



Air Halo: Clean air to breathe wherever you may be

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Limitations of Conventional Technologies

Germs are in a constant state of mutation making it difficult to develop an effective medical treatment because biomedical development takes time to respond to these moving targets. Conventional technologies such as purging, filters, Ultra Violet (UV) light, ionizer and Photo-Catalyst Oxidation (PCO) are known to be ineffective as an air sanitation solution against persistent airborne pathogens.

Purging

The application of "purging" for professional medical facilities is a simple approach to complicated problem. However, this comes at an expensive cost of energy to condition (cooling/heating) external air to replenishes the indoor air some 60 times higher than typical offices.

HEPA Filter

HEPA filters are commonly used to trap germs, but trapping has no sanitation effect. Germ-filled filters will need to be disposed of carefully under strict safety protection, and replacement can be financial costly. While filters can have high efficiency in trapping the larger microbes and particulates, virus and tiny aerosols are small enough to sneak through typical filters.

Ultra Violet (UV) Light

The long irradiation requirement, coupled with intensity diminishing over distance and shadowing effect, limits the efficacy of ultra violet (UV) light on germs and VOCs removal. In a real world environment, the contaminated air must be processed at a sufficiently rapid rate to ensure the indoor airspace is adequately sterilized to counteract the production of air contaminants. Typical UV lamp is impractical for air disinfection.

Ionizer

Ion generator (Ionizer) electrically charges air molecules and airborne particles. Because of their low energy, these air ions can disperse into the living space instead of recombining quickly due to charge attraction. With only weak energy, the air ions do not destroy germs nor neutralize VOCs though can take them out of the air temporarily by making them attach to the nearest surface such as wall, table or floor, where they will return to the airspace after the charge dissipates.

Photo-Catalyst Oxidation (PCO)

PCO requires UV lights and contaminants reaching the catalyst coating surface to function. Its efficacy is limited by the fact that the bulk of airborne contaminants may not come close to the catalyst surface. In a real situation, dust would fall and accumulate on top of the catalyst coating blocking UV light from reaching the surface and obstructing the germs and VOCs from interacting with the radicals, resulting in efficacy diminishes over time.



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Plascide Plasma Technology

Plasma is a well known natural phenomenon with many innovative applications in hi-tech industries, such as space exploration with plasma propulsion, waste removal with plasma gasification to avoid toxic by-products, future electricity generation by plasma fusion and now... air sanitization with plasma neutralization to treat airborne contaminants.

Based on proven plasma theory, the recently patented Plascide reactor is distinctly different from and superior than conventional technology such as ionizers or "plasma" ion generators of which some are akin to ozone generators.

Contaminated air is pulled into the Plascide reactor where the intense micro-lightning ionized gas field, sterilizes pathogenic microbes such as H3N2 influenza, MRSA while neutralizes toxic chemicals like formaldehyde, rendering them inactive and harmless. This unique attribute of sterilizing pathogenic microbes and neutralizing VOCs electrically means that it's not limited to any specific size or type of pathogens or chemicals. Plascide reactor can therefore sanitize any known and mutated pathogens. The air neutralization takes place effectively and efficiently in a single stage process within a fraction of a second. No plasma is released into the breathing environment.

There are many valid methods to measure the performance of an air sanitizer, but they may not be conducted under comparable conditions. Some claim to be "99.9% effective", but would you think that a product tested in a 1m³ space will perform the same in a realistic 90m³ space? At least one government agency does not agree. In fact, portraying such claim to be equally valid in a realistic environment is legally misleading (<http://japandailynews.com/sharp-warned-by-government-its-vacuum-advertising-violates-deception-laws-2919069/>). The performance of Plascide micro-lightning plasma technology is validated by independent laboratories (Société Générale de Surveillance - SGS) with tests conducted in a realistic 90 m³ space. The capability of Plascide to sterilize a wide range of germs has been verified by academic laboratories (The University of Hong Kong & The City University of Hong Kong).

The potency of Plascide has been proven in a number of installations in sensitive, demanding locations and transport vehicles, operating 24hrs a day, 7 days a week, 365 days a year. Some notable installations include the border-crossing Lok Ma Chau and Lo Wu railway stations between Hong Kong and Shenzhen (China) as well as the Hong Kong International Airport Control Tower.