



Indoor Air Quality

If it's in the AIR, It's in your lungs! Do you know what you are breathing in?

The quality of the air you breathe can vary considerably, depending on the gasses, particles and microorganisms contained within it. Often it is assumed that Indoor Air Quality is high because it is 'protected' from the outdoors. In fact, the reverse is often true. Ignorance about indoor air quality, lack of monitoring and poor maintenance of HVAC (Heating Ventilation Air Conditioning) systems all contribute.

The air circulated by your air conditioning system is the most common source of complaints such as sneezing, stuffy or runny nose, dizziness, nausea, drowsiness, fatigue and irritation to the eyes, nose, throat and skin. Exposure to indoor air pollutants has increased over the past two decades, resulting from the construction of tightly sealed buildings, an increase in electrical/ electronic equipment such as PCs and printers and the use of synthetic building materials and furnishings that slowly release pollutants.

Inadequate maintenance of internal air systems further escalates indoor air quality problems. Lack of servicing, lax cleaning schedules, deterioration of system components and poor design are common occurrences. This leads to a build up of dust, mould, bacteria and pollutants that are circulated throughout the building.

Recent scientific research now shows that modern populations typically spend 80-90% of their time indoors. Further, indoor air is on average 4 times more polluted than outside, with short and long term exposure affecting the health of those exposed.

Sick Building Syndrome

Sick building syndrome is a combination of symptoms and complaints associated with a place of work or home, mostly related to poor indoor air quality. Over 50 possible symptoms are known and it is possible for many sick occupants to report a wide range of individual symptoms, which appear unconnected.

Symptoms include:

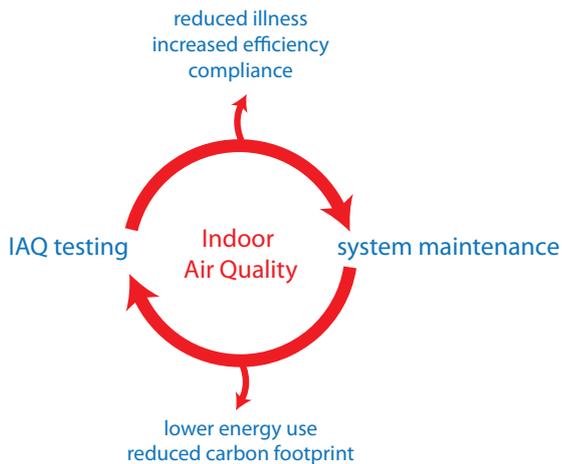
- Headache
- Dry cough; dry or itchy skin
- Difficulty in concentrating
- Sensitivity to odours
- Personality changes such as anger / weeping / paranoia/ depression
- Eye, nose, or throat irritation
- Dizziness and nausea
- Fatigue
- Increased incidence of asthma attacks/appearance of asthma in non-asthmatics
- Putative cases of bronchitis or pneumonia which do not respond to antibiotic treatment





IAQ Technologies

IAQ Technologies provides a comprehensive indoor air quality (IAQ) service that maintains the standard of the air that you breathe. Our end-to-end service involves unbiased, independent testing and assessment of air quality and the effectiveness and safety of internal air systems (HVAC). After careful analysis of results and the identification of internal air quality problems, we recommend a course of action to improve internal air quality through HVAC system cleaning, service and maintenance.



- ✓ Reduce the incidence of illness
- ✓ Increase efficiency and comfort
- ✓ Comply with standards
- ✓ Reduce energy use and carbon footprint

IAQ Technologies have the insight to transform your air quality test results into action. We have more than 20 years experience in the air conditioning industry and a specialisation in commercial and industrial buildings. This unsurpassed depth of knowledge of air conditioning systems gives you the most accurate recommendations and effective solutions.

Service Standards

IAQ Technologies set high service standards and focus on exceeding customers' expectations, including particular attention to the following deliverables:

- Open **communication** to keep you informed
- Utilising our **skills and experience** to deliver the best outcomes. We provide a complete solution.
- Well-developed **practices and methods** that deliver the highest quality outcomes
- We understand the operational needs of your business and **minimise disruptions**.
- We deliver our services at the most **competitive prices**

- All aspects of our service delivery are performed with the highest **attention to detail** and utmost **professionalism**.
- We aim to be **on time, every time**
- **Reliability**. We deliver exactly what we promise.

IAQ Technologies, established in 1999, is a team of professionals with skills and experience in the air conditioning and mechanical services industry spanning over 40 years. We have worked in all facets of the industry, including service management, electrical engineering and electronic air filtration in major air conditioning companies.

Due to our ongoing commitment to quality and professionalism we have attracted many prominent clients throughout Australia, including telecommunications, universities, shipping and transport, major hospitals, automotive, major arts and cultural institutions, police and metropolitan councils Australia-wide.





Indoor Air Quality Testing

IAQ Technologies provide reliable, independent and objective indoor air quality testing. We design our testing regime to meet your exact requirements and consider factors such as building layout, previous problems, HVAC design and levels of staffing.

Our process of evaluation typically involves the following stages:

1. System overview

To understand your system and any previous IAQ problems we gather information directly from management and staff.

2. Test design

Our testing regime is designed to suit your exact requirements.

3. IAQ Testing

Tests are conducted for indoor levels of:

- carbon dioxide (CO₂)
- carbon monoxide (CO)
- temperature (°C)
- relative humidity (%)
- dust
- total volatile organic compounds (tVOC)
- ozone (O₃)

Levels of each are measured during the course of a business day and in some cases over a 24-hour period. This profiles the effectiveness of your ventilation system and provides valuable data to determine actions in the areas of comfort, air cleanliness and source of pollutants.

4. Visual Observations

We assess office layouts and the locations of electrical office equipment and it's effect on airflow inhabitation and other IAQ related problems.

5. Microbial Testing

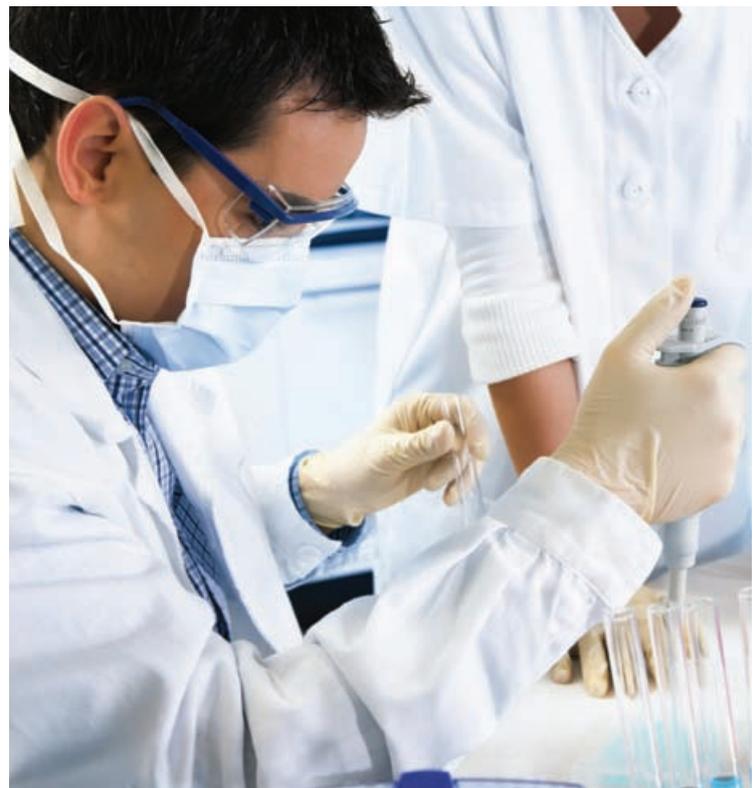
We measure surface and/or air samples in key areas within the building. An independent laboratory is employed to report concerns of excess levels of bacteria or fungi.

6. Pollutant and Source Inventory

We inspect the building for possible sources of pollutants both inside and outside. This investigation employs an extensive checklist of potential causes of IAQ problems.

7. Report preparation and delivery

The results of your IAQ testing regime are compiled, analysed and then summarised. Additionally we make recommendations for courses of action to remediate any problems identified. This report is presented to you face:face where we explain and discuss all outcomes.





HVAC Testing

IAQ Technologies are experts in the effective functioning and integrity of HVAC systems and their impact on indoor air quality. We provide independent auditing of the total HVAC system. Our independent and unbiased consultation services have been utilised by building owners and managers, facilities managers and engineers. We provide a written report of the entire survey with recommendations. When applicable, we also provide video and photographic evidence.

Tests

Air duct and system inspections are an effective yet affordable strategy to identify or locate indoor air quality problems and system inefficiencies. The most commonly identified problems in HVAC testing are:

- restricted air flow
- inadequate ventilation
- blockages of cooling coils, heating coils, mixing boxes, VAV boxes and clogged return air filters.
- microbiological contamination
- high levels of airborne particulate matter
- high levels of microbiological contamination
- high levels of carbon dioxide
- damaged internal duct insulation, allowing fibrous material to become airborne and circulate into the conditioned space.
- inappropriate location of control devices
- contaminated air ducts and air handling components

Causes

Issues most commonly arise from the conglomeration of particulate matter (dust) on and close to cooling coils. In conjunction with localised moisture, the growth of mould, fungi and other microbiological organisms is promoted. All of these are considered detrimental to the health and well being of the occupants, particularly in regard to effects on eyes, nose and respiratory systems.

The accumulation described arises from the absence of a regular specialised maintenance regime that measures air quality, inadequate maintenance procedures, air leakage from ductwork and poor quality or ill-fitting air filters.

Effects

- Poor maintenance has direct effects on:
 - system efficiency and longevity
 - reduced air circulation
 - increased energy use
 - extended operating periods of major equipment
 - compromised air quality, dissatisfied occupants, increased absenteeism
- reduced heat transfer from the cooling/heating medium to the air
- inconsistent conditions in the occupied space
- reduced efficiency
- discontentment among staff
- potential litigation





HVAC service and maintenance

IAQ Technologies provides complete HVAC service and maintenance.

Heating, Cooling and Condenser Coils

Clean coils not only reduce the likelihood of poor indoor air quality but also offer vastly improved system efficiencies and cost savings.

Coil cleaning requires specialist techniques and skills to prevent further exasperation of problems. Recurring problems are often the result of inadequate cleaning of cooling / heating coils due to a "quick clean" mentality, which results in water spillage into ducts, poor drainage and inappropriate cleaning solutions, leading to a proliferation of mould and bacteria. IAQ Technologies employs systemised work practices, well-trained technicians and a strong attention to detail to ensure your cleaning is performed professionally.

Air Ducts

Duct cleaning is a specialist service that demands specialist equipment and expertise. For safe, fast and efficient contamination removal, this must be operated with knowledge of air duct systems and the required industry standards.

IAQ Technologies use the latest Air Knife Technological Cleaning system, which requires far fewer access openings in the ductwork. This reduces disruption, technician time and cost compared to other cleaning systems.

The main thrust behind the Air Knife Technology is high volume compressed air. Very few cleaning technologies operate with a tow-behind compressor. With a minimum of 150 cubic feet per minute (CFM) of air volume, it exceeds the conventional duct cleaning compressors by 500%. What sets the Air Knife apart is its advanced design, featuring a high-pressure air cleaning head. The head works like an air knife traveling in contact with the walls of the air duct throughout the entire system. Dirt, debris and contaminants are removed from the walls of the duct with speed and efficiency superior to any other methods. This dirt is simultaneously collected by a high capacity vacuum cleaner connected to the air duct channel. Air Knife Technology is not only capable of cleaning ductwork zones of up to 30m regardless of their dimensions, shape or form, but can also apply sanitizing and coating materials within the duct using the same procedure.

Return and Supply Air System

Periodic cleaning is recommended for the Return and Supply Air systems, which consists of contaminant removal from the registers, internal surface of ducts, dampers, vanes and diffusers. Some systems utilise the ceiling space as a return path, which is known as a return plenum. In this case, our technicians will treat the ceiling space as a return duct.

Air Handling Units

IAQ Technologies recommend that Air Handling Units (AHU's) are thoroughly cleaned periodically to maintain a clean indoor air environment. This minimises restriction to airflow while maintaining maximum heat exchange between the air and coil surfaces, thus increasing running efficiencies and cost savings.

All components and internal surfaces of the AHU's are cleaned, including: fans, fan housing, belt covers, heat recovery plant, motors, dampers, outdoor coil, filter frames and condensate trays.

Exhaust System

The ventilation system is separate to the air conditioning system and consists of individual units for car parking, toilet and kitchen exhausts. Recommended cleaning regimes involve contaminant removal from internal duct surfaces, fan motors and blades, exhaust grills and kitchen hoods.





Computer Room Cleaning

Computer rooms are the nerve centre of a business. They are a critical component of business infrastructure that transmits and coordinates crucial information for effective functioning of the business. Loss of function or data can cost a business many thousands of dollars, employee downtime and customer loyalty.

Equipment failure can be a result of poor maintenance or inappropriate cleaning methods, hence maintaining cleanliness is vital to ensure that delicate and expensive equipment can function properly. Professional computer room cleaning ensures a reduction in long-term maintenance costs, reduces chances of equipment malfunction and increases the life of hardware.

Computer room cleaning requires highly specialised and regular programmed cleaning on all surfaces, including floor surfaces, system cabinets, sub-floor voids, ductwork, raised floor airflow panels and other dust catching surfaces.

IAQ have extensive experience in computer room cleaning and data center cleaning, including some of Australia's biggest companies. Employing industry best practice, we provide a highly professional and reliable service.

Tacky Mats

Tacky Mats (also known as clean room sticky mats or sticky mats) maintain sanitary conditions in clean room areas and provide maximum protection against foot borne contamination. Each mat consists of 30 disposable sheets which each have a strong adhesive coating to remove dirt on contact. When the top sheet becomes soiled, simply peel it off to expose a new, clean surface. Tacky Mats are installed in seconds and provide an economical means to control contamination.

Tacky Mat Specifications:

- Polyethylene sheet (0.2mm), non allergenic, non odorous, non drying solid adhesive and non aging
- Standard colour blue but other colours are available on request
- Fully adhesive backing
- Each sheet individually tabbed with exclusive pull tab system

