



integrated pest
M A N A G E M E N T



fertigation



water
T R E A T M E N T



lighting
S Y S T E M S

urban-gro

Providing Product Solutions for the
Commercial Cannabis Cultivator

Element Air™

Air Purification Systems

PROTECTING YOUR GROW

Our patented Element Air treatment systems are the most practical and effective solutions for airborne and surface microbial contaminants, including powdery mildew, total yeast and mold (TYM) and *Cannabis* odors. Element Air has been independently verified to reduce bacterial and other microbial contaminants by 99+%.

The Element Air technology utilizes broad spectrum, high-intensity UV lights targeted on a hydrated quad-metallic catalyst which utilizes ambient moisture to generate hydro-peroxides and hydroxides that are propelled into the cultivation facility, to provide active microbial and odor mitigation.

As opposed to other units promoted to the *Cannabis* market which utilize a similar technology, Photocatalytic Oxidation (PCO), which only sanitize the air that is passed directly in its path, Element Air is an active purification system. It purifies the ducts and general growing spaces, while also removing odor at the source.

BENEFITS OF ELEMENT AIR SYSTEMS:

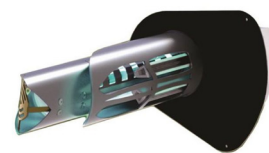
- Several different module types
- Reduce airborne microbes by 99%
- Reduce airborne VOC's, including airborne *Cannabis* terpenoids and other odors
- Helps eliminate airborne bacteria, mold and odors
- Actively "scrubs" ducting, air and surfaces with airborne hydro-peroxides
- Completely safe for workers and plants
- Made for greenhouse and indoor cultivation environments
- Food grade stainless steel construction for years of trouble free service
- 1 year warranty



Tower



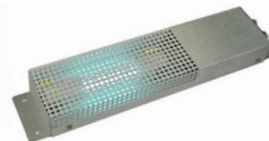
Wall Mount



In-Duct Plus



UV



Light Commercial

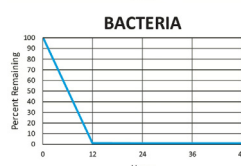
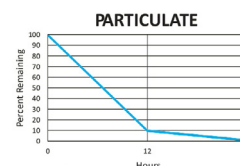
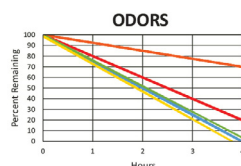
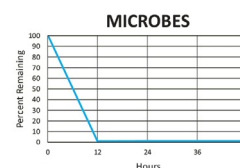
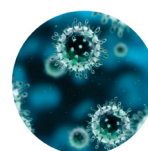
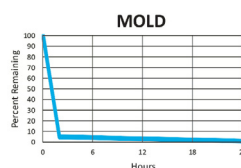
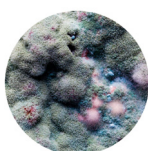




ELEMENT AIR TOWER

Available in free standing floor units or horizontal/vertical wall mount

Material: Stainless Steel
Depth: 18"
Width: 20"
Height: 78"
Weight: 70 lbs.
Electrical: 110V, 2.8 A



**REDUCES
99+%**

Element Air
Air Purification Systems

ELEMENT AIR UV

Dimensions: 5" probe, 5.5" plate
 9" probe, 5.5" plate
 14" probe, 5.5" plate

Weight: 4 lbs.

Electrical: 24VAC

In-duct unit (fixed mount)



ELEMENT AIR IN-DUCT

Dimensions:

5" probe, 5.5" diameter plate
 9" probe, 5.5" diameter plate
 14" probe, 5.5" diameter plate

Weight:

6 lbs.

Electrical:

24VAC

In-duct unit (fixed mount)



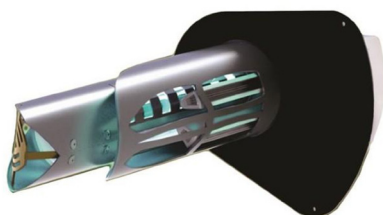
ELEMENT AIR IN-DUCT PLUS

Dimensions: 12" probe, 6.5" x 7.5" plate

Weight: 6 lbs.

Electrical: 24VAC

In-duct unit (fixed mount)



ELEMENT AIR LIGHT COMMERCIAL

Dimensions: 2.25" W x 10.5" L x 1.75" D

2.25" W x 13.5" L x 1.75" D

Weight: 1 lbs.

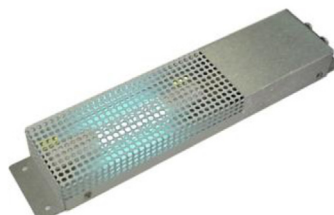
Electrical: 24VAC

Dimensions:

2.25" W x 18.5" L x 1.75" D

Weight: 2 lbs.

Electrical: 24VAC





Activated Carbon Air Filtration

Element Air Carbon

Grow House Air Filtration

- Terpene odor adsorption
- Tailored activated carbon media
- Easy install and media replacement
- Signature air flow pattern
- 150 CFM to 400 CFM
- >1,000 sq ft treatment area
- 3 sizes to fit every grow



Element Air Carbon

Activated Carbon Basics

- Carbonaceous material 'activated' to exhibit adsorption properties
- Attracts and captures organic chemicals – Van Der Waals Force
- Various raw materials – Coal / Coconut / Wood
- Pore structure – Micro / Meso / Macro
- Adsorption Characteristics - Contact time / Bed depth
- Particle size – Performance and pressure drop

Element Air Carbon

Terpene Characteristics

- Organic fragrance molecules
- Molecular structure (136 to 296 g/mol)
- Suitability to adsorption
- Activated carbon performance

Element Air Carbon

Specifications – EAC-55

- Granular Activated Carbon (GAC) media – 150 lbs
- Air Flow – 150 CFM
- Dims – (55 Gal Drum) 4' 3" H x 2' Dia.
- Effective Bed Depth – 22"
- Vapor Contact Time – 3.0 secs
- Effective Treatment Area – 1,000 sq ft
- Blower Motor - 30,000 hours

Element Air Carbon

Specifications – EAC-85

- Granular Activated Carbon (GAC) media – 300 lbs
- Air Flow – 200 CFM
- Dims – (85 Gal Drum) 4' 5" H x 2' 4" Dia.
- Effective Bed Depth – 32.6"
- Vapor Contact Time – 3.0 secs
- Effective Treatment Area – 1,500 sq ft
- Blower Motor - 30,000 hours

Element Air Carbon

Specifications – EAC-110

- Granular Activated Carbon (GAC) media – 400 lbs
- Air Flow – 400 CFM
- Dims – (85 Gal Drum) 4' 6" H x 2' 7" Dia.
- Effective Bed Depth – 32.6"
- Vapor Contact Time – 3.0 secs
- Effective Treatment Area – 2,000 sq ft
- Blower Motor - 30,000 hours

urban-gro®

Element Air™ Air Purification Systems

- ✓ Stainless Steel
- ✓ Reduce airborne microbes by 99%
- ✓ Made for greenhouse and indoor cultivation environments
- ✓ Completely safe for workers and plants

Protecting Your Grow

Our patented Element Air treatment systems are the most practical and effective solutions for airborne and surface microbial contaminants, including powdery mildew, total yeast and mold (TYM) and Cannabis odors. Element Air has been independently verified to reduce bacterial and other microbial contaminants by 99+%.

The Element Air technology utilizes broad spectrum, high-intensity UV lights targeted on a hydrated quad-metallic catalyst which utilizes ambient moisture to generate hydro-peroxides and hydroxides that are propelled into the cultivation facility, to provide active microbial and odor mitigation.

As opposed to other units promoted to the Cannabis market which utilize a similar technology, Photocatalytic Oxidation (PCO), which only sanitize the air that is passed directly in its path, Element Air is an active purification system. It purifies the ducts and general growing spaces, while also removing odor at the source.

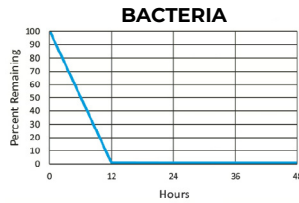
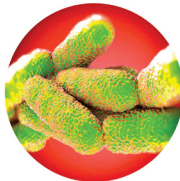
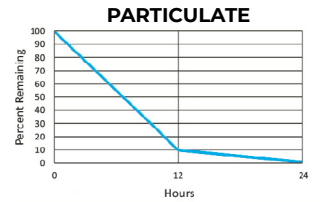
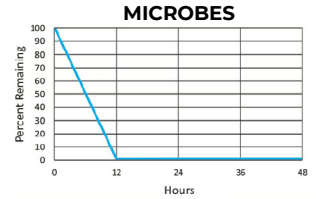
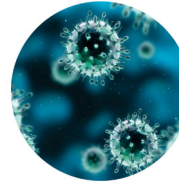
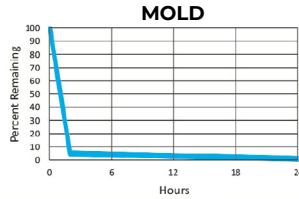
Benefits of Element Air Systems:

- Reduce airborne microbes by 99%
- Reduce airborne VOC's, including airborne Cannabis terpenoids and other odors
- Helps eliminate airborne bacteria, mold and odors
- Actively scrubs ducting, air and surfaces with airborne hydro-peroxides
- Completely safe for workers and plants
- Made for greenhouse and indoor cultivation environments
- Food grade stainless steel construction for years of trouble free service
- 1 year warranty
- No visible light emits from tower perfect for flavor rooms



Tower





**REDUCES
99+%**

Element Air
Air Purification Systems

SPECIFICATIONS

Material: Stainless Steel
Width: 18"
Depth: 20"

Height: 78"
Weight: 70 lbs.
Electrical: 110V, 2.8 A

CFMs: 700 cfm
Replacement Cells: SA-ATS-0000 (2 each)
SA-ATS-0100 (1 each)
SA-ATS-7525 (1 each)





TO: Steve Pocock, CanWest

March 22, 2015

FROM: Trevor MacDonald, Trichome

RE: Effectiveness of PHI Technology (AOT) on Powdery Mildew

Ten months ago we began working with Canwest Waste & Environmental Technologies to control plant disease and odours in our growing facilities. Their Advanced Oxidation Technology (AOT), from RGF Environmental in the United States has a proven track record of inactivating a vast cross section of single cell microbes, both airborne and on surfaces.

Powdery Mildew is a constant threat to our plants, our operational success and the quality of our final product. Our growing environment is ideal for the propagation of powdery mildew which can threaten our entire crop and/or cause safety issues post harvest.

In the time we have had AOT in our growing room we have not experienced any powdery mildew outbreaks or other mold or fungi issues. Additionally the indoor air quality has dramatically improved. The strong odour associated with our product has been greatly reduced, a significant benefit to our employees and in complying with municipal regulations. Overall we are very pleased with how this technology has performed and would recommend it to other operations.

Our company is presently developing specifications for expansion into a larger facility and we are considering AOT as part of our Risk Management provisions. We are very interested in further studies into the effects of AOT in the growing spaces and it's effectiveness on a diverse list of harmful bacteria, molds, fungi and other microbial threats to both our operation and the safety of the end user.

We would very much like to see more laboratory testing that provides scientific backing of the results our field trials. Powdery Mildew and other harmful microbial threats pose a very significant risk to the productivity – in some cases the financial viability – of operations such as ours and any technology that enhances risk management needs to be investigated thoroughly.

Sincerely,

Trevor MacDonald, President



Element Air Throughout Facility to Meet Nevada's Microbial Testing

Deep Roots Harvest | Mesquite, Nevada

Deep Roots Harvest is located in a 40,000 square foot building that is approximately eight years old in Mesquite, Nevada. Mesquite is a small town on the Nevada / Utah border most commonly known by travelers on Interstate 70. The building is in a rural desert area and does not have any immediate neighbors.

The primary issue for this Deep Roots, and many other cultivators in Nevada, is passing microbial testing. The State of Nevada has one of the strictest testing regimens in the United States, and this facility was experiencing a 20% fail rate. Deep Roots Harvest made improvements to their cultivation and harvest process but were still not passing consistently the first time.

Deep Roots had worked with urban-gro before, and they called urban-gro to address this issue. Deep Roots adopted urban-gro's recommendation to install Element Air.

But what was Deep Roots' strategy?

- First, Deep Roots started in their dry, cure and harvest rooms. They immediately experienced success in those areas: not only were they performing better on the microbial testing they were seeing allergens eliminated that had previously impacted their workers. Almost immediately workers had fewer sick days and took less breaks.
- Second, Deep Roots Harvest added Element Airs to flower and veg spaces. They started ordering units in late 2017 and continue to add them to the facility.
- They have now added to their dispensaries to reduce impact of allergens and odors on employees, customers and neighbors.

In their words...

"I have used Element Airs in my facility for last four years with great success. I use them to control odor and microbials in my grow rooms and common areas. I also use them in the trim, packaging, and cure rooms to control VOCs to help create a better work environment for the trimmers and packages."



Passing Microbial Testing & Odor Control with Element Air

North Las Vegas Organics (NLVO) | North Las Vegas, Nevada

NLVO is new 25,000 square foot indoor cultivation facility. It has been operating since 2015. NLVO has eight flower rooms, one multi-tier veg room, and an industrial area. The facility is located in an area that is both industrial and highly trafficked with many commercial businesses in the neighborhood.

The State of Nevada has one of the strictest testing regimens for microbials of any state. Many facilities experienced fail rates between 20% - 100%. When NLVO first opened, they had a moderate fail rate.

urban-gro has been advising NLVO on numerous cultivation best practices and solutions. The customer already knew about Element Air as a solution for odor control and allergen removal but was very interested in Element Air to improve their microbial testing results.

In 2017, NLVO installed Element Air units throughout their facility. They started in post harvest areas, hallways and moved to flower and veg rooms. Within an 8-week period, NLVO began passing microbial testing almost consistently. When product passes the first time, as NLVO was now doing routinely, it can be brought to market for sale.

Additionally, with the use of Element Air, the facility has received no odor complaints from either the city or its neighbors.

State of Nevada Testing Protocol

- If a strain fails, it can be resubmitted for a second test.
- If it passes on the second test it can be sold at a significantly lesser price for concentrates. If it fails
- both times it must be destroyed.

In their words...

"Element Air helps our facility pass Nevada's testing for microbials. Since installation, we rarely have a second test due to microbials."



Successful Odor Suppression Contributes to Municipal Approval to Expand Facility

The Medicine Room | Winslow, Arizona

The Medicine Room is in a 8,000 square foot greenhouse built in 2014. This cultivation facility is located near tribal land.

In October 2015, complaints of odors emitted from the facility were received by the community development department in early October 2015. The facility's' former owners said they would install charcoal odor absorbing devices to reduce the odor. The charcoal odor absorbing devices were installed in late 2016, but complaints of odors were received again by the City of Winslow. Specifically, the tribe was upset about odor from the facility, especially in the summer.

The complaints of strong odor led to the city code compliance officer citing the business in accordance with Winslow Municipal Code Chapter 17.40. The ordinance states, *"There shall be no emission of dust, fumes, vapors, or odors into the environment from the facility."*

With this unfortunate development, The Medicine Room turned to urban-gro for help. After touring the facility, urban-gro recommended the purchase of eight Element Air units. These eight units were placed at key locations of exhaust. As an active purification system, it was able to make a significant difference, and the technology eliminated the odor at the source.

City of Winslow official inspected the facility to evaluate any remaining odor issues. With this improvement in facility operations and operating as a Good Neighbor with adjacent homes, businesses and tribal lands, The Medicine Room secured the permits required to expand into a second 15,000 square foot facility.

Construction of the addition is currently underway and will also include several Element Air units throughout.

In their words...

"I've used the Element Air towers for a little over 1 year now. In my 8k square foot greenhouse they have not only removed the outgoing odor so that local shops and tribes are not complaining anymore about our cannabis facility, they have allowed us to begin expansion on another 15k square foot indoor facility. They've helped clear the air in my post-harvest rooms as well, so employees are working harder and not taking as many breaks. Great units! I'll be getting them for Phase 2"