

Odor Mitigation in Cannabis Production

It's commonly believed that cultivating cannabis is an odorous activity, however it is very important to note that odor is rarely an issue for indoor producers. Most of the negative press to date has been caused by large-scale commercial producers that operate from open-air greenhouses.

Micro vs Commercial Greenhouse Production

It is very important to note that there is a significant difference between Micro Cultivation and large-scale commercial greenhouse production.

Indoor micro producers cultivate small batches of premium quality cannabis indoors, in air-tight facilities, and under artificial lights (no natural sunlight). All the air entering and exiting the facilities is filtered using the very highest technology to ensure odor is never an issue.

Commercial cultivation is often conducted in extremely large, open-air greenhouses. These large commercial greenhouses are often 1000s of times larger than their micro counterparts, and because their roofs open on giant hinges multiple times per day for ventilation there is absolutely no odor mitigation.

Nevertheless, indoor micro producers make every effort to ensure that their equipment eliminates 99.99% of all odors leaving the facility, which essentially creates a scenario where the air leaving the building is cleaner than the air outside.

Controlling Indoor Odor Is About Managing Air Flow

HVAC systems move air through your building. Heating and air conditioning equipment pushes air in, while ventilation and exhaust systems remove air from the space.

Indoor odor problems are often attributed to poorly designed or maintained HVAC systems that push or pull the air in the wrong direction that create unfiltered exhaust. The probability of unfiltered exhaust can be eliminated with a well-designed and maintained HVAC system that allows for the creation of positively and negatively pressured rooms.

When there is more air mechanically expelled from an area than air supplied, negative pressure causes air to be drawn in from outside the room, resulting in negative air flow. If you have a negative air flow situation in your cultivation rooms, 99.99% of the odors in those rooms may be drawn through the filtration system.

Simply, negative air pressure can be used to move indoor odors in a desired direction. A negative air flow is created by ensuring that the amount of air exhausted out of the zone is greater than the replacement air, also called makeup air, entering the zone from your clean air delivery system. When your HVAC system is properly designed and configured, you can control air flow and eliminate 99.99% of the odor from any exhaust.

Air Box 4+ Stealth 3500 CFM 12" Flanges Carbon Inline Filter



Air Box Stealth circulates clean, healthy fresh air. Replaceable carbon filters destroy odors, capture organic and non-organic contaminants and scrub pathogens from the air.

Air Box is designed and built with replaceable high-flow, high quality carbon filters made from exclusive 100% premium activated charcoal. The only in-line carbon filter designed for commercial, industrial, residential environments. Air Box is designed to hang off the ground to save space. When combined with RUCK Air Movement fans, Air Box Stealth is a highly efficient, very effective air filtration and ventilation solution. All Air Box systems are quiet and powerful.

Air Box premium commercial-grade carbon filters offer the most advanced system for improving indoor air quality. For commercial, industrial, residential environments.

Quiet and powerful, Air Box obliterates excess heat, destroys odors and circulates healthy fresh air.

Air Box filters circulate clean, healthy fresh air. Replaceable carbon filters destroy odors, capture organic and non-organic contaminants and scrub pathogens from the air. Air Box is a highly effective air filtration system that obliterates excess heat, destroys odors and circulates fresh air.

Activated charcoal granules are an "absorbent" with well-developed pore structures allowing for a full range of absorbent retention. The high hardness number allows for minimal granular breakage and the kindling point of this activated carbon is usually high. This media is particularly well suited for removal of organic and non-organic contaminants.

Air Box Stealth is the only modular, industrially designed carbon air filter. A sturdy metal enclosure designed to be easily hung in-line, inside or outside a commercial, industrial, residential environment. Replaceable high-flow filters are made from exclusive 100% premium activated charcoal. Air-tight, it covers 100% of the filter surface area.

Air Box Jr. Intake (HEPA) – MERV 13 filter



- Eliminates 98% of all airborne particles entering the facility down to 0.3 microns using the MERV 13 filter
- Accepts standard 10" duct
- Adaptable to any duct/filtering system
- Easy to install, easy to use, easy to maintain
- 100% premium virgin coconut charcoal. 100% of the filter surface area is used
- For commercial, industrial and residential applications

Technical Specifications

Air Box Jr. Intake (HEPA) eliminates 98% of all airborne particles down to 0.3 microns using the MERV 13 filter. The Air Box Jr Intake (HEPA) has replaceable, economical and disposable filters. It accepts a standard 10" duct. Can be easily hung by using 1/4" rope, chain, cable or ratchets. It is easy to install, easy to use, easy to maintain and adaptable to any duct/ filtering system. Made for residential, commercial or industrial applications.

Federal Requirements for odor filtration

Currently, Health Canada only has odor control requirements for indoor commercial production. There are no odor control requirements for outdoor or greenhouse production at the federal level.

License holders must filter the air that comes from a building where cannabis production takes place, to limit cannabis odors from getting outdoors. Before obtaining a commercial license for indoor production of cannabis, applicants need to demonstrate that they have an adequate air filtration system. We expect license holders to make sure their odor filtration systems work at all times. For example, they can achieve this by:

- regularly cleaning and maintaining the system
- changing the system if it doesn't control odors
- upgrading the system to handle bigger or new production areas within a building

During inspections, Health Canada checks that the license holder has taken the steps to meet the odor control requirements.

Using filtration systems for cannabis odors

There are several filtration systems used by the cannabis industry to prevent the escape of odors.

Health Canada doesn't restrict the use of any filtration system, but the applicant needs to demonstrate that it is:

- suitable for the design of the production building
- strong enough to meet the scale of their production

Health Canada's Good production practices guide for cannabis contains the requirements for filtration and ventilation systems (section 5.1.5.1). Some applicants and license holders hire specialists (such as HVAC technicians) to help them comply with federal and local odor control requirements.

Enforcing odor control requirements

Health Canada promotes, monitors, and verifies compliance with the *Cannabis Regulations*, including odor control. When applying for a commercial cannabis license, applicants need to provide a plan of their indoor air filtration systems in production and storage areas.

When Health Canada receives a complaint about cannabis odors, the Department may verify compliance by checking that a license holder's air filtration system works and is being maintained. If there are issues, Health Canada will interact with the implicated parties to resolve them.

Health Canada inspects commercially licensed sites on a regular basis. During an inspection for odor control, inspectors may:

- examine the air filtration system
- review the records of equipment maintenance
- check complaint records and verify that the license holder has taken steps to investigate complaints
- use other documents to check that the air filtration system is working correctly

If Health Canada finds problems with the air filtration system, the license holder needs to develop a plan to address any issues. Health Canada may follow up with another inspection to check that the license holder has put the plan in action.

Health Canada may apply other enforcement measures if it finds that the license holder isn't correcting their system and resolving the odor issue. This depends on:

- how serious the violation is
- the risk to public health and safety