

Don't forget the air quality component

You have endlessly reviewed guidelines, rearranged your plans a dozen times, redesigned your spaces and trained your staff. Don't overlook the vital role that air quality can play to protect children and staff.



Anti-COVID Air
Purification System
Providing a virus-
free space to learn

Reopen your school safely

Anti-viral filtration for your facility



HEPA filters¹ reliably capture more than

99.95%

of viruses, bacteria & other micro-organisms



Optional **UV stage** for added safety against viruses and bacteria



Optional **activated-carbon** prefilter to eliminate **odors, ozone, NO₂ and VOCs.**



Discreet, neutral design and **quiet operation** for unobtrusive protection



Optional exhaust duct to **create protective pressure** environments

The experts for your unique challenge

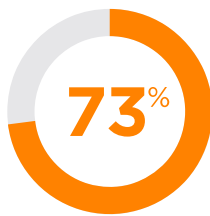
From HEPA upgrades to your HVAC system, air purification systems or real-time indoor air monitoring devices, MANN+HUMMEL is your development partner of choice for healthy air quality.

The pressure is on to reopen and keep open educational facilities. But for the sake of communities as a whole, it needs to be done safely.

Provide students and staff with virus-free air in your building.



of parents are concerned that their child is falling behind in their education because of COVID-19.²



of Americans are concerned about schools in their community reopening too soon.³

Everyone from policymakers to parents wants to get students back to school, college or university. While virtual learning has temporarily filled the void left by school closures, it can't replace classroom teaching – or the mental and emotional benefits that being in school brings.

But all these stakeholders also agree that schools can only be reopened safely. Parents will look to school administrators to protect their children. Educators will trust that they will be provided with a safe place to work. And policymakers will count on you to ensure that your building isn't at the center of an outbreak.

Demonstrate that you care about staff and student health by reducing the risk of COVID-19 circulation within your indoor environment. **An effective air cleaning system will not only put parents' minds at rest, but protect your students and employees, and ultimately reduce the risk to your school.**

This guide will tell you more about our innovative Tri-Kleen device to create 'clean air zones' within school buildings. We also include helpful tips regarding HVAC systems to ensure that school buildings are providing safer, cleaner air for building occupants.

¹ For a room size of 700 sq. ft. for Tri-Kleen

² abcnews.go.com/Politics/parents-concerned-children-falling-covid-19-schools-shuttered/story?id=71947672

³ www.ipsos.com/en-us/news-polls/axios-ipsos-coronavirus-index

Tri-Kleen protection

Anti-viral purified air, anywhere

Tri-Kleen is a **portable, hospital-grade air cleaner** with the flexibility that schools, colleges and universities need. Wheel it from room to room or store it away easily.

Tri-Kleen can clean a space quickly and efficiently with three speed settings and a maximum air flow rate of 500 CFM. Best of all, it packs this high performance into a **space-saving design**.



Dimensions	16.25" W x 19.75" D x 37.75" H
Weight	65 lbs
HEPA Filter	HEPA separates 99.95% of all viruses, bacteria and micro-organisms
Prefilter	2" deep pleated MERV 9
Disinfection	Optional UV lighting
Power Supply Required	120 volts AC, 60 Hz, 15 amp circuit
Exhaust Dimensions	12" x 8" Optional 8" nominal diameter exhaust collar included

Made in the USA



Create an Isolated Space

The CDC recommends that schools identify an isolation room to separate those with COVID-19 symptoms. Tri-Kleen's **exhaust duct can create a negative pressure environment**, preventing the airborne spread of the virus. Ideally, rooms adjacent to the isolation room should be protected by positive pressure, which can be achieved by additional Tri-Kleen units in the surrounding areas. If negative pressure within the isolation room is not possible, the closed-off room can be continuously cleaned in circulation mode, **trapping the virus within the HEPA filter** and **destroying it with UV-C light**.

No retrofit, no fuss

Healthy, virus-free air made easy



A long-term solution

Students and staff will still be concerned about their health long after COVID-19.

Tri-Kleen provides an effective defense against air pollution as well as viruses, bacteria and other micro-organisms.

Most educational buildings are set-up to create a comfortable environment for their occupants. That means the air conditioning system (if one is present at all) is targeted at cooling or warming the space, not protecting children and staff from viruses and other harmful contaminants.

Tri-Kleen is an all-in-one solution enabling schools to turn any indoor space into a virus-free environment.*

No retrofit or building works are required. **Simply plug 'n play and create a healthier space for your students and team.**

* H14 HEPA filters reliably capture >99.995% of viruses and bacteria.

Other HVAC considerations

Protecting school air quality

With evidence of airborne transmission, your reopening plan should consider the air quality in school buildings. With guidance from ASHRAE, the following HVAC actions should be considered to safely open and maintain safe air quality within schools.

Increase the MERV level to at least 13

The higher the MERV level on your filtration system, the more particles will be removed from the air. MERV 13 and above are efficient at capturing airborne viruses. MERV 14 is preferred.

If MERV 13 Filters cannot be installed, consider:

- increasing filtration to the maximum available
- providing a recirculation fan filtration unit and duct into the return of units
- provide a HEPA filtration unit to recirculate air

Use HEPA/UV cleaners in each classroom

Portable devices will protect occupants in each classroom, as well nurses rooms and common areas to combat airborne pathogens.

Perform a daily "flush" prior to occupancy

All mechanical system should be run for 2 hours prior to occupants entering building. It is also recommended to run the HVAC for 2 hours after the school is occupied.

Maintain Air Changes per Hour

Air changes per hour (ACH) is the number of times in an hour that the air in a room will circulate through an air cleaner. Classrooms should undergo a minimum of 2 air changes per hour, while a nurse's office should have 10 air changes per hour. An air purifier can ensure ACH changes to combat airborne pathogens.

Prep in-room HVAC units

For local HVAC, including fan coils, radiators, etc., increase filtration to the maximum MERV rating suggested by the manufacturer.

Disable demand-controlled ventilation (DCV)

DCV controls reduce air supply based on occupancy or temperature during occupied hours.

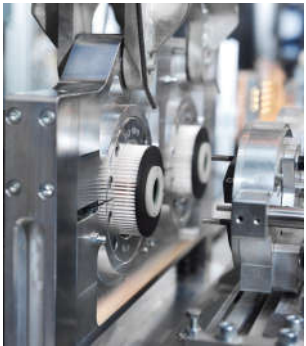
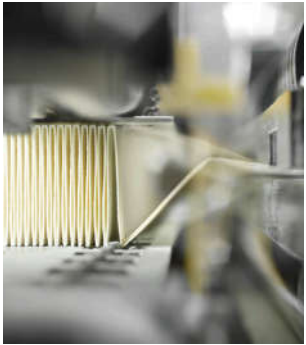
Consider classroom air flow

Ensure airflow patterns are adjusted to minimize occupant exposure to particles.



The coronavirus does not "float in air" alone. It must be attached to something, from water droplets and bacteria to dust. The HEPA filter is proven to be most efficient (99.95%) at filtering these small particulates that may be transporting the virus in the air.

A filtration leader For almost 80 years



For more than three-quarters of a century MANN+HUMMEL has been finding new ways to separate the useful from the harmful.

Today, our 22,000-strong team of filter experts – more than 1,000 of which make up our R&D department – work together to make our world a cleaner place.

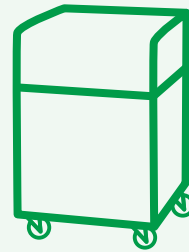
26 filters roll off our production lines every second of every day. **So you can trust us to protect your students, your team and your building.**

Get your device

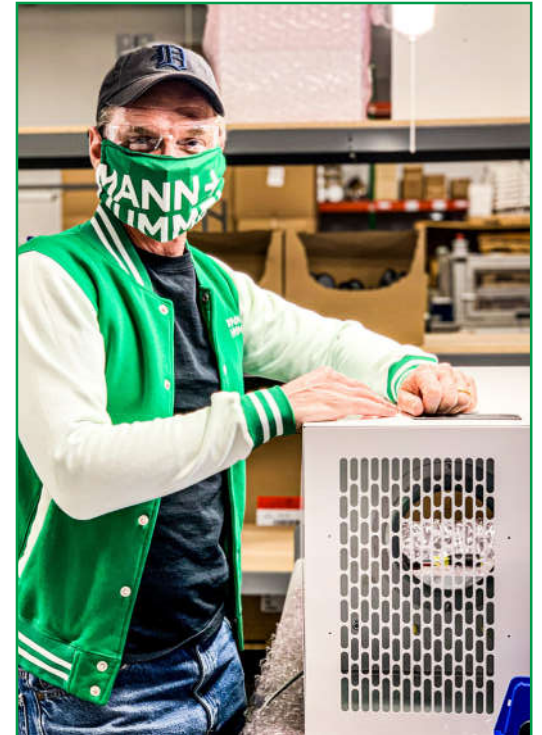
The first step towards healthier air

You've carefully rearranged the furniture, installed hand sanitizing stations and trained staff according to the latest guidelines.

Make the difference and provide your staff and parents with peace of mind by installing Tri-Kleen for cleaner, virus-free air.



DISCOVER MORE ON TRI-KLEEN



Parents will no longer just judge your school on things like test scores, facilities or location. **They will factor in how seriously you take their children's health too.**

In Kansas & Missouri contact:

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