CASE STUDY

At Chamberlin Elementary, new AAF®-HermanNelson® unit ventilators keep quiet in the classroom

If there's one lesson grade school teachers know by heart, it's that classroom cooling and heating systems should be seen and not heard. At Chamberlin Elementary School, South Burlington School District, Vermont, unit ventilators installed in 1965 when the school was built were creating the kind of disruptions you'd expect from 40-year-old equipment—noisy operation and time-consuming maintenance. As part of a renovation project, new AAF-HermanNelson unit ventilators were installed throughout the school. Now teachers and students are reaping the benefits: a quieter learning environment, improved air quality, and unit ventilators that don't steal attention from the job at hand—listening and learning.

Installation of new unit ventilators at Chamberlin Elementary completes a renovation project begun in 1995. It included adding two new wings to the school as well as a district-wide heating renovation.

Energy-efficient units meet classroom ventilation standards

Unit ventilators are the only cooling and heating system specifically designed for schools. Each classroom has its own dedicated unit, which can provide up to 100 percent outdoor air directly into the classroom. Although they have been in schools for 80 years, unit ventilators have evolved to meet today's energy codes. In fact, they are often the most energy-efficient method of cooling and heating the classroom.

Mike McDonald, director of grounds and maintenance for South Burlington schools, has worked with unit ventilators for 20 years, including nine years with South Burlington. He told school district officials that the new unit ventilators he had in mind would significantly reduce the number of times teachers would have to call for maintenance in their classrooms. By extension, less maintenance would increase the amount of productive learning and teaching, as well as decrease maintenance costs. District officials approved the purchase of new AAF-Herman Nelson unit ventilators from McQuay not only because they are designed for quiet operation, but also because they are designed specifically to be easy to maintain.

Installation of the new unit ventilators completes a renovation project begun in 1995. The renovation included adding two new wings to Chamberlin Elementary, as well as a district-wide heating renovation. The "old" part of Chamberlin was the last to receive the new unit ventilators, which were installed in several classrooms and a music room. McDonald says the new unit ventilators are built "tighter" and are far less noisy during operation. "They don't disrupt things," McDonald said.

Flip-up panels on top of the new unit ventilators and easy-to-remove access panels on the front make maintenance easy and quick.

While the units installed at Chamberlin Elementary are used for heating only, the larger coil size in the new unit ventilators increases both cooling and heating capacity by eight to ten percent over previous models. This allows load requirements to be satisfied with a smaller unit, or with the same size unit operating at a lower fan speed for quieter operation. "I can run the fan on low and get a nice, even heat. I don't really have to push the air to the room," McDonald said. "It keeps air quality high—number one—and keeps noise definitely to a minimum." A larger coil size also requires a smaller supply water pump, which reduces both the first cost and operating cost of the unit.

To achieve near-silent operation, AAF-HermanNelson unit ventilators use GentleFlo™ Air Moving Technology, which minimizes operating sound levels even as demands for more fresh air require units to work longer and harder.

Modular design makes maintenance easy

To McDonald, the new unit ventilators had to be more than just quiet. They also had to be easy to maintain. The modular design of the AAF-Herman Nelson units makes cleaning and servicing easy because individual sections are quickly removed. "Now, when I work on the units I don't have to stick my head in a two-foot by two-foot opening," McDonald said. "That's important, because the quicker you can get in and out of the classroom, the better. You're a distraction to those kids when you're there. They want to look at you and not listen to the teacher."

In his shop, McDonald was able to take one of the new unit ventilators apart and put it back together in about 40 minutes. In the classroom, that translates into quicker servicing of the unit. Flip-up panels on top and easy-to-remove access panels on the front also make maintenance quick and easy.

Remote access to unit controls minimizes classroom disruptions

All of the unit ventilators are hooked up to an Intranet via the district-wide control system, and can be run off a dedicated server on a laptop computer that McDonald keeps with him. If a teacher calls and says that a classroom is too cold or too hot, McDonald can call up the individual ventilator and oftentimes diagnose the problem and determine the best repair without entering the room. Sometimes, the repair is as simple as moving a piece of furniture that was placed in front of the ventilator, or removing the hats, gloves, and mittens teachers set on them to dry. If the problem is a little more complex, McDonald can be in and out of the classroom fast, and usually complete the repair without having to tote a bulky and loud toolbox into the room. The control system tells him before he enters the room what kind of repair he will face.

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"We've had a great response from the teachers since we put in the unit ventilators," said McDonald. The new unit ventilators are one less distraction, one less reason for the teachers to call for maintenance help—and that makes McDonald a happier man.