



Introduction to Cleaning of Ventilation systems

It is a well-known fact, that ventilation systems are installed in buildings in order to ventilate the rooms. The system is designed to supply or extract a certain amount of air to the rooms. Even with filters fitted to the system, it can not be ensured that some contaminants will come into the system. Contaminants are accumulated throughout the years, and can after several years build to a substantial amount.

The consequence is that the system may not work as designed. If the system, besides transportation of fresh air, also serves to heat/cool the rooms, it might become difficult to regulate. The accumulated dust creates a basis for bacteria and fungi. These might, within time, free themselves from the duct, and be transported into the ventilated rooms.

Blocked or heavily contaminated filters also create a basis for bacteria and fungi. The traces will over the time grow through and release on the other side of the filter. In this way they can reach the ventilated rooms. This might cause illnesses for the occupants working in the rooms.

The illnesses will show as mucous membrane inflammation, migraine, tiredness, depression etc. Poor indoor air quality does not only come from the ventilation system, but it definitely contributes to a large extent.

Ventilation systems do not only exist as comfort ventilation in offices, but are also used in the industry as suction for gases, smoke and dust. These plants are often very contaminated. Many of these plants have no direct influence on the indoor air quality due to the fact that they act as extracts. However the ducts can get blocked, and hereby cause a poor suction from the rooms.

A dirty ventilation duct creates a fire danger. Dust burns very easily, and with suction in the duct system, the fire can spread out to other parts of the building rapidly.

For all of the above and many more reasons, there is reason enough to clean the duct system regularly.

Why is ventilation hygiene important?

The amount of people is rapidly increasing which have a general concern regarding the air we breathe and it have become a well known point of discussion. Airports, hospitals, laboratories and apartment blocks have the last few years paid special attention to the problems coming from bad indoor air quality.

Heating, ventilation, and air conditioning (HVAC) systems have been shown to act as a collection source for a variety of contaminants that have the potential to affect health. Microbial growth can result in higher air concentrations of microscopic organisms, such as mould, fungi, bacteria and dust.

The removal of such contaminants from the HVAC system should be considered as one component in an overall plan to improve indoor air quality.

Maintaining a HVAC system should be as logically as maintaining a car. The better it is serviced the longer it will run trouble free.

Human health at risk

Poor indoor air quality is air containing contaminants that can cause health problems such as coughing, eye irritation, headache and allergic reactions. Humans have varying levels of tolerance to airborne contaminates.



For homeowners, poor indoor air quality can result in short and long term health problems. For employers, poor indoor air quality environments can mean reduced productivity, poor morale and stress.

What should a quality maintenance programme involve?

Most causes of IAQ problems are visible to the educated eye. A thorough inspection of the HVAC system with a remote controlled camera device will in most cases be enough to determine the need for HVAC system cleaning.

This 4-step procedure should secure an efficient HVAC system:

- Determine the contaminate effecting IAQ
- Identify the source of contamination
- Remove the source of contamination (if possible)
- Maintain IAQ system (filter changes, cleaning, etc)

HOW TO CLEAN

The most effective way to clean air ducts and ventilation systems is to employ Source Removal Methods of cleaning. This requires a contractor to place the system under negative pressure, through the use of a specialised, powerful vacuum. While the vacuum extracts air through the system, devices are inserted into the ducts to dislodge any debris that might be stuck to interior surfaces. The debris can then travel down the ducts to the vacuum, which removes it from the system.

Using the latest technology allows you to record the process on video tape or as video clips on a computer to verify cleaning effectiveness to the building management.

In general a greater awareness of the IAQ problem generates better possibility for addressing this issue as HVAC system constructors are starting to focus on installing the HVAC system so they are prepared for duct inspection and cleaning.