

# Indoor Air quality



## **What is the meaning of “Indoor Air Quality”?**

Air quality is measured by determining the amount of pollutants in the air, so an increase in pollutants results in a decrease in air quality. Indoor air quality refers to the quality of air within buildings and structures and relates to the health and comfort of the occupants.

## **The Effects of Poor Air Quality**

The air we breathe is filled with gases and particles. Everything we inhale affects us in different ways.

Exposure to poor air quality can cause short term effects such as

- Headaches, eyes, nose & throat irritation,
- Breathing difficulties and even
- Skin irritation.
- There are also longer term effects such as asthma and other respiratory illnesses, and even
- Cardiac problems.
- Air pollution is a major public health risk, ranking alongside cancer, heart disease and obesity. It shortens lives and damages quality-of-life for many people.

## **What Contributes to Poor Indoor Air Quality?**

There are five major contributors to poor air quality in homes:

- Toxic compounds (also known as a VOCs)
- Microbial growth
- Allergens & other pollutants
- Carbon Monoxide, Radon and other gases
- Infectious illnesses

Our homes are filled activities that can affect the air quality. Washing, cooking, showering and even breathing all contribute. Drying washing indoors without adequate ventilation vaporises the washing chemicals used which can be harmful to health.

### **Particulate Matter**

We refer to PM10 or PM2.5 when measuring air quality. Particulate Matter is everything in the air that isn't gas, and this includes natural sources such as ;

- Pollen, pet dander and dust
- Man-made pollutants from cooking, cleaning & smoking
- Even simple things like lighting a candle can contribute to poor air quality.

## Humidity

High humidity levels are also a big problem, and can lead to condensation and damp. When the air becomes heavy with moisture the home becomes a breeding ground for dust mites, allergens and bacterial growth.

## Air Tightness

It's also worth remembering that as we increase the air tightness of our homes by insulating and replacing windows etc, this traps all these elements inside, increasing concentration levels of stale air and pollutants. Proper Air flow & ventilation is paramount to the health of both the home and the occupant.

## Monitoring Air Quality

The market has many air quality monitors that allow for constant assessment of the air quality in dwellings. One example is our [PICO](#). This little device measures temperature, relative humidity and carbon dioxide levels in the space, and allows tracking of these levels over time via the smartphone app.

Other air quality monitoring devices are readily available on the market, allowing you to measure and track the levels of carbon monoxide, PM10 and 2.5, VOCs, radon and more in addition to what the PICO does. Monitoring these levels is good practice, and encourages implementation of measures such as;

- Preventing condensation,
- Keeping your home smoke free,
- Vacuuming regularly & of course ...
- Proper Ventilation!

## How Proper Ventilation can Improve Air Quality

It may sound simple, but properly ventilating our homes can significantly improve air quality, and therefore the quality of our lives.

Traditionally homes have been ventilated using intermittent extract fans in wet areas such as bathrooms and kitchens, with the air supply coming from trickle vents. Trickle vents are typically holes cut into window frames, and the reality is that 99% of the time they are kept closed by the occupants. Even when they are open, they let in cold air, noise and insects in, and warm air out. As we improve the thermal efficiency of our homes, which increases air tightness, these traditional methods just don't meet today's needs.

Proper ventilation includes centralised or [decentralised mechanical ventilation](#) with heat recovery systems, alongside mechanical extract ventilation. This creates a balanced airflow within the dwelling, removing pollutants and other particles as well as introducing fresh filtered pre-heated air into the dwelling. This also greatly enhances the thermal comfort, reducing heating bills and carbon emissions.

At VENTI we believe everyone should have access to clean and healthy air. Our purpose is to promote healthier living by delivering fresh air through efficient and continuous mechanical ventilation.