

AIR QUALITY INFORMATION

The Trinity Valley School maintenance staff has been researching best practices for keeping the air quality of our buildings safe.

A majority of our research was performed through documents submitted by a committee on HVAC performance and safety, known as ASHRAE (American Society for Heating, Refrigerant and Air Conditioning Engineers). We also spoke with BHB Engineering, the company that engineered our current HVAC system, to hear their recommendations, and to learn what other facilities are doing to combat COVID risks.

- Our current system is a closed-loop chilled and heated water system with separate air handlers for different parts of campus.
- Our current filtration is a MERV 11 filter that removes 85% of .5 micron particles, and common practice at TVS is a filtration change every three months. MERV 11 filters exceed minimum ASHRAE recommendations.
- The use of outside air to reduce the concentration of contaminants in the building has been implemented effectively since the 1980s for Sick Building Syndrome. Trinity Valley's HVAC system utilizes outside air to prevent Sick Building Syndrome. We have increased our outside air from 10% to 20%, as ASHRAE has stated that increasing air flow from the outside will reduce the likelihood of new sickness or infection.
- We monitor the use of outside air to ensure a positive pressure on the building. This also helps with the relative humidity in the building; it is recommended to keep humidity between 40-60%. Having higher humidity in the room keeps virus droplets from travelling through the air easily. Trinity Valley's current average in the buildings is 52-58%. TVS maintenance will monitor these settings on a daily basis through our automated HVAC controls system.
- We have made significant updates to the nurses' space on campus. The air has been changed to filter the return air vents back into this space. As such, if a child or faculty/staff member is sick, his or her germs will not get into the air vents outside the "sick" area or into any classroom spaces that are adjacent.
- Each building is designed with an open return air plenum. If droplets containing the virus are in the return, they are moving at a slower rate over the ceiling of the entire building before they return to the air handler. As such, this gives a better opportunity for droplets to attach to items above the ceiling and the return ductwork. When a droplet comes into contact with any surface in the ductwork or along the ceiling, it will become attached to that surface until it dies because there is not enough static air pressure to dislodge it. From there, the droplet will stick to the air filter.
- Trinity Valley School is working with BHB engineering to determine the feasibility of installing UVC lamps in the current systems to help with more sterilization of the virus.

Sincerely,
Cage Bass
Director of Facilities