



SecureAire

Air Quality Monitor AQM-100



Indoor Air Quality has become one of the top concerns for building owners, occupants, and visitors. At SecureAire our Mission is to provide State of the Art Technologies to help reduce and or eliminate all unfriendly particulates from Indoor Air. While Electronic Air Purification Systems are clearly the wave of the future, all of the tools needed to verify that the Indoor Air Quality is in fact as good as it's advertised to be, have been lacking.

It was this premise that drove SecureAire to develop the AQM-100. The AQM-100 is a State of the Art Particle Monitor that has the ability to measure both small and large particles so that building operators can quantify the real time performance of their existing filtration systems. The **First Party Test**, which the AQM-100 affords you, provides owners and operators with real-time data thus providing the ability to understand and address any potential particle ingressions.

The AQM-100 is an inexpensive, reliable, and easy to use instrument that provides you with the ability to measure particle levels in order to control bacteria, viruses and ventilation contamination levels. With a built in LCD display, there is no data to download, control systems to navigate or time lag to obtain a view into your systems performance. In addition, the AQM-100's computer software package, with easy to use menus, allows you the ability to download data (without Excel) to be reviewed at a later date, or in real time. This data is automatically stored. The computer software output display quickly and accurately provides you with a visual readout of your systems performance.

A sample of the computer output display is shown below. This shows both the "small" (0.4 microns) and "large" (2.5 micron) particle size channels. With these two particle size channels your ability to monitor and determine the effectiveness of your buildings HVAC filtration systems is made easier.

The AQM-100 provides SecureAire customers with the ability to perform first-party testing, providing real-time data to help understand and address any particle ingressions.

AQM-100 Data Output Graph



Particle Counting: Baseline, Drift and Recovery

Any indoor environment that is occupied exhibits contamination in the form of particulates, TVOC's, gases, and or odors. In order to control and clean up these environments, there are three basic principles that need further explanation:

1. How to "Characterize" the environment.
2. How to "Optimize" the environment.
3. How to "Control" the environment.

In order to "Characterize" the environment, we need to find out what our particle levels actually are. The first level that needs to be characterized is the **Baseline**. This level occurs when the environment is stagnant. Particle levels **Drift** upward either intentionally or not. As an example, if you were to walk into a meeting room and clap your hands to wake everybody up, the particle levels in the room would rise. Usually, in time, these levels will decrease back to the baseline level. This amount of time is also known as the **Recovery time**. The faster the recovery time the cleaner the indoor environment. Knowing the **Baseline, Drift(s)**, and **Recovery time(s)** provide you with a fingerprint of the particle levels, as well as any contamination levels in the occupied space.



Once the environment has been characterized, "Optimization" is next. Optimization is the step in which you employ purification technologies in order to treat and reduce the amount of particles in a specific area. In this case, SecureAire's Particle Accelerated Collision Technology (PACT) would be an excellent choice as a purification technology.

Finally, once particle levels have been optimized, they must be "Controlled." Particle ingressions should be controlled by the use of a proven purification method. SecureAire's PACT System is just one-way to help control contamination levels and potentially help to established a new and lower yet baseline level.

SecureAire's AQM-100 is an efficient and effective tool for measuring the performance of today's HVAC Filtration Systems.

System Specifications

Power Supply	120 VAC Wall Outlet
Display	3" x 5" LCD
Data Output	Via USB, RS232, RS485 or Ethernet
Data Storage	Stores up to 4 Years of Data (Adjusts with reading interval setting)
Particle Monitor Channels	0.4 and 2.5 Microns per cubic foot of air
BAS Integration	Easily integrates into any BAS system
AQM Dimensions	Length: 9" Width: 6.25" Height: 4.5"



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