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How to **Optimize** Your Building's **Performance?**

Read details inside!

A Message from Matt Mongiello, Vice President

Growing up in this business I expected to get dirty... a lot. I also expected to be available to our customers 24/7. With that in mind, it is my pleasure to present the first issue of our newsletter developed to serve as a valuable resource to help you manage your building in the most efficient way.

While the system may be new to you, the Aircuity Optima™ monitor is the subject of our inaugural edition because this incredible tool represents a valuable step in our evolution to provide complete maintenance solutions. This building performance monitoring system is designed to survey HVAC performance by independently (key word here) measuring temperature, humidity, carbon dioxide and total volatile organic compounds. And, that's not all. It is so comprehensive it also measures particulate debris, carbon monoxide, ozone, radon, and even, mold. Think this is too good to be true? Our case study on pages 1 and 2 highlights the system's positive impact.

Luckily for us, our customers—comprised of engineers and facility managers working in various environments—represent a valuable resource of information. Therefore, each quarter we will share their experiences (along with ours) regarding solutions to problems, new products and innovations. Utilizing this vehicle and our web site, our objective is to assist you in select areas of best practice for maintaining your clean, safe facility. We sincerely hope you find this and future issues informative.



P. S. Feel free to contact me with your questions and/or comments at matt@imc.cc!



**Interior
Maintenance
Company, Inc.**

Since 1973

**Service
Professionals
Dedicated to
Excellence in
Indoor
Environmental
Maintenance**

the **MAINTENANCE** monitor

*A quarterly publication
to assist you in maintaining your building environment*

Volume 1 • Summer 2005

When your customer has the distinction of being one of the oldest, continuous health care systems

on the east coast with over 20 buildings situated on 130 acres of campus, you know their facilities department is constantly busy with new construction, renovations, equipment retrofit and controls

monitoring. As with any large facility, air flow regulation and thermal comfort of the occupants is a never-ending battle.

Always striving for continuous improvement, our customer's facilities group, spearheaded by their director, established a facility-wide *Results Based Maintenance* program to:

- 1.** validate performance efficiency of HVAC equipment
- 2.** explore further savings opportunities
- 3.** identify improvements in indoor air quality
- 4.** determine the cleanliness of the air conveyance systems

BUILDING PERFORMANCE MONITORING

*A Study in the
Measurement of
HVAC Efficiency*



Aircuity Optima Monitor measures key parameters to assess HVAC system performance.

Solution: IMC and the Aircuity Optima™ Monitor

In May, 2005, we were selected to provide this comprehensive maintenance program using the Aircuity Optima™ monitor. An award-winning system, it incorporates nine sensors to measure environmental information within a building. Sensors include temperature, humidity, carbon dioxide, carbon monoxide, ozone, airborne particles (two sizes), total volatile organic compounds, and radon.

A secure web-based data management system automatically organizes all the building information and collected data. The Aircuity Advisor™, an automated reporting tool, incorporates artificial-intelligence technology to report findings based on the collective knowledge and experience of building experts.

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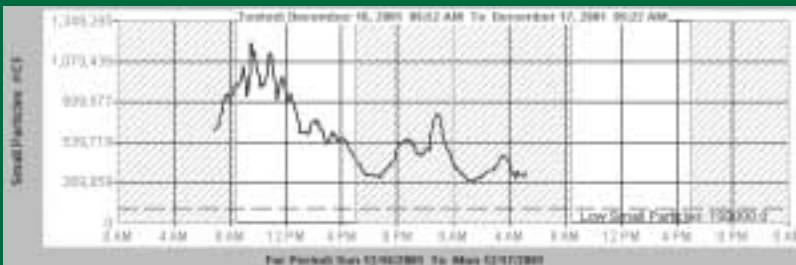
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Building Performance Monitoring

(continued from page 1)

Utilizing the Aircuity Optima™ monitor, we are able to use a unique third-party analysis and reporting system to guarantee an unbiased view of the HVAC system's delivered performance. Together with a pictorial report of the ventilation system components, we can provide a comprehensive report documenting the systems' performance and demonstrating the effectiveness of a maintenance plan.



The report provides an independent review of temperature and humidity control, filtration and ventilation efficiency, control strategy, and potential pollutants.

Monitoring and Inspection

Because of renovation work being completed at a sensitive area serving the Labor and Delivery department, we started the inspection process there. Pictorial documentation of the exhaust ductwork system showed significant accumulation of dirt and debris restricting air flow at turning vanes and fan components.

Before cleaning, the Optima equipment was installed to monitor a baseline of the environment. Within 48 hours, a report was downloaded from the Aircuity website and findings showed the space appeared to be over ventilated and there may be an opportunity for significant energy savings. Furthermore, TVOC levels were outside the recommended guidelines and, therefore, required our attention.

Positive Impact

Using the maintenance program, we identified a serious air flow problem and verified the necessity of cleaning.

- 1.** The building's exhaust systems are being cleaned and already we noticed an improvement in the outbound air flow.
- 2.** Together with the on-site mechanical contractor, we determined the need for balancing of the air conveyance system.

With our initial mission accomplished, we look forward to the next area of inspection with the Optima system, and discovering more ways of improving our customer's HVAC performance and indoor air quality.

Industry Veteran
Dave Gerhard
IAQ Consultant



If you knew what our project manager and estimator Dave Gerhard knew, you wouldn't

need us! As a founding member of the NADCA (National Air Duct Cleaners Association) – one of the "Dirty Dozen", this 25-year industry veteran proudly looks back and states, "It was fun seeing the industry grow!"

Years ago as owner of a chimney cleaning company, Dave attended an air duct cleaning seminar and became keenly interested in

Contact us at 800-2
For more info, visit

Applications for

1. Instant Response to Complaints

Respond quickly and professionally to occupant concerns by providing comprehensive building evaluation reports in as little as 24 hours. The vast majority of complaints can be addressed through simple adjustments or modifications to heating and cooling systems.

FAQ: The Nitty Gritty

indoor air quality. Fortunately for us (and you, too!) Dave instinctively knew it was, and still is, an issue of concern. He went on to lead our industry in improving indoor air quality.

Dave can take credit for many industry "firsts" for he:

1. organized the **first** NADCA convention and was a speaker
2. wrote the **first** technical training manuals
3. developed and designed air duct cleaning equipment.

Getting "down and dirty", Gerhard trained (and still does) over 2,500 technicians.

The Western PA native advises his coworkers and children to strive to be good at what you do, and "have fun in your job!"

With his infectious positive attitude, Gerhard continues to reel in customers and compliments, and our staff's respect.

220-6547.

us at www.imc.cc

Q. "What is the black, sooty substance coming out of the vents and typically found on our desks in the morning?"

A: In almost every case, the sooty, fine particulate found on surfaces in the morning is debris coming from your air conveyance system. More specifically, the particulate is mostly comprised of rust and deteriorated fiberglass duct liner.

Here is why and how this happens:

In many facilities, and yours may be included, the air conveyance system is turned down, or cycled down, for the night. Loose debris in the duct system settles on the floor of the ductwork and accumulates over time.

In the morning, when your system starts back up at full capacity, the accumulated debris is blown through the duct work and out into the occupied space.

The heavier particulate is typically found right below the supply vents and diffusers.

Contrary to what you may think, an upgrade in filtration at the

air handling unit may not be enough to stop this condition, because the rust and fiberglass duct liner insulation breakdown is occurring downstream of the filters.

Here's a 3-Step Remedy:

1. Inspection

We recommend an inspection of your air conveyance system to check for insulation breakdown within the air handling unit and the ductwork.

2. Cleaning and Treatment

Cleaning of the system is typically necessary. Rust contamination is normally found at the air handling unit, and should be wire brushed cleaned, and then treated with our rust inhibitor coating product to limit further deterioration.

3. Painting

The insulation surfaces need to be painted with our coating product designed to seal and reinforce the surface.

the Aircuity Optima™ System:

2. Construction and Renovation Monitoring

Construction in or near occupied areas may impact occupants through infiltration of dust, smoke, and even mold. Employ Optima system monitoring in occupied spaces to alert you to these issues early, preventing complaints and costly cleanups.

3. Mold Prevention and Assessment

Use the Optima system to detect building conditions that can promote mold growth, and to monitor indoor mold levels before they become a serious problem.

IMC Service Directory

Air Duct Cleaning

Construction Cleanups

Dust Control • Energy Audits

Floor and Carpet Care

High Surface Cleaning

HVAC Documentation

HVAC Inspection

Insulation Installation

Insulation Repair

Janitorial Maintenance

Kitchen Exhaust Cleaning

Mold Removal • Odor Removal

Painting • Pressure Washing

Thermal Diagnostics