

- SOLUTION

Supplying Superior Air Quality to Schools and Classrooms with an Ultra-Efficient and Smart Family of Ventilation Solutions



Benefits

- Improved health and comfort
- Enhanced occupant satisfaction and productivity
- No cross-contamination of air streams assures that bad air goes directly out of the building and only clean, fresh air comes in to the building
- MERV 13 filter on incoming air stream maximizes Indoor Air Quality

Highlights

- The only Passive House certified commercial ERV, and one of the few certified HRV, in N.A.
- Purpose-built to meet stringent efficiency requirements for the greatest energy savings
- Realize up to 93% recovery efficiency from highly-engineered design and quality components
- Reduce HVAC energy up to 85%, with simultaneous reduction of heating and cooling loads on other equipment
- Service your school better with Ventacity's Smarter Building Platform, providing diagnostics that remotely monitor and analyze your ventilation solutions
- Provide a healthy and comfortable environment for occupants with the highest quality filters, and automatic responses to CO2 level and room temperature

“Until recently, such very high-efficiency HRV/ERV systems have not been available in North America for small and medium-sized commercial buildings, but they are now.”

- Charlie Stephens,
RETIRED SENIOR CODES & STANDARDS ENGINEER, NEEA

Ultra-Efficient Solution

- Passive House Institute Certified Component for commercial H/ERVs
- Reduce energy use intensity (EUI) by 75% and more
- Quiet operation
- Small footprint

Reduce Operational Costs Required to Deliver Service

- Drop-in plug and play design
- Easy to install
- Easy to operate

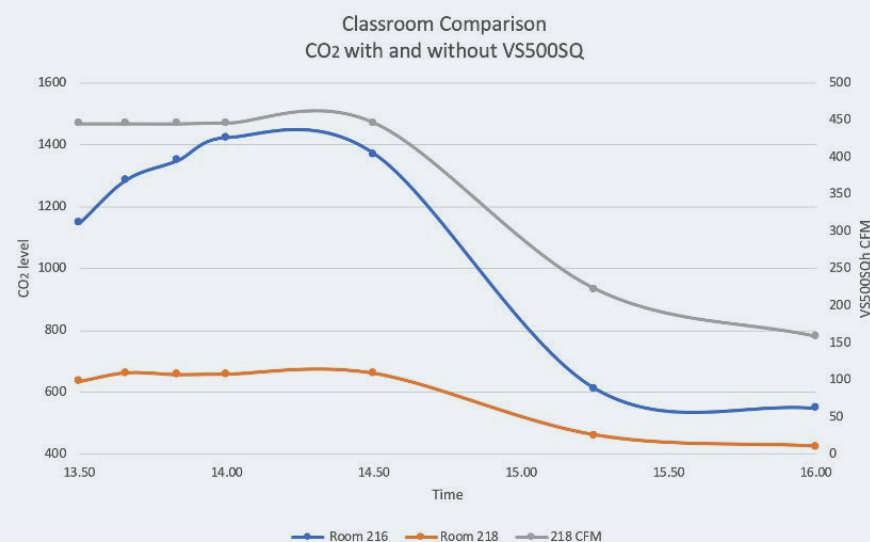
Remotely Monitor and Analyze your Complete HVAC Solution

- Increase efficiency
- Easy to integrate with auto-connect and plug and play design
- Proactively address potential failures before occupants are impacted
- Provide better service to facilities managers with improved diagnostics

Covid-19 Challenges: Air Quality for Schools and Classrooms

Ventilation has always been a key contributor to the health of a building's environment, but Covid-19 has created unprecedented situation for school systems. With more than 76 million enrolled in school, and millions more on staff, the return to high-density education environments requires a new focus on building air quality.

From elementary schools to college campuses, fresh air ventilation is vital to ensuring healthier classrooms and safer environments for students and staff. At a time when occupant confidence is more important than ever, Ventacity's VHE HRVs, ERVs and Smarter Building Platform enable a return to normalcy for schools and campuses.



In this comparison of two similar classrooms in a California school, Room 216 does not have a ventilation system whereas Room 218 has a Ventacity VS500SQh installed and running in demand control mode – between 150 and 450 cfm according to CO2 sensing.

During the occupied hours, Room 216 CO2 levels climbed to 1500 PPM, and in fact over 2000 PPM before lunch (not shown). Room 218 with the VS500SQh maintained a very healthy 600PPM – 650 PPM CO2.

Studies have shown that productivity and learning diminish at higher levels of CO2. And, very important right now, the higher CO2 indicates occupants are re-breathing some of the air. Many COVID-19 studies and publications suggest higher ventilation – fresh air – and less re-circulated air reduces the risk of spreading the virus.

Our Solution

Ventacity offers a complete portfolio of ultra-efficient ventilation systems that support superior air quality while also providing energy recovery. Our best-in-class heat and energy recovery ventilation systems are designed for easy installation, energy savings, and durability.

With a complete line of rooftop units, ceiling mount units and whisper-quiet ductless units that come in both heat recovery (HRV) and energy recovery (ERV) models, Ventacity enhances building health, comfort and efficiency while reducing HVAC energy by as much as 85%, along with operation and maintenance costs. See 3rd-party study link here: <https://betterbricks.com/case-studies/innovative-hvac-approach-helps-airports-energy-savings-take-off>

We have built our product on a solid foundation of the highest standards, designs and components available on the market today.

Rooftop Units

Rooftop units have a rugged design for easy rooftop installation and are also ideal for mechanical room installation. Their design and features make these units perfect for various commercial applications, such as retail, office, public spaces, schools and multifamily residential buildings.

Celling Mount Units

Ventacity's VS-CM Series has a very thin profile and helps building owners and HVAC contractors working on multi-level building projects reduce heating and cooling installation and operating costs, while improving energy efficiency, health and comfort. Unlike other ventilation products, the Ventacity VS-CM Series operates at much higher thermal efficiency (up to 86% energy recovery) which saves energy and significantly lowers operating costs.

Super Quiet Units

The Ventacity VS500 SQ is a ductless HRV/ERV for decentralized installations. Designed with minimum noise and nearly draft-free airflow, it is the perfect choice for classrooms, conference rooms and other group-use spaces. The VS500 SQ provides up to 500 cfm of VHE ventilation while generating a maximum of 35dB of sound.

DX and WATER COILS

Plug and play DX modules are accessories to ceiling mount units and the VS1000 RT for additional post-heating and -cooling. Hydronic coils are also an integral accessory to the SQ series ventilators.

Smarter Building Platform

Native integration with our ventilation family of products provides automatic commissioning and plug and play operation in the Smarter Building Platform.

Smarter Building Platform

Our Smarter Building Platform is compatible and automatically recognizes the family of ventilation products.

With the ability to collect and store critical performance data, deliver data to the cloud using a dedicated, secure wireless connection, and analyze and display Key Performance Indicators (KPI) on a web/mobile portal, Ventacity reduces the operational and capital expense required to deliver building performance.

Conclusion

Ventacity gives you the confidence to increase building health, comfort and efficiency with the intelligence that comes from remote monitoring and analysis of your complete HVAC solution.

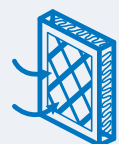
You get the advantages of better performance, lower maintenance and greater operational efficiency and students and staff get the benefits of a healthier and more comfortable environment.

Learn More

With Ventacity, it isn't just about smarter buildings, it's about smarter business. To learn how Ventacity delivers innovative and smart building technology that maximizes the value of your business, visit www.ventacity.com.

– PRODUCT

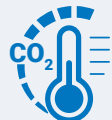
At Ventacity, we check off all the boxes for Ultra-Efficient Ventilation Systems for superior air quality.



✓ **MERV 13 filters** on incoming air.



✓ **Dedicated Outdoor Air System (DOAS) with zero re-circulation.**



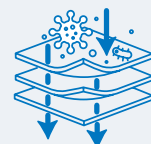
✓ **Controls to limit CO2 levels** to the recommended 800 ppm, or below.



✓ **Controls to schedule pre-flushing before** occupants arrive, and/or **night flushing after** they leave.



✓ **No cross flow contamination**, as is found in wheel-driven ERVs and HRVs.



✓ **ERV membranes with certified restriction of passage of viruses.**

Impact of Ventilation and Air Quality on Students

Proper ventilation rate (VR) can contribute to increased performance:

- A 70-school study in the Southwestern US demonstrated that students' average mathematics scores were increased by 0.5% with each 2 cfm/person increase in ventilation rate, up to 15 cfm/person
- A 54-school study across the US demonstrated that math and reading scores were 14% higher when VRs were greater than 10 cfm/student compared to scores when VRs were less than 5 cfm/student

On the other hand, poor ventilation considerably degrades the health of indoor populations:

- A study of 168 California classrooms demonstrated that increasing classroom VRs from the California average (8.5 cfm per person) to the state standard of 15 cfm would decrease illness absences by 3.4%
- A Washington and Idaho study of 434 classrooms showed that a 1000 PPM increase in CO2 was associated with a 10% - 20% increase in student absence
- Ventilation can significantly reduce the concentration of VOCs and their toxicity on indoor populations while contributing to greater productivity: <https://www.buildinggreen.com/newsbrief/air-filtration-schools-may-improve-test-scores>



VS500 SQh

The Ventacity VS500 SQh is a ductless HRV for decentralized installations. Designed with minimum noise and nearly draft-free airflow, it is the perfect choice for classrooms, conference rooms and other group-use spaces.

The VS500SQh HRV and, where climate appropriate, VS500SQe ERV are designed specifically to provide comfortable, filtered, fresh air to classrooms. The standard configuration uses MERV-13 supply air filters and an integrated CO2 sensor for demand control. They install quickly with short, in and out ductwork required only to pull in fresh outside air and to exhaust the stale air from one room.



CM and RT family

The CM family and RT family of ventilation solutions are also great choices for some schools, or some areas of schools. They are ducted units requiring more mechanical work. The VS3000RT, for example, is the perfect solution for some larger common areas.