



# Indoor Sterilization & Purification

## Application Note

### Hospitals

Ozone can be used to sterilise equipment and to significantly reduce or eliminate the spread of micro-organisms in hospitals. High levels of Ozone are required so people cannot be present. An ozone monitor with data-logging is a useful tool during treatments to document that the concentration has reached optimal levels for the appropriate time and then to check that it is safe for people to re-enter the room. Measurement can help optimise the effective dose, documents each room's sterilisation and supports liability issues or complaints.



### Hotel Rooms, Nursing Homes, & Residential

The area to be purified is evacuated (including animals and people), the equipment is deployed and ozone concentrations are brought up to very high levels and maintained there for several hours, depending on the problem to be treated. When purification is complete, powerful fans are brought in to evacuate all the ozonated air and oxidized chemicals, the area is tested to ensure a safe ozone level (typically less than 0.05ppm).

An ozone monitor is required to log inside the room to document the required time for concentration to reach the appropriate level while the room is not occupied and also to check the Ozone levels are well below OSHA health & safety levels before people can re-enter the room. Measurement can help optimize the concentration vs time required to be an effective room sanitizer and documentation can support defense of customer complaints or liability issues.



Gasmaster Handheld Gas Monitor

## Air Purification

The U.S. Environmental Protection Agency (EPA) states that poor indoor air quality is one of the USA's biggest environmental health concerns. In fact, they estimate that the air you breathe inside your home or business is typically 4 to 40 times worse than the air outside. Many countries' citizens spend over 90% of their time indoors. The air inside retains odors from a number of common sources: cooking, wastes, pets, and smoke. These types of contaminants present air quality challenges for even the best-kept homes or tight run businesses, especially when windows are kept closed while heating and air conditioning units run year around. Stale air is trapped and recirculated throughout the house or building. Even though ventilation systems have filters, these particulate filters are only designed to physically trap large airborne particles, like dust and dander. They are not effective with bacteria, viruses, mold or microscopic contaminants which can cause odor and illnesses.

Ozone systems are available that offer a variety of air treatment systems for commercial and residential applications which can reduce many of these indoor pollutants. One method is to ozonate the air circulating through HVAC duct systems. After the air is scrubbed, an ozone ambient monitor is required to make sure the cleaned air entering a room where people may be located contains no residual O<sub>3</sub>. Other devices are designed to destroy and prevent mold and other microbial growth from rooftop, fan coils, walk-in a/c coils and the air.

## Deodorization of Trash & Garbage

In workplaces, commercial office buildings, condominiums, shopping centres, health clubs, and apartment buildings, air applications of ozone are used in the trash rooms to reduce the microbial count and at the same time reduce odours. An ambient ozone monitor in the trash room is used to ensure ozone levels are sufficient to remove odours and not too high should people enter the room. Some companies offer remote reporting to building owners & managers.



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