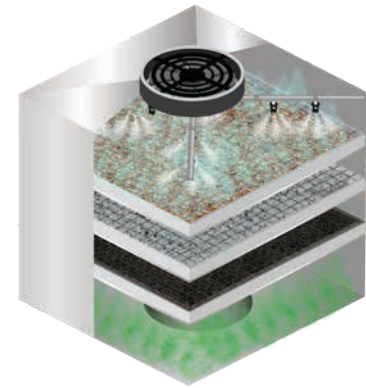


Odour Control Equipment



Problem Statement: Odours are related to one of the most common air quality complaints, and constant exposure can, directly and indirectly, affect health and quality of life. Odour issues may arise due to the anaerobic decomposition of organic matter resulting in the release of odorous gases into the environment or by the direct release of odorous inorganic compounds from industrial sites. Thus, whether it is an industrial site, research lab or public place, the foul odour becomes a significant problem in terms of a nuisance and public health issue. Due to the increase in general public awareness regarding their quality of life and environment, odorous compounds emitting from any activity need to be curtailed. Therefore, recognising the urgent need to abate odour, the SINE IIT Bombay Company (EEPL) has developed a commercial Odour Control Equipment based on bio-oxidation property.

Uniqueness of the Solution: The Odour Control Equipment's unique feature is that

it uses a bio-filtration method to remove odorous compounds from the air stream. The system works on the basic principle of bio-oxidation, where microorganisms present in the biofilm filter digests the gases, particulate matter and volatile organic compounds in the presence of oxygen. The equipment consists of a moist, porous filter medium through which airstream is passed prior to emission into the atmosphere. The moist film, known as biofilm, works on the absorption-diffusion mechanism. Odorous compounds either accumulate in the biofilm or are digested by the resident microorganisms. Currently, available products in the market are mainly mechanical products, which use thermal energy to remove odorous compounds that require high operation and maintenance costs. In contrast, the bio-filtration methods for abating odour incur minimal operation and maintenance costs.

Current Status of Technology: The Odour Control Equipment is at the

prototype stage.

Societal Impact: Odour nuisance shrinks the social life of the human population in a civil society. Odour Control Equipment will help reduce odour nuisance, negative impact on public health, environment, economy and aesthetic of surrounding while improving air quality in and ultimately improving the social life of people.

Patent(s): Nil

Relevant Industries: Environment, Pollution.

Faculty: Prof. Anil Kumar Dikshit, Environmental Science & Engineering.