

HEPA Air purification

Copernicus
educational products

NEW!



ADVANCED
CLASSROOM
TECHNOLOGIES



Make it a part of your
indoor air quality
improvement plan

NEW! Portable True HEPA Air Purifier

Air purification is a key component in improving air quality indoors. There are many benefits to having good air quality including increased student engagement^[4,5], improved well-being for allergy and asthma sufferers and reducing the transmission of viruses, including COVID-19. The virus spreads through aerosolized particles that tend to hang in the air unless they are blown away or removed; air purifiers can do both.

To prevent the spread of airborne viruses indoors, the air should be refreshed five to six times per hour^[1], however, over half of existing school and building ventilation systems are outdated and achieve less than that.^[2] Placing portable air purifiers in these spaces helps reduce the amount of airborne contaminants, including viruses, by refreshing and purifying the air as it passes through its filters.

Effective

Removes at least 99.97% of airborne contaminants in one pass with dual True HEPA filters and circulates the air of an average classroom* 5.2 times per hour.

Safe and easy-to use

Includes a child safety lock, timer and five fan speeds to adjust to the environment. The filters are easy to replace when needed.

Quiet

The purifier has a decibel level of approximately 68dB, which is the same level as a normal conversation and blends into the environment like white noise.



NEW! Portable True HEPA Air Purifier

Portable True HEPA Air Purifier (AIR1)

Technical features and specs:

- Dual True HEPA filters that capture at least 99.97% of particles measuring 0.3 microns
- Also removes common allergens from the air (dust, pollen, mold, bacteria)
- Lab tested for HEPA efficacy using smoke which represents the smallest of particles
- The unit's air changes per hour (ACH) is 5.2 times* in a room approximately 750 sq ft
- The clean air delivery rate (CADR) is 365 cubic feet per minute (CFM) which means every minute, 365 cubic feet of air is purified
- Approximately 68dB (normal conversation noise level)
- ETL listed to UL 507 standard (pending)

Functional and user-friendly features:

- Five fan speeds
- Timer
- Child safety lock
- Indicator to prompt filter replacement
- Dual HEPA filters (filter lifetime is 1600 hours or approximately 1 year of use in a school setting)
- Four casters

Dimensions

18" W x 10 1/2" D x 22" H

Warranty

1 year

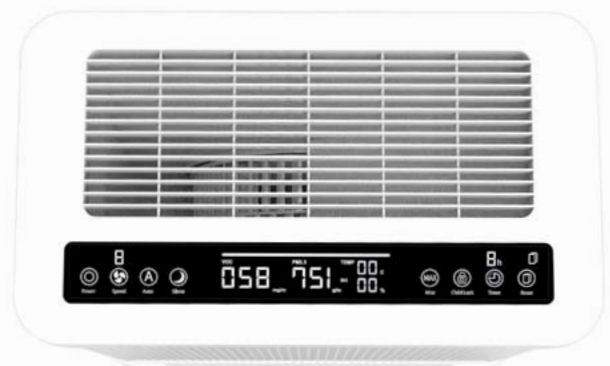
Also available:

Portable True HEPA Air Purifier Replacement Filter Kit (AIR-RF)

Includes two true HEPA filters



To achieve optimum air purification for your room size, please contact your Copernicus representative to calculate the right number of units for your space. You will need to provide the room size and ceiling height.



Easy-to-use control console

Why air purifiers?

In addition to masking and distancing, the Centers for Disease Control (CDC) guidelines suggest schools improve ventilation as part of their cleaning strategy, yet it's estimated that over half of all public school districts need to update or replace their heating, ventilation and air conditioning (HVAC) systems.^[2,3]



Opening windows is not enough

The Center for Disease Control recommends increasing the introduction of outdoor air.^[3] Ideally multiple openings are needed to move enough air, but depending on a building's age or design, opening windows and doors many not be possible. A study found that only 18% of schools had windows that could open to provide natural ventilation.^[2] Cooler climates also pose obvious challenges.



HVAC systems—part of the problem?

A New York based study showed that when schools switch from air conditioning to heating, transmission rates of COVID-19 increased.^[2] Although basic maintenance of ventilation systems can help improve air quality, scheduling in maintenance can take time and an HVAC overhaul can be costly.



Clean air helps students thrive

Studies have shown having clean air in the classroom is a benefit to students' engagement, behavior and test scores.^[4,5] Air purifiers also remove dust, pollen, mold and bacteria which improves the well-being of allergy and asthma sufferers.

Purchasing air purifiers as part of your indoor air quality improvement plan?

Here's how our air purifier compares:

Feature/Function	Copernicus model	Others on the market
CADR Clean air delivery rate	Our air purifier is the right capacity and clean air delivery rate for classrooms with a CADR of 365 CFM (every minute, 365 cubic feet of air is purified).	Undersized home-use units are not suitable for schools. Large industrial units are too large and loud for classrooms.
ACH Air changes per hour This is a function of the CADR and there are many factors that affect the ACH such as the size of the room, HVAC ventilation as well as windows and doors that can be opened.	In an average 750 sq ft classroom, our unit filters all of the air 5.2 times per hour. This is a high rating compared to other units available.	Depending on model and variables, you may need 3-5 competitor units to reach the adequate ACH.
True HEPA High Efficiency Particulate Air	✓ Lab tested for efficacy. We use True HEPA filters that capture at least 99.97% of very small particles measuring 0.3 microns (like viruses).	Depends on model. If you see a Minimum Efficiency reporting value (MERV) rating on a filter without the words True HEPA, they are probably not referring to True HEPA filters. MERV is a broad reporting value.
Ozone	Our unit does not use ozone to clean the air. The United States Environmental Protection Agency (EPA) does not recommend units that use ozone ^[6] to clean the air.	Caution: Some units tout the effectiveness of ozone but ozone does not react with all particles and can irritate lungs.
Ionizing	Our unit does not use ionizing to clean the air. The United States Environmental Protection Agency (EPA) does not recommend units that use ionizing ^[6] to clean the air.	Caution: Some units tout the effectiveness of ionizing, but ionizing charges particles so they attach to nearby surfaces (which then need to be cleaned), versus removing them from the environment entirely.
UV-C light	Our unit does not use UV-C light to clean the air. The suspect particles are not exposed to the UV-C light long enough for that feature to be effective. We feel it is unnecessary and drives up the cost.	Caution: Some units tout the effectiveness of UV-C light to clean the air particles, but the air does not sit inside an air purifier long enough to be disinfected by UV-C light.
Safe and Certified	✓ Our unit is certified safe. ETL listed to a UL 507 Standard (pending).	Many units on the market do not have their electrical components certified for safety.
Variable fan speeds	✓ Five fan speeds to adjust to space and reduce sound when needed.	Depends on model.
Child safety lock	✓ Prevents students from turning it on or off or adjusting the fan speed.	Depends on model.

Terminology:

ACH: Air changes per hour

CADR: Clean air delivery rate (how quickly the air purifier moves air through its filters)

CFM: Cubic feet per minute (the measurement used in CADR)

EPA: United States Environmental Protection Agency

HEPA: High Efficiency Particulate Air

MERV: Minimum Efficiency Reporting Value (how effective an air filter is at catching particles of varying sizes)



FAQ:

Is one unit enough in my classroom?

Contact your Copernicus representative to help you determine the right amount of units for your space. You should aim to have the highest ACH (air changes per hour) as possible.

Does our air purifier draw a lot of electricity?

No. Our unit draws 65W. Depending on local electricity rates, it could cost an additional \$1-2 on your monthly bill.

What is the lifetime of the filters?

1600 hours. Assuming it is used for 180 school days and it is run for the school day only versus 24 hours a day, the filters would last about 1 year.

Where should the air purifier be placed?

Our unit pulls air in from two sides, so if you're placing it in a corner or against a wall, leave 20" of space around each side.

How do I dispose of my air filter/change my air filter?

We suggest wearing a mask and gloves while handling the filters. When possible, change filters outdoors and wrap in a plastic bag.

Can I vacuum the filters?

Vacuuming the filters can potentially damage them and reduce efficacy, however, you can and should vacuum the filter covers if they become covered in dust.

References & Resources:

*The Portable True HEPA Air Purifier is designed for an average classroom that is 750 sq ft, with ceilings at 8 ft height. Fan speed, ceiling height, age of HVAC and other ventilation are all variables that affect total air changes per hour (ACH). To achieve optimum air purification for your room size, please contact your Copernicus representative to calculate the right number of units for your space. You will need to provide the room size and ceiling height.

1. [Healthy Buildings for Health: Risk reduction strategies for reopening schools](#)
2. [Edweek: What the CDC guidelines don't say about classroom ventilation](#)
3. [Center for Disease Control: Ventilation in Buildings](#)
4. [Hechinger Report: The learning effects of air quality in classrooms](#)
5. [Edweek: Air filters a potential tool to boost learning](#)
6. [EPA-Does not recommend ozone in occupied spaces](#)

[EPA: Reference Guide to Indoor Air Quality in Schools](#)

[EPA: Ozone Generators are sold as air cleaners](#)

[Healthy Buildings for Health: FAQ Risk reduction strategies for reopening schools](#)



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