s ventilation system:

STEP 1: CONDUCT A THOROUGH BUILDING ANALYSIS

This step is done in order to evaluate key metrics that will help you determine the current state of your system. During this phase, you need to gather and review any and all relevant documents, designs, service contracts, logs, reports, and manuals. On top of this, you need to conduct a thorough inspection of your system. Afterward, combine it with all relevant data and material collected, so you can create a full picture of what’s going on with your mechanical system. This should include any gaps, deficiencies, and recommendations.

STEP 2: MAKE THE NECESSARY ADJUSTMENTS

Once you understand what’s going on inside your building, you need to make the necessary changes to increase ventilation and filtration in your space. This involves measuring and tweaking the outside air ratio. It is recommended to have 10%-20% outside air; however, this will vary depending on your particular equipment, building, and day-to-day operations.

You also need to examine options related to your filtration needs — and then implement the best-fit option. We recommend using a filter with a MERV rating of 6-8; however, this can vary, as well. Technically speaking, your filter can have a MERV rating anywhere between 1 and 16. A higher rating means that your filter can effectively capture smaller particles. This higher rating also means a restrictive air flow and added stress on your equipment.

STEP 3: ANALYZE AND ADJUST FOR “UNOCCUPIED” SYSTEM OPERATION

Another crucial step is to analyze and make the necessary adjustments to your “unoccupied” settings. This is done to maintain the integrity and functionality of your equipment since extended periods of inactivity can have a lasting negative impact on your system.

CATEGORY 3

HVAC CLEANING & SANITIZATION

It's important to keep your HVAC clean and sanitized. Without regular upkeep, dirt and debris can accumulate around and on your HVAC equipment. When this happens, your HVAC may start to circulate unwanted particles in your environment. As a result, this will lower your indoor air quality.

On top of indoor air quality issues, dirt and debris can also create problems for your HVAC equipment. It can make it more difficult for your HVAC to work properly and cause premature breakdowns and complications in the future.

When conducting regular HVAC maintenance, pay careful attention to the following areas:

1. CONDENSER COIL

Pro Tip: When cleaning the coils, you should not use a hose. This will push dirt and debris deeper into the coils. Instead, wash the coils from the inside-out with special cleansers and pressurized air or water.

2. EVAPORATOR COIL

Important Fact: This area is dark and moist, and because of this, it can become highly susceptible to a build-up of dirt, debris, and biological growth. Since air is typically not filtered after leaving the evaporator coil, it is essential that you keep this area clear of all that debris.

3. ELECTRICAL PANEL IN THE AC UNIT

Warning: To clean the electrical panel, you must use compressed air and soft brushes to gently remove dust and debris. Do not attempt to clean the electrical panel without qualified worker certification and the proper personal protective equipment.

4. SUPPLY FANS & CONDENSER FANS

Keep In Mind: The individual blades on these fans need to be wiped down since build-up can throw a fan out of alignment. If too much buildup occurs, you're on a one-way road headed towards a breakdown.

5. AIR FILTERS

Pro Tip: When replacing your filters, make sure you're using commercial grade that's at the proper filtration efficiency (MERV rating) for your equipment and environment.

When you keep your air filters and coils clean, you can reduce your unit's energy consumption by up to 25% (via ASHRAE).

CATEGORY 4

AIR FLOW & AIR CHANGE RATES (ACH)

Depending on your business environment, you may be held to different regulatory standards — this includes healthcare facilities and ACH (air changes per hour) rates. When you're talking about ACH, you're talking about the number of times air is cycled in a room within a specific period of time.

The required ACH varies by business and in some cases, by room. It is impossible to measure the ACH rate without specialized equipment and skills. This is why it's important to work with an HVAC company who can take this regulatory concern off your plate. They'll also be able to work this into regular service testing, so it is always reported accurately and keeps your business in the clear at all times.

KEEP IN MIND

Depending on your building, you may be required to test and measure your IAQ on an annual basis (or sometimes more). For example, healthcare facilities are required to test and record Air Changes per Hour (ACH) at least once a year.

NEED HELP WITH YOUR INDOOR AIR QUALITY?

At BMI Mechanical, we specialize in HVAC systems and indoor air quality. We've spent the last several decades helping companies throughout California improve their filtration methods and keep their HVACs running correctly.

If you'd like to learn more about how we can help your company improve indoor air quality or combat COVID-19, we'd love to talk.

Give us a call at (800) 698-4264.