



# INDOOR AIR QUALITY

**Employers worldwide have become increasingly concerned about the quality of indoor air quality and the impact on the health of its employees. Several employers have been forced to financially reimburse their employees for illnesses that the workers blamed on the indoor environment of their offices. There are also cases of tenants vacating office spaces and severing leases due to air quality complaints.**

## Prevention

The key to any indoor air quality problem is prevention, and with the health of so many employees at stake, increased absenteeism, and the potential substantial losses, employers are finding it cost effective to ensure that indoor air quality and employee health is kept at a premium.



Building managers and owners can take steps to prevent indoor air pollution from affecting the health of their tenants - steps that will result in reduced absenteeism rates and improved productivity. These steps are part of a proactive monitoring programme designed to inspect, analyse and evaluate a building's air handling system on a regular basis.

## Why Proactive Monitoring?

- It reduces the chances of a “healthy” building from becoming “sick”. Problems or potential problems are quickly identified and corrected at minimal expense.
- It protects against owner liability. In addition to reducing the chances of litigation, proactive monitoring demonstrates that the owner has taken necessary steps to assure a healthy work environment.
- It reduces employee absenteeism. Thirty to fifty percent of employee absenteeism is due to upper-respiratory complaints - symptoms that are common in occupants who are plagued by poor indoor air quality.
- It enhances management's relationship with employees by demonstrating a genuine concern for the employee's well being.
- It improves overall building maintenance and operations. Air quality is improved through regular monitoring of ventilation rates and filtration efficiencies.
- It is a selling point for private and commercial property owners in marketing and advertising their properties and thus can be used as an effective tool in the competitive property market.

Legionella Control

Asbestos Management

**Indoor Air Quality**

Water Hygiene

Water Management

Fire Risk Assessment

Health & Safety

Disabled Access

Workplace Noise Assessments

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## Who Needs Proactive Monitoring?

- **Owner / Occupants** - Staff losses, absenteeism, and low productivity directly impact the bottom line of any business. Frequently these losses can be reversed.
- **Tenants / Landlords** - New lease agreements increasingly include statements on air quality. Tenants can break their existing lease if poor air quality adversely affects their staff.
- **Banks** - Banks and mortgage companies incur the loss when building owners and developers default on loans due to indoor air pollution litigation and liability against them.
- **Insurance Companies** - Insurance companies are forced to pay court settlements and legal fees for employees whose illnesses are caused by sick buildings.
- **Hospitals** - Cross infection problems, which are common in hospitals, increasingly are being traced to contamination or blockage in ventilation ducts.
- **Others** - Schools, colleges, universities, and diverse government agencies will find value in having their buildings tested on a regular basis for similar reasons to those noted above.



## What is a Proactive Monitoring Programme?

A proactive monitoring programme consists of a detailed investigation of the design and operating practices of a building's air handling system. This information is integrated with the data collected from a comprehensive air sampling and analysis study. An air quality database is established which becomes the benchmark for evaluating changes in the air quality in the future.

At the time of this first inspection HBI AUDITAIRES - airborne particulate contamination sensors - are installed on the ductwork. These become a focal point of the continuing surveillance service.

The on-going monitoring involves repeat inspections at regular intervals. Analytical results from the initial inspections and subsequent studies are then compared with a composite database of hundreds of major buildings.

## Proactive Monitoring by HBI - The Steps Involved

### Part I - Inspection

- Survey of design and operating practices of air handling systems.
- Ventilation rates, distribution, and volume controls.
- Filtration design, integrity of fit and efficiency.
- Examination of heating, cooling, and humidification systems.
- Visual inspection of internals of supply and return ductwork.

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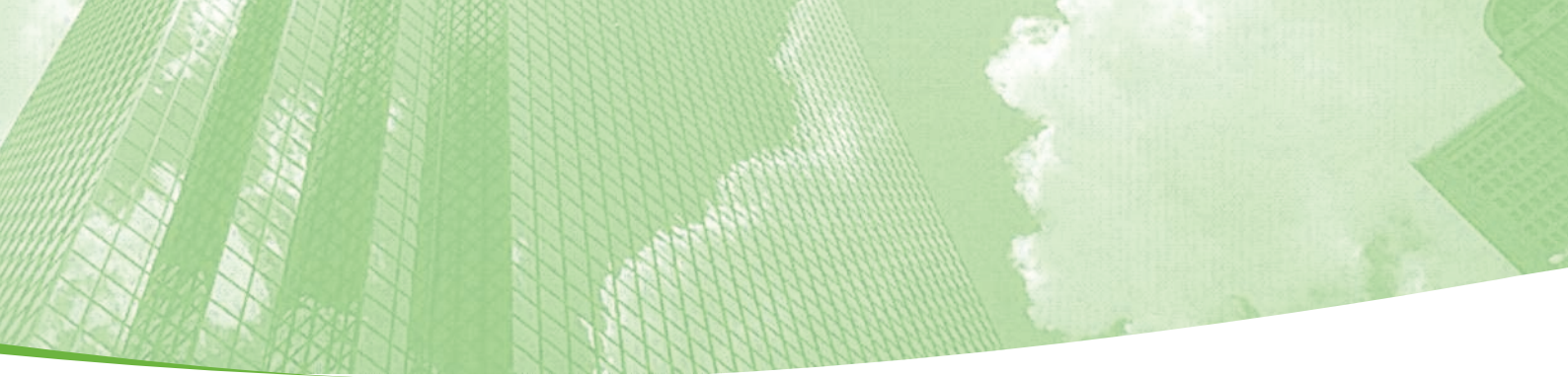
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### Part II - Sampling and Analysis

- Carbon dioxide and monoxide levels.
- Airborne particulates quantitative analysis.
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- Selected organic and inorganic gases/vapours.
- Identification and quantification of bacteria and fungi.
- Temperature and relative humidity readings.



### Part III - On-Going Monitoring

- Installation of AUDITAIRES (airborne contamination sensors) to ductwork.
- Establishment of indoor air quality database for specific buildings.
- Re-inspections of air quality at six month intervals.
- Comparison with composite database of hundreds of major buildings.
- Comprehensive reports with results, conclusions and recommendations.



The key to a successful programme is that the results of improvements by implementing remedial actions can be quantified. Conversely, in the event of adverse trends in air quality over time, changes can be implemented to rectify the situation before complaints arise from the building's occupants.

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