



Grand Valley State University (GVSU)

Cook-DeVos Health Sciences Building Grand Rapids, Michigan

Antrum’s technology was first installed at GVSU’s Cook-DeVos Health Sciences (CHS) Building in 2012. CHS is a Variable Air Volume (VAV) system with individual zone reheat coils. Prior to installing AntrumX™, the Building Automation System (BAS) controlled each space based on temperature alone. AntrumX allowed the GVSU facilities team to execute demand-controlled ventilation, providing data to the BAS to allow the minimum ventilation rate of each room being monitored to be updated every 15 minutes.

As you can see from Figure 1 below, with AntrumX installed and integrated to drive ventilation based on real-time demand/occupancy, the GVSU team was able to save up to 35% using heating degree days (HDD), and effectively reduce the kWh by up to 12%.

Today, GVSU is using AntrumX technology throughout the entire CHS building, monitoring 217,000 square feet, 5 stories, and 233 rooms, delivering significant impact to their bottom line with:

1. Increased occupant comfort, resulting in fewer hot/cold calls
2. Extended life of capital equipment due to running at partial capacity
3. Reduced maintenance expense due to equipment running at partial capacity
4. Energy savings

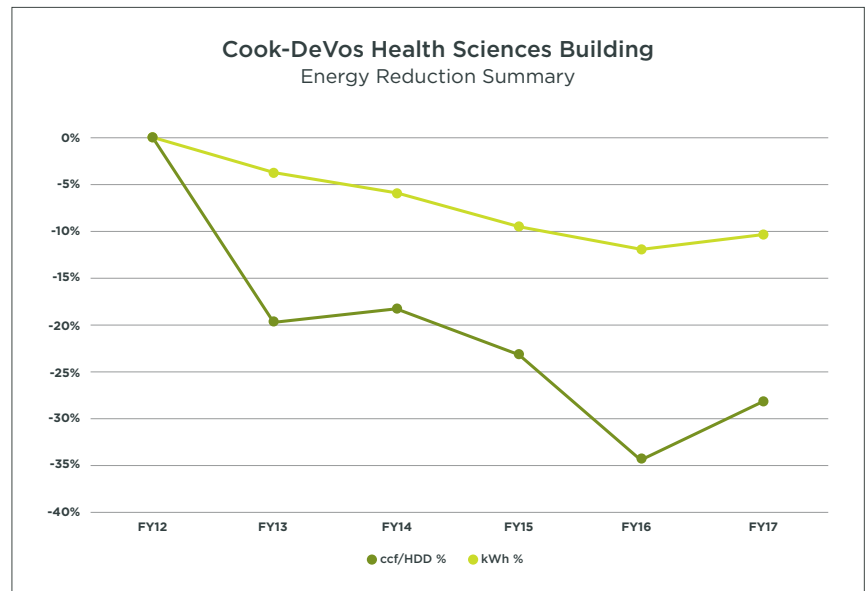


Figure 1: GVSU Cook-DeVos Health Sciences Building Energy Savings (implementation of 233 rooms, 5 stories, 2012-2017)

10 – 30%
energy savings

6%
number of sensors

^80%
savings compared to
maintaining wall sensors



Grand Valley State University (GVSU)

Henry Hall Allendale, Michigan

Evaluating the effectiveness of indoor air quality monitoring and/or demand-controlled ventilation technologies on an entire building—much less an entire campus—can be challenging due to the ever-changing environment, both inside and out.

Here, the Grand Valley State University (GVSU) team studied the impact of the AntrumX technology on ventilation energy alone, examining AHU-1, which serves Henry Hall and is connected to the School of Computing at GVSU.

Henry Hall is ventilated using a VAV system. Therefore, the supply fan on AHU-1 is equipped with a variable frequency drive (VFD). The GVSU team knew integrating AntrumX with the BAS would allow them to optimize ventilation and take advantage of energy-saving opportunities by slowing the speed of the fan and not over-ventilating rooms. The kWh of the VFD was recorded prior to installing and integrating AntrumX. As shown in Figure 1 below, the effective kWh decreased 25% from 3.5 to 2.5. As detailed in Figure 2, over a span of over 78,000 run hours, AntrumX saves GVSU over 68,000 kWh.

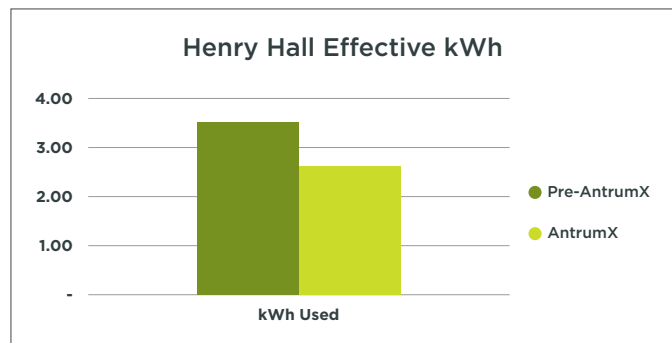


Figure 1

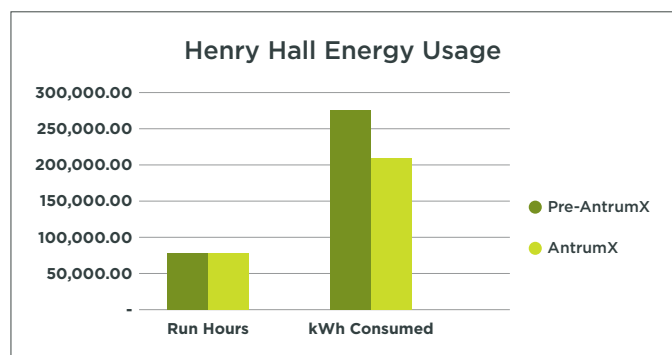


Figure 2



Optimize Ventilation—reliable, accurate demand-controlled ventilation

Improve IAQ—scalable sensing platform

Save Energy—easily maintained for the life of the building

Contact Antrum at sales@antrum.com to learn how you can do the same for your building.