Fellowes
AIR PURIFIERS

# AeraMax Pro® Restroom Study

*QUAKER STEAK & LUBE, CLEARWATER, FL*


# AeraMax Pro in High Traffic Restrooms
# A real-world case study at Quaker Steak & Lube

## EXECUTIVE SUMMARY:

Fine particulate matter (PM2.5) is an air pollutant that is a concern for people's health when levels in air are high. Since a restroom is a small, enclosed space the importance of PM2.5 cannot be underestimated. PM2.5 is important to manage because it is small enough to travel into and deposit on the deep surfaces within the lung, induce tissue damage, inflammation, and be absorbed into the bloodstream. Numerous scientific studies have linked PM2.5 inhalation to adverse health effects of the lungs and heart, and premature death in people who already suffer from heart or lung disease.

**For this real-world case study, Fellowes partnered with Quaker Steak & Lube in Clearwater, Florida, to test the impact of the AeraMax Pro AM3 PC commercial grade air purifier in reducing and maintaining PM2.5 levels in their men's and women's restrooms.**

During this study an observable reduction of PM2.5 in the Men's and Women's restrooms when the Fellowes Air Purification AM3 PC devices were operational was made. This reduction is visible in the overview table presented below.

Before the air purification units were engaged PM2.5 on average was 10.4 µg/m$^3$ in the Men's Restroom and 8.6 µg/m$^3$ in the Women's restroom. When the air purification units were engaged PM2.5 was reduced on average to 5.3 µg/m$^3$ in the Men's restroom and 3.2 µg/m$^3$ in the Women's restroom. Both restrooms saw a distinct reduction of PM2.5 during the study when the air purification units were engaged/operational. The average percent of PM2.5 reduction was 49.03% in the Men's restroom and 62.79% in the Women's restroom.

*NOTE: This study was conducted in a real-world environment with some variables and environmental factors not accounted for.*

*Women's Restroom*

*Men's Restroom*

| PM2.5 | Men's Restroom Average | Women's Restroom Average |
|---|---|---|
| Prior to AM3 PC Air Purifier Installation | 10.4 µg/m$^3$ | 8.6 µg/m$^3$ |
| After AM3 PC Air Purifier Installation | 5.3 µg/m$^3$ | 3.2 µg/m$^3$ |

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## TEST DETAILS

**Testing Period:** 4/28-5/19/21

**Setting:** Quaker Steak & Lube, 10400 49th Street North Clearwater, FL 33762

**Equipment Used:** Both restrooms were retrofitted with a wall-mounted air purification unit AM3 PC

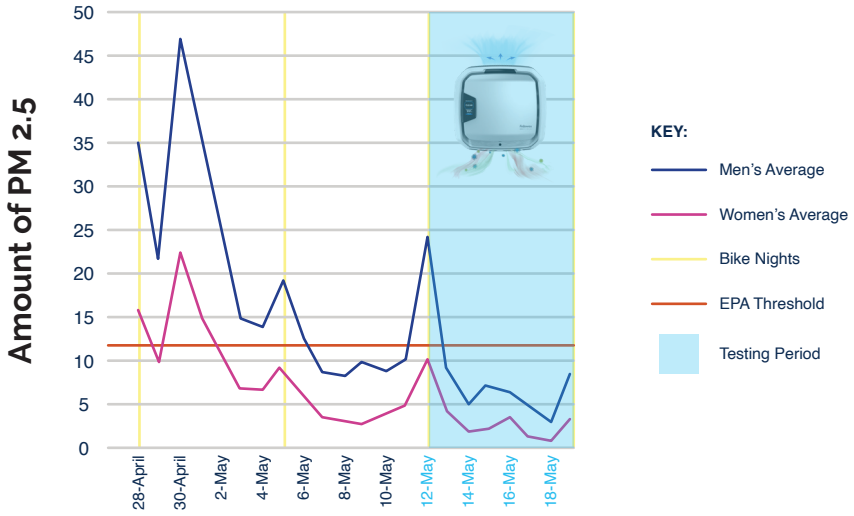
**Running Time:** During the test period of 5/12-5/19/21, the AeraMax Pro AM3 units operated 24x7. The AM3 PC units featured patented EnviroSmart Technology that utilizes an array of self-regulating sensors to continuously monitor contaminants, room occupancy and noise levels. These sensors allow AeraMax Pro air purifiers to work proactively, continuously monitoring the space as people move throughout. Our patented and proprietary technology does this by continuously scanning the room. As people enter the space, AeraMax Pro immediately works to increase the airflow rate to quickly purify the air. As people leave, it shifts to standby mode, conserving energy and extending filter life. Comparatively, other commercial-grade air purifiers that include sensors only respond to things like odor and particles in the air.

**Monitor status:** Kept on throughout testing period

**Observation:** Prior to AM3 PC units being installed, spikes in PM2.5 can be seen well above the EPA threshold for "good" air quality consistently in both restrooms. Significant spikes can be seen during much heavier restroom traffic days when special events and "Bike Nights" drove more customers to the restaurant.

Once the AeraMax Pro AM3 PC units were installed in each restroom respectively, there is a noticeable drop in PM2.5 spikes even though high traffic events continued at the same cadence as prior to the installation of AeraMax. In addition, even after spikes in PM2.5 the recovery and drop down below the EPA air quality line happens much faster and is maintained for longer duration with AeraMax Pro AM3 PC installed.


### Average of Fine Particular Matter (PM 2.5)

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