



centralized makes sense

Monitoring Indoor Air Quality (IAQ) has never been more important, but it's just as important to consider how your monitoring solution prioritizes **sensor accuracy, maintenance, and scalability.**

AntrumX™ monitors the Indoor Air Quality of up to 32 spaces from a single location. Whereas traditional sensing systems typically require one space-mounted sensor for every monitored space, centralizing the sensors in an easily accessible mechanical room allows for more efficient maintenance and calibration. This guarantees more accurate and consistent data, leading to a healthier and more efficient building.

AntrumX is also scalable, so as the science of Indoor Air Quality evolves, your building can too. Currently, AntrumX monitors the following IAQ parameters: CO2, RH, TVOC, PM1.0, PM2.5, and PM10.

Space Mounted	Centralized
1 sensor per room	1 sensor per 16 rooms
Sensors located in occupied rooms	Sensors located in 24/7 accessible mechanical room
Multiple electrical connections: per sensor, per hub	1 electrical connection per 16 rooms
Less control due to every sensor drifting at different rates	Greater control due to single drift across 16 rooms
Separate CO2 sensor required for outdoor air reference	Shared sensor between 15 rooms and outdoor air provides accurate and consistent data for differential-based DCV strategies
Maintenance/Calibration per Sensor	1/16 or 6% of the maintenance effort
Hardware upgrade requires replacement of all sensors	Scalable hardware upgrade, 6% of the effort
Internet connection and multiple Wi-Fi points	Single internet connection
Potential to negatively impact Wi-Fi network	No Wi-Fi impact
Multiple opportunities for data breach	Single device online



centralized makes sense

			Total Cost of Ownership (TCO)					
Parameters			Initial Cost	5th Yr. Calibration	10th Yr. Replacement	15th Yr. Calibration	20th Yr. Replacement	TCO for 20 Years
32 Spaces	CO2, RH	Space-Mounted ¹	\$16,000	\$4,800	\$16,000	\$4,800	\$16,000	\$57,600
		AntrumX ²	\$15,700	\$1,715	\$1,715	\$1,715	\$1,715	\$22,560
32 Spaces	CO2, RH, PM1.0, PM2.5, PM10, TVOC	Space-Mounted ¹	\$27,000	\$8,000	\$27,000	\$8,000	\$27,000	\$97,000
		AntrumX ²	\$25,700	\$2,285	\$2,285	\$2,285	\$2,285	\$34,840

Notes:

¹Space-mounted sensors:

- a. All costs exclude labor
- b. ASHRAE 62.1 states to calibrate or replace sensors every 5 years
 - i. CO2 / RH wall sensor estimated \$150 per sensor to calibrate
 - ii. CO2 / RH / PM / TVOC estimated \$250 per sensor to calibrate
- c. CO2 / RH wall sensor estimated at \$500 per room to owner
- d. CO2 / RH / PM / TVOC wall sensor estimated at \$845 per room to owner

²AntrumX:

- a. All costs exclude labor
- b. ASHRAE 62.1 states to calibrate or replace sensors every 5 years
 - i. Above cost is to replace the sensor pack(s) in the panel(s)