

CYPRUS ACADEMY CASE STUDY

A SYSTEM SO EASY TO INSTALL, A KID COULD DO IT



To be teaching and not be in such a stuffy environment – to be in a situation where the air is flowing for a change – it's just a good feeling.

Bob B. | Cyprus Teacher



THE CHALLENGE

The Cyprus Classical Academy in Burnsville, Minnesota is a private school for gifted children; it offers one of the most unique and rigorous education environments in Minnesota. Cyprus students learn real-world skills at an accelerated pace and test in the top 1% of students nationwide. However, both teachers and students at the Cyprus Classical Academy were facing an unwanted challenge in their classrooms: dramatic temperature imbalances.

Like many older buildings in the Midwest, Cyprus Classical Academy's 13,500 sq. ft. location dealt with hot and cold spots along with stale, stuffy air. Students carried sweatshirts from room to room, as the temperature imbalance was so dramatic. Due to classroom layouts, large windows, insulation issues and inefficient placement of thermostats, the school's HVAC expenses were very high and a comfortable temperature was difficult to maintain.

As one of the most advanced and forward-thinking schools in Minnesota, Cyprus viewed partnering with 75F was a natural fit. The kids were able to install and commission the cloud-based, predictive "building-intelligence-in-a-box" solution in their classroom after watching a brief tutorial video. The students gained real-world STEM experience, while everyone in the facility benefitted from a much more comfortable and eco-friendly environment.

AT A GLANCE

Location	Burnsville, Minnesota
75F® Solutions	Dynamic Airflow Balancing, Outside Air Optimization
Square Footage	13,534
Rooftop Units	6
Average RTU Size	5 tons
Previous System	Programmable Thermostat
Zones	22

Watch the video at 75f.io/casestudies

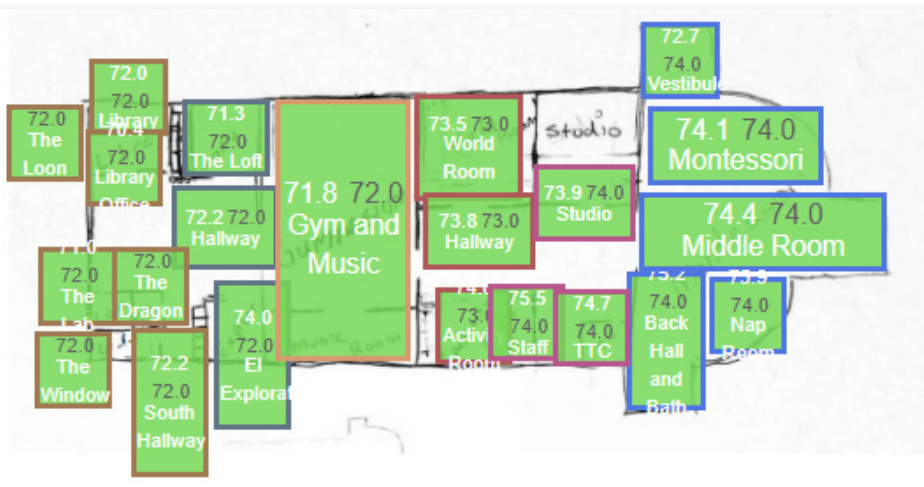
THE 75F SOLUTION

The 75F® Dynamic Airflow Balancing Solution™ (DAB) solution was implemented in the newly-created 22 zones. The 75F® Outside Air Optimization™ (OAO) solution was installed in three zones, monitoring CO2 and managing indoor air quality. Both solutions included the new highly-adaptable 75F® Smart Node™ equipment controller, which has easy Bluetooth pairing, an OLED screen and onboard controls for setup and testing.

Both the DAB and OAO solutions include 75F® Remote Temperature and Humidity™ (RTH) sensors installed in every classroom, taking thermal snapshots every 60 seconds. Sensor data is analyzed along with weather forecast data via cloud analytics, to send the optimal control strategy to the Central Control Unit (CCU).

Cyprus teachers saw the installation as an opportunity to teach their students about the real-world applications of STEM, including the importance of energy efficiency and air quality.

Cyprus students met with 75F technicians to discuss HVAC concepts and challenges. They analyzed the building and observed how the system was configured. For the students, highlights were drilling holes in their classroom walls to install sensors and running up step ladders to install equipment in the ceiling. After watching an instructional video, the students paired the controllers via Bluetooth and commissioned the system through the school Wi-Fi. They even hand drew a floor plan of the school and uploaded it to the 75F portal as a part of the commissioning process.



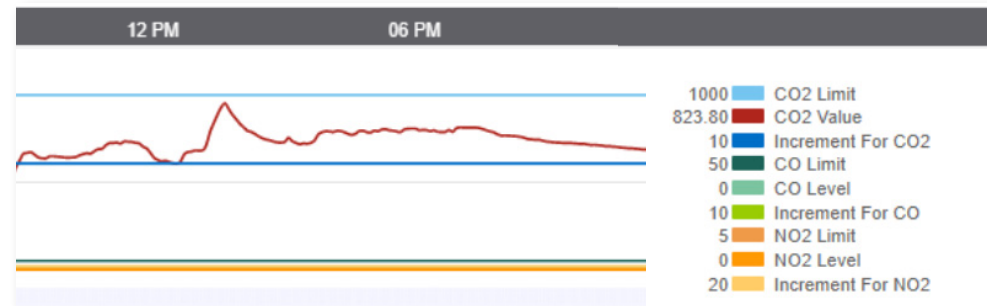
75F® Facilightsight™ suite of Web and mobile apps featured heatmaps of all zones, overlaying the building layout which the students hand drew. Cyprus Academy enjoys consistent temperatures throughout the building since installation of the 75F system.

THE RESULT

Both students and teachers reported markedly increased comfort and even temperatures throughout the building after installation of the 75F System.

With 75F, Cyprus resolved issues with stuffy air. Schools typically face high CO2 levels: A recent study by the International Journal of Indoor Environment and Health found that found carbon dioxide levels of classrooms in the California school system were as high as 2200 ppm – which is more than twice the recommended level, and almost 3 times the levels typically found in an office setting. Built-in CO2 monitoring is a part of Outside Air Optimization and by bringing in outside air when appropriate, OAO keeps CO2 levels in the building under 1,000 ppm for Cyprus.

Cyprus loved the easy installation of the 75F system. The students enjoyed the hands-on experience, plus knowing that the system they installed contributes to a healthier environment.



Facilightsight view of CO₂ levels at Cyprus Academy after installation of Outside Air Optimization, which includes CO₂ monitoring. The system works to keep CO₂ levels below 1,000 ppm, even during peak school hours.

It was really neat because the kids had experienced the issues with temperature. They knew the problem and they were able to put their science and math knowledge that they've gained to practice in the real world. It really touched them personally.

Michelle W. | Director of Cyprus Academy

