

EnviroKlenz[®]

Mobile Air System Technical Overview



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INTRODUCTION

EnviroKlenz[®] is a revolutionary, non-invasive, odor elimination process that can rapidly restore an odor-compromised property.

When a property has an acute odor issue caused by fire, water, trauma, or other nuisance odors or chemicals, EnviroKlenz[®] can be immediately deployed to begin restoring the environment.

EnviroKlenz[®] is the most environmentally friendly odor restoration process available. It removes the airborne odor-causing molecules without releasing chemicals into the air.

The EnviroKlenz[®] core chemistry (the “Product”) irreversibly captures and neutralizes a broad range of indoor air pollutants. EnviroKlenz[®] works by ‘destructive adsorption.’ As EnviroKlenz[®] comes in contact with chemical pollutants in circulating air or on surfaces of materials, the Product’s chemistry 1) irreversibly attaches to and reacts with the pollutants, and 2) destroys/neutralizes the pollutant. The irreversible result is a benign, environmentally safe byproduct and elimination of the unpleasant and potentially dangerous pollutant(s).

The EnviroKlenz[®] Process is the scientifically and field proved choice for the safe, rapid, convenient, and cost-effective restoration of indoor spaces from fragrances and other toxic vapors.

To be effective, the Product must:

come into contact with the chemical pollutants in the air or on the surface(s) within the enclosed residential, commercial, or mobile space,

at an air flow rate, contact time, treatment schedule, temperature, humidity, and/or concentration, as prescribed for the specific application, and

be deployed by personnel who are thoroughly familiar with the instructions for use and in accordance with instructions detailed in the EnviroKlenz[®] User Guide and/or instruction sheet, and other Product labeling.

INSIDE STANDARD SYSTEM

1. AIR INTAKE



Air is brought in through the 3 top vented sides with 4 different speed settings to choose from, ranging from 85 - 250 CFM.

2. ENVIROKLENZ[®] AIR CARTRIDGE



The EnviroKlenz[®] Air Cartridge uses patented, natural technology to adsorb and neutralize VOCs and other chemicals, without the use of masking agents or harmful chemicals. In most situations, this cartridge will need replacement after 6 months of use.

3. HEPA FILTER



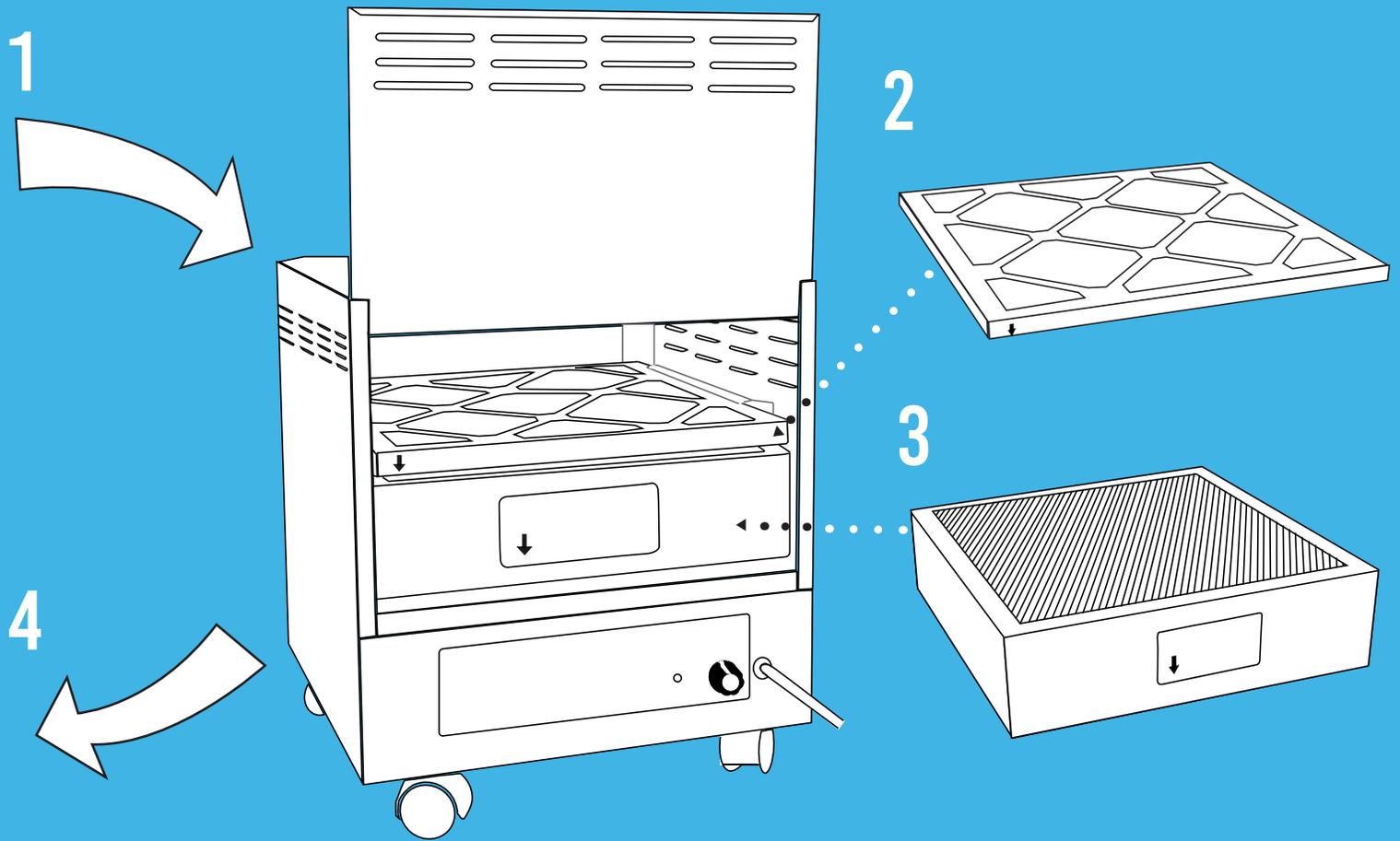
HEPA filter captures particulates larger than 0.3 microns at a 99.99% efficiency rate. In most situations, the HEPA filter will need replacement after 2 years of use.

4. CLEAN AIR OUTTAKE



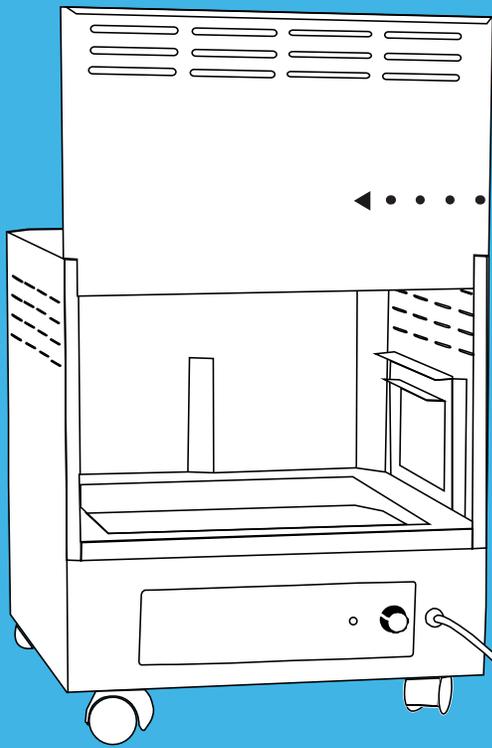
Filtered, clean air is directed out into the environment with the bottom vent. On average, the air will be exchanged 3 - 5 times per hour on highest setting depending on the size of the room.

NOTE: Be sure to use and follow your country's electrical regulations.

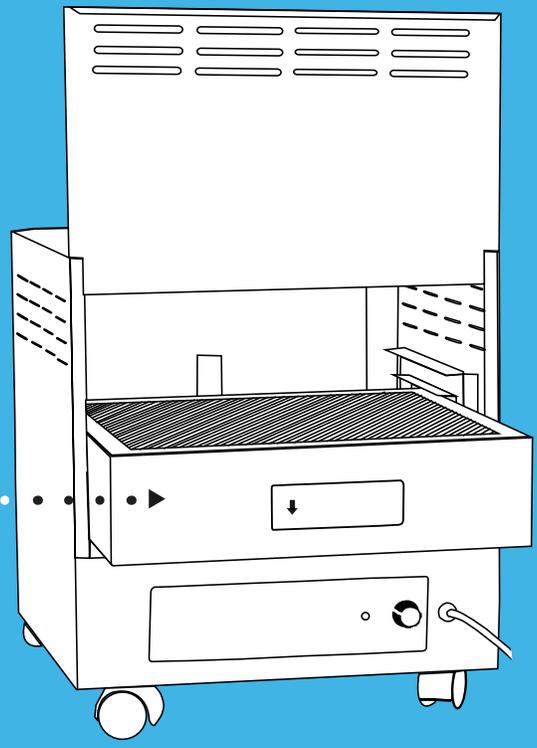


SET-UP & CARTRIDGE REPLACEMENT

STEP 2: Slide in **larger HEPA Filter** with airflow arrow pointing **down**

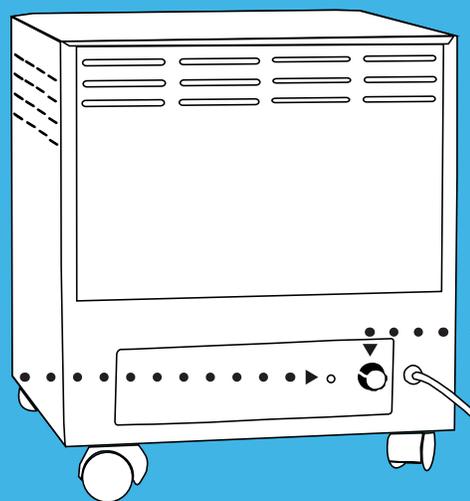
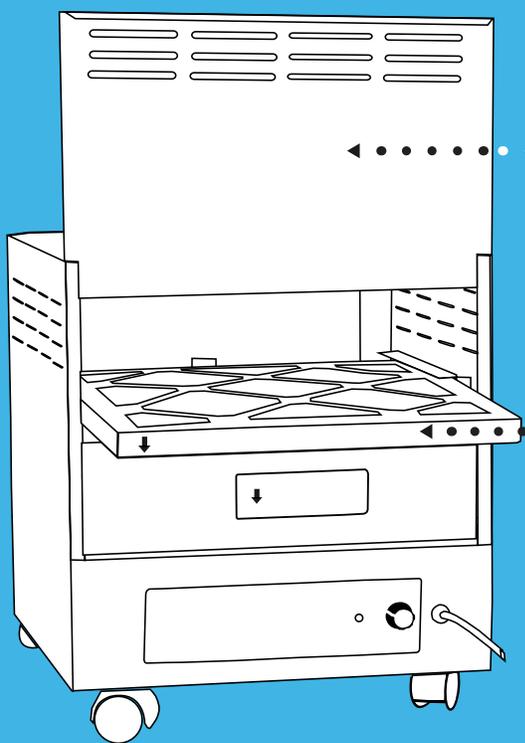


STEP 1: Make sure Mobile System is unplugged and slide up the back panel to remove



STEP 3: Slide in **smaller Enviroklenz® Air Cartridge** to rest on top of HEPA filter with airflow arrow facing **down**

STEP 4: Replace sliding back panel with blank side facing out



STEP 5: Plug Electrical cord into a grounded outlet (Indicator light will illuminate to show power coming to the system)

STEP 6: Turn power control knob to desired fan speed and begin enjoying clean, allergen and chemical free air

INSIDE UV SYSTEM

1. AIR INTAKE

Air is brought in through the 3 top vented sides with 4 different speed settings to choose from, ranging from 85-250 CFM.

2. ENVIROKLENZ[®] AIR CARTRIDGE

The EnviroKlenz[®] Air Cartridge uses patented natural technology to absorb and neutralize VOCs and other chemicals, without the use of masking agents or harmful chemicals. In most situations, this cartridge will need replacement after 6 months of use.

3. UVC LIGHTS

UVC lamps are located above (and radiating on) the collection side of the HEPA filter. Unlike systems that depend on killing/inactivating the organisms as they pass through the UVC light in a very short period of time, the UVC light is continuously shining on the collected organisms with a very high efficiency of kill.

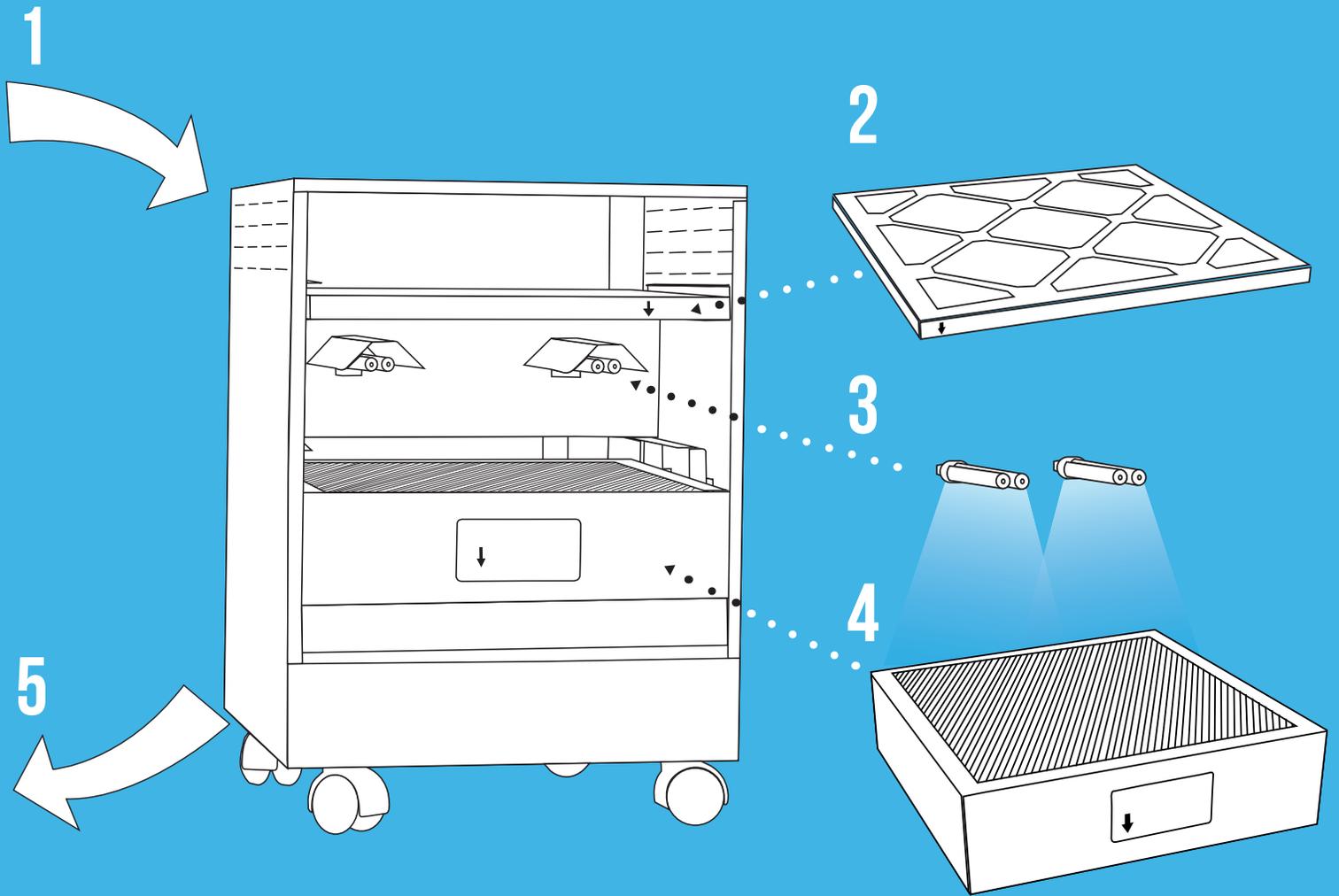
4. HEPA FILTER

The HEPA filter captures particulates larger than 0.3 microns at a 99.99% efficiency rate. In most situations, the HEPA filter will need replacement after 2 years of use.

5. CLEAN AIR OUTTAKE

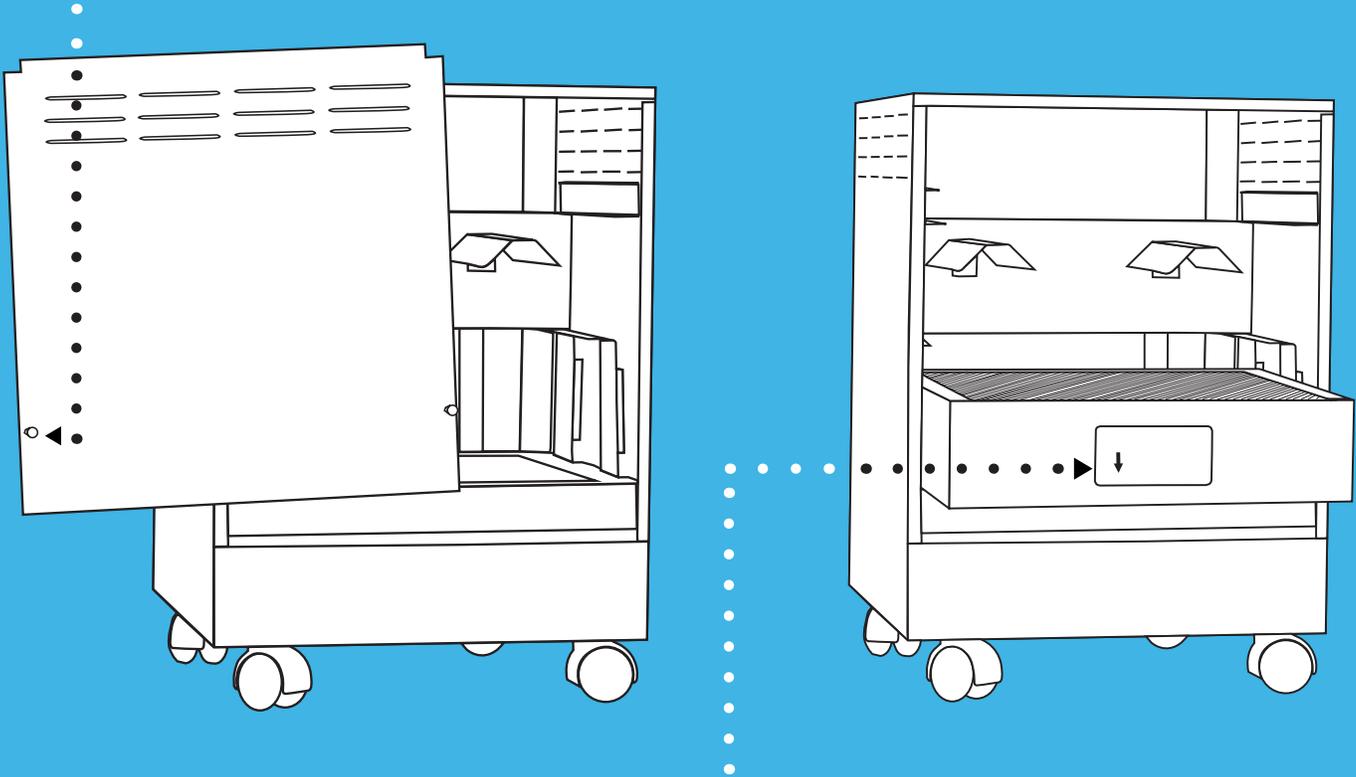
Filtered, clean air is directed out into the environment from the bottom vent. On average, the air will be exchanged 3-5 times per hour on the highest setting depending on the size of the room.

NOTE: Be sure to follow your country's electrical regulations.

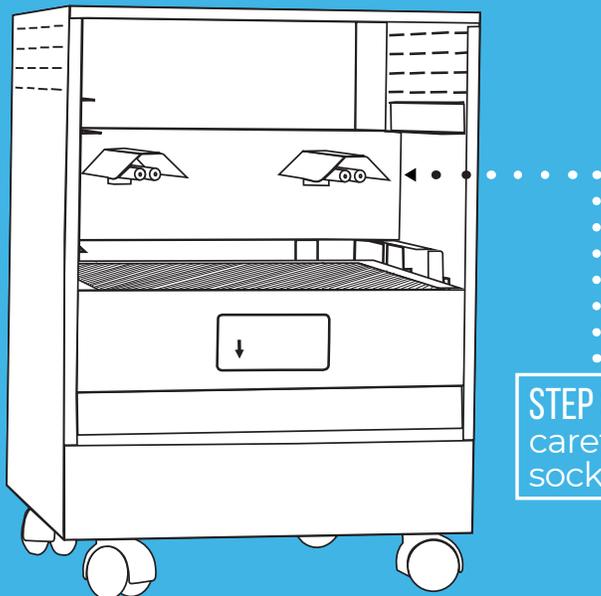


UV SET-UP & ACCESSORY REPLACEMENT

STEP 1: Make sure Mobile System is unplugged and unscrew the two thumbscrews to remove the panel.

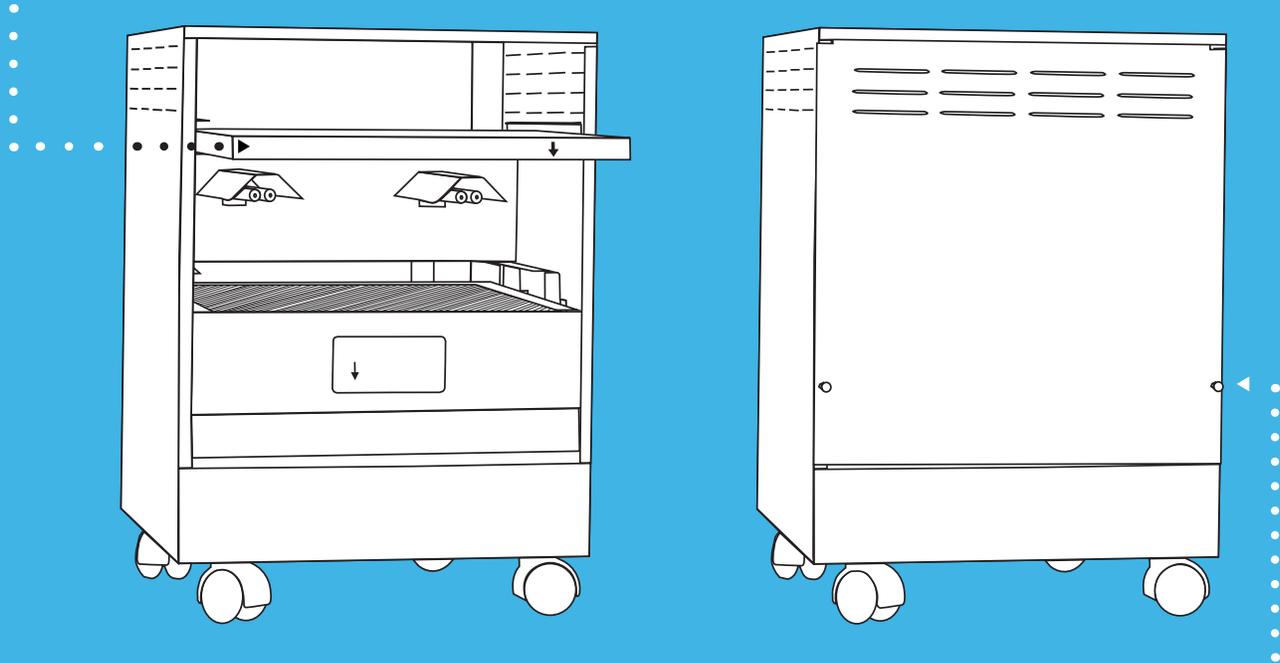


STEP 2: Slide in larger HEPA Filter with airflow arrow pointing down

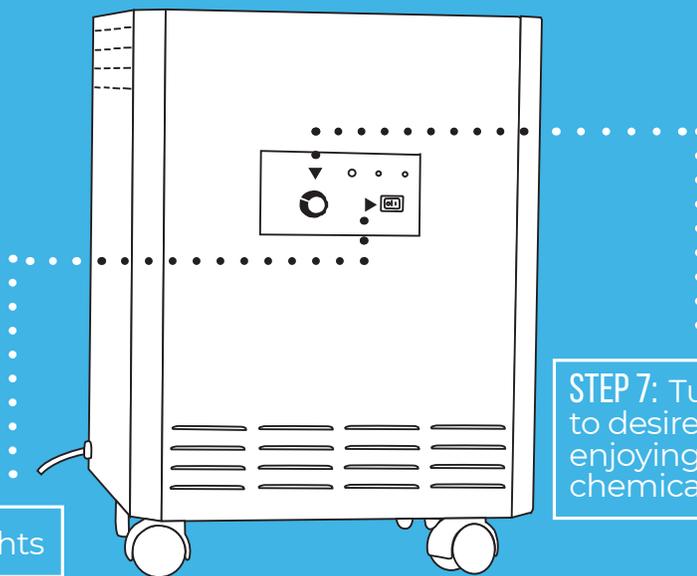


STEP 3: Install the UV light bulbs by carefully pushing them into the light sockets inside the Mobile System

STEP 4: Slide in **smaller Enviroklenz® Air Cartridge** above the UV lights on the rails with airflow arrow facing **down**



STEP 5: Replace back panels and thumbscrews. Plug Electrical cord into a grounded outlet



STEP 6: Turn on the UV Lights

STEP 7: Turn power control knob to desired fan speed and begin enjoying clean, allergen and chemical free air



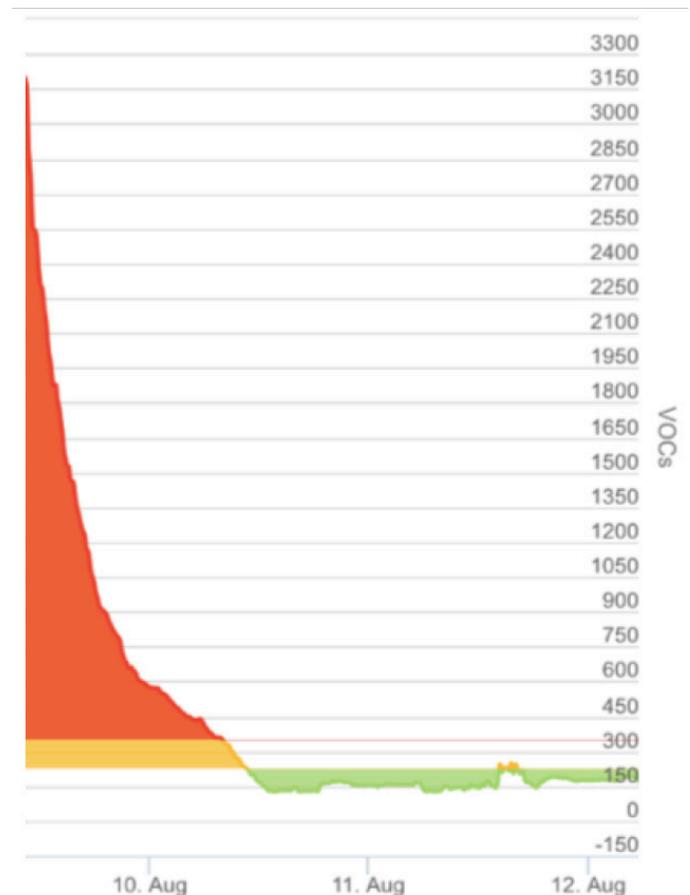


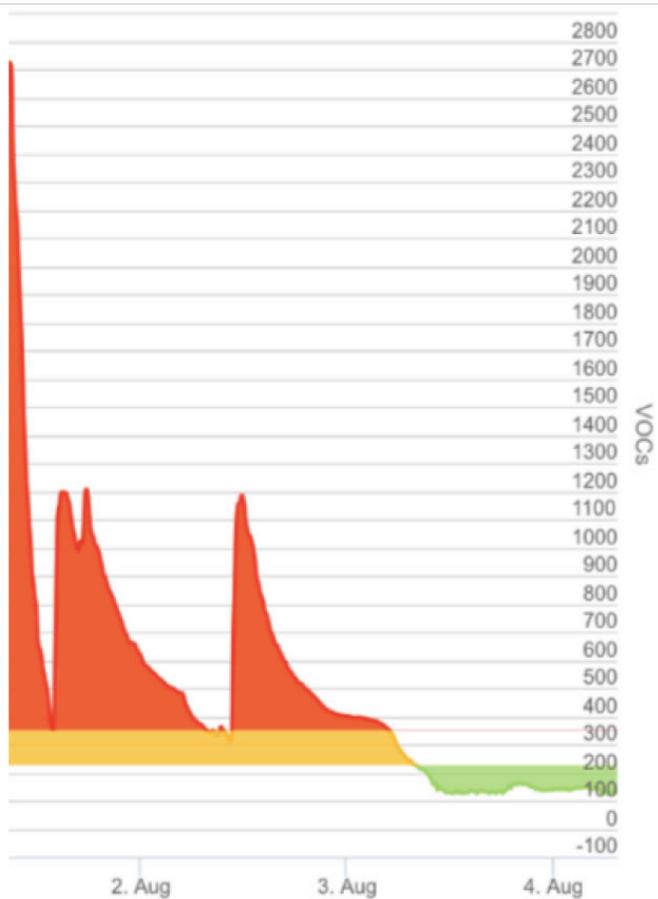
ENVIROKLENZ® VERSUS VOLATILE ORGANIC COMPOUNDS “VOC’S”

Volatile organic compounds (VOC) encompass a wide range of range of compounds. These chemicals range from slightly hazardous organic solvents up to highly toxic and corrosive acids. They can be found in most industrial and household settings and can pose a serious hazard for a prolonged period of time in an indoor environment. In addition to organic compounds, there is also a wide range of additional toxic volatile compounds which are commonly found in the home.

EnviroKlenz® materials are capable of removing and destroying these compounds from a variety of indoor airspaces, processing streams, storage facilities, also anywhere that these harmful compounds are generated. The method or process used in the destruction of these compounds differs depending on the compound in question. Due to the inherent stability of hydrocarbons, EnviroKlenz® materials will physically absorb these compounds, however, will not chemically modify their structure. EnviroKlenz® materials will chemically dismantle the many VOCs.

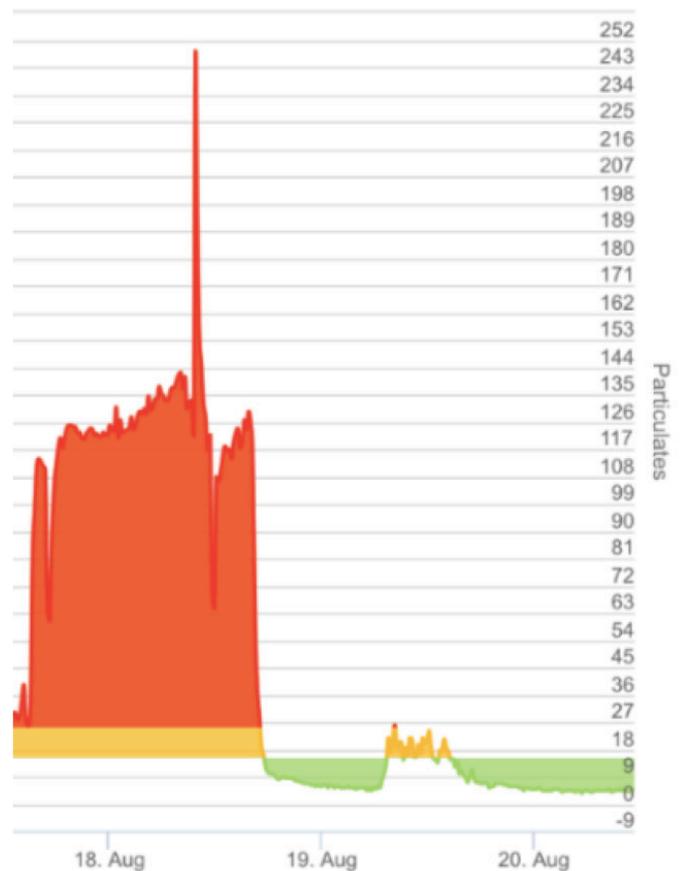
To illustrate EnviroKlenz®'s impact on volatile organic compounds (VOCs) reduction in an environment, the VOC levels were monitored in an office work environment on site at a production facility. The air was monitored for a period of two days; then an EnviroKlenz® Mobile Air System was deployed. As you can see the VOC levels dropped and did not spike as they did the previous days leading up to the use of the system.





The same study was conducted the following week, and the results were the same. As illustrated in the image to the left, the VOC levels before the EnviroKlenz[®] Mobile Air System deployment spiked during the daytime production hours, while they remained relatively stable after the system was deployed.

The final image to the right looks at the impact on the reduction of airborne particulate matter. The facility where this was conducted has a particular process that generates dust and particulate matter during extended production hours. The production process was running on both days below (August 18 and 19), but the EnviroKlenz[®] System was only deployed on August 19. A significant reduction in particulate matter was observed through the use of the EnviroKlenz[®] Mobile Air System in that office environment.

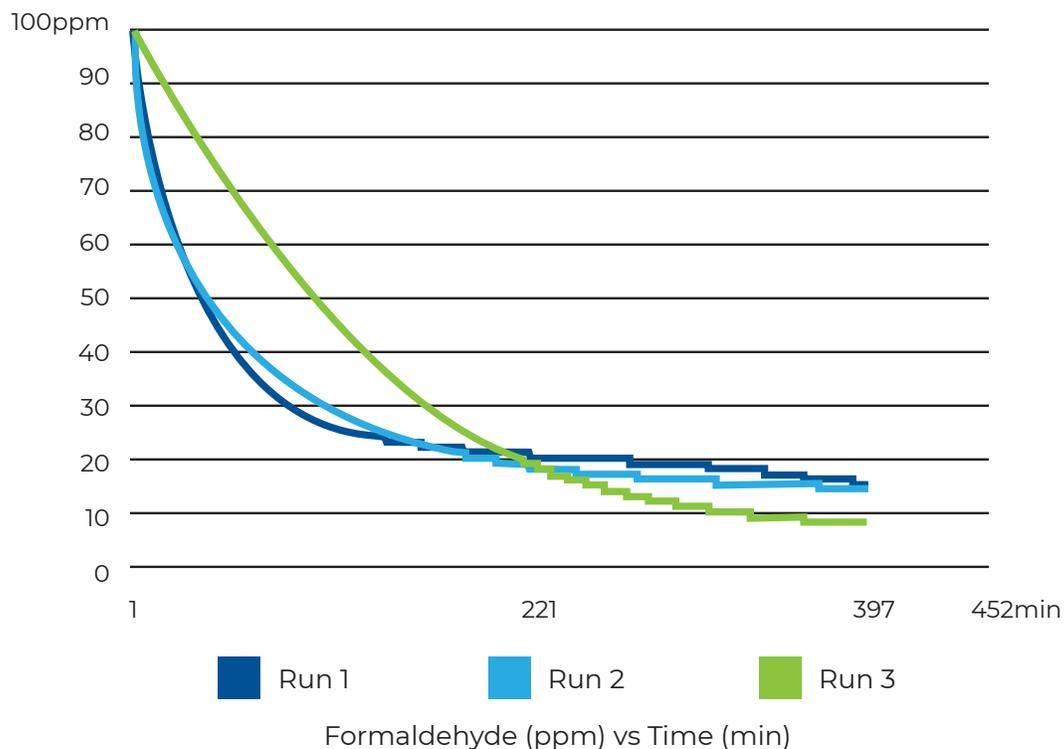


ENVIROKLENZ® VERSUS FORMALDEHYDE

Environmental Chamber

In this test, an acute release of formaldehyde occurred in an environmental chamber. Once the formaldehyde levels equilibrated around 100 ppm, the EnviroKlenz® Mobile Air System was turned on to rapidly remove the compound from the chamber air. The test was repeated using the same EnviroKlenz® Air Cartridge to show capacity. Once the chemical contaminate is inside the proprietary EnviroKlenz® Air Cartridge, an adsorptive neutralize process occurs. This means the chemicals are retained, without being released back into the environment.

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Levels this high are not expected to be observed in a living environment, as they are 5 times the immediately dangerous level (IDLH) and 50 times more than the permissible level (PEL) for exposure. They were elevated in the test to account for the smaller size of the environmental chamber and the treatment area of the system (7,500 cubic feet).

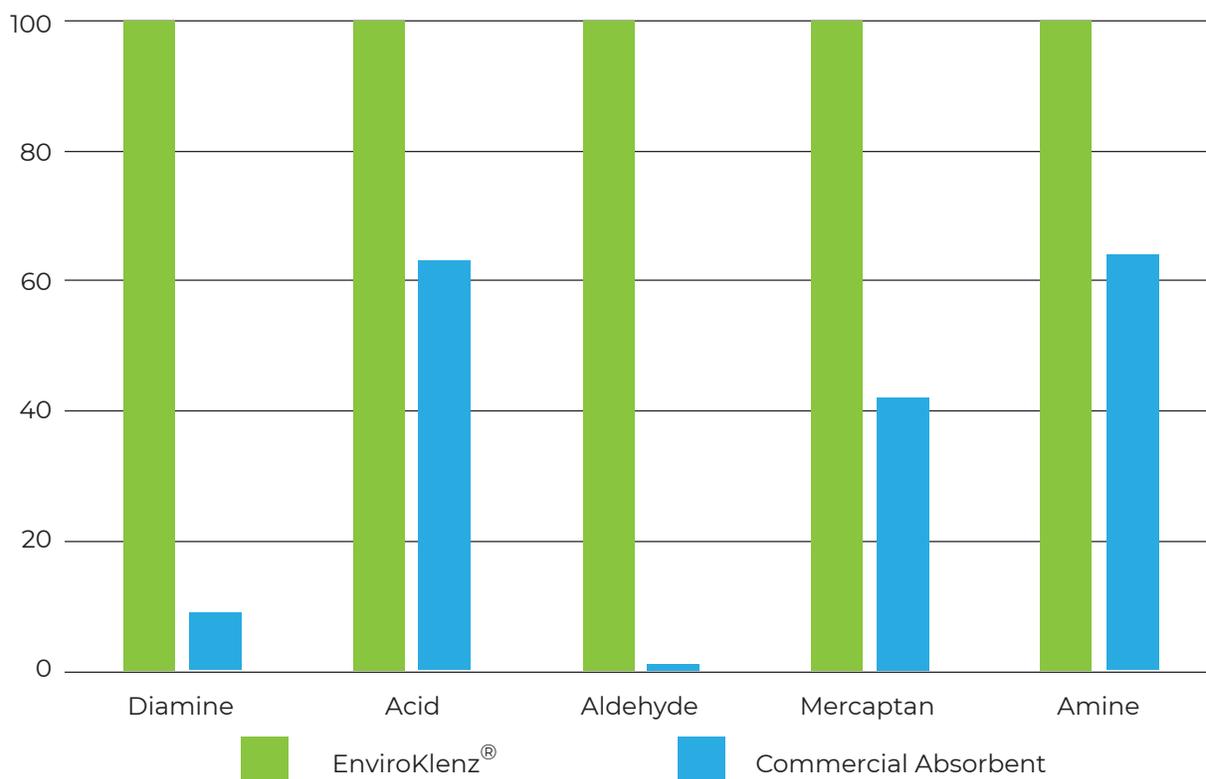
EnviroKlenz® Mobile Air System has the capacity and capabilities to make a significant impact on formaldehyde impacted living spaces.

ENVIROKLENZ[®] VERSUS FRAGRANCES

Fragrance is a term used to describe a mixture of chemicals often composed of essential oils, chemicals with a strong aroma, and solvents that together produce a “pleasant” scent to the general population. In order to achieve a particular scent, a variety of different ingredients from natural and synthetic sources may be used. Some common chemical classes used include, but are not limited to: esters, terpenes, aromatic, amines, alcohols, aldehydes, ketones, and thiols. For individuals with MCS, many chemicals and substances with strong scents are the most common triggers for their symptoms and can include: perfumes, cleaning agents, pesticides, cigarette smoke, among many others.

EnviroKlenz[®]'s broad capabilities and efficacy towards MCS triggers can be demonstrated against commonly encountered chemicals and chemical classes associated with fragrances, indoor air quality issues, and pollutants. For the comparison, EnviroKlenz[®] technology and a commonly used absorbent were challenged against a variety target chemical compounds that broadly encompass different types of chemical structures and fragrance profiles. The challenge compounds were: cadaverine (a toxic diamine), isovaleric acid (organic fatty acid that can be present in essential oils), acetaldehyde (a common VOC, indoor air contaminant, and component of cigarette smoke), ethyl mercaptan (a powerful sulfur-containing pollutant), and ammonia (a commercial cleaning product and caustic volatile material).

Percent Adsorption Comparison



ENVIROKLENZ[®] VERSUS PESTICIDES

Pesticides are used in more than 91% of households in the United States. Indoor contamination with pesticides is quite common. One study suggests that 80 percent of most people's exposure to pesticides occurs indoors and that measurable levels of up to a dozen pesticides have been found in the air inside homes. Reasons for this include contaminated soil or dust that floats in or is tracked in from outside, stored pesticide containers, and household surfaces that collect and then release the pesticides.

Of these pesticides, it is estimated that over half used are organophorous compounds. All organophosphates (OP) are derived from one of the phosphorus acids, and as a class is generally the most toxic of all pesticides to vertebrates. Because of the similarity of OP chemical structures to "nerve gases," their modes of action are also similar. Their insecticidal qualities were first observed in Germany during World War II in the study of the extremely toxic OP nerve gases sarin, soman, and tabun. Initially, the discovery was made in search of substitutes for nicotine, which was heavily used as an insecticide but in short supply in Germany.

The organophosphates work by inhibiting certain important enzymes of the nervous system, namely cholinesterase. The enzyme is phosphorylated when it becomes attached to the phosphorous moiety of the insecticide, a binding that is irreversible. This inhibition results in the accumulation of acetylcholine at the neuron/neuron and neuron/muscle (neuromuscular) junctions or synapses, causing rapid twitching of voluntary muscles and finally paralysis.

Prolonged exposure to low levels of these pesticides will also cause adverse health impacts for individuals and pets. Children and animals spend a significant portion of time in direct contact with the floor where the highest concentration of pesticides is located within the home. NanoActive sorbents offer the ability to chemically dismantle these toxic compounds and provide a safer indoor environment.



Due to its enhanced chemical reactivity, EnviroKlenz® materials have the ability to chemically dismantle a variety of highly toxic compounds. A brief list of common insecticides capable of being neutralized or broken-down due to their chemical composition by EnviroKlenz® is as follows:

Acephate	Malathion
Azinphos-methyl	Methamidophos
Bensulide	Methidathion
Cadusafos	Methyl parathion
Chlorethoxyfos	Mevinphos
Chlorpyrifos	Monocrotophos
Chlorpyrifos-methyl	Naled
Chlorthiophos	Oxydemeton methyl
Coumaphos	Parathion
Dialiflor	Phorate
Diazinon	Phosalone
Dichlorvos (DDVP)	Phosmet
Dicrotophos	Phosphamidon
Dimethoate	Phostebupirim
Dioxathion	Pirimiphos methyl
Disulfoton	Profenofos
Ethion	Propetamphos
Ethoprop	Sulfotepp
Ethyl parathion	Sulprofos
Fenamiphos	Temephos
Fenitrothion	Terbufos
Fenthion	Tetrachlorvinphos
Fonofos	Tribufos (DEF)
Isazophos methyl	Trichlorfon
Isofenphos	

ENVIROKLENZ[®] VERSUS TOBACCO SMOKE

There are at least 40 carcinogens among the more than 3,800 chemicals in tobacco smoke. The chemicals in tobacco smoke include nicotine, ammonia, hydrogen cyanide, acetaldehyde, methyl chloride, and pyridine. Many of these toxins are found in higher concentrations in tobacco smoke than in mainstream smoke (the smoke inhaled by smokers). The U.S. Surgeon General and the National Institute of Occupational Safety and Health have found that simply separating smokers and nonsmokers in the workplace or public places does not adequately protect nonsmokers from these chemical hazards.

The residual odor left from tobacco smoke is evidence that these toxic compounds still persist even after the “smoke” has dissipated. These toxic chemicals settle on walls, drapes, furniture, and floors where they still pose the same toxic health threat days or weeks after they were released. Simply masking these odors offers no health benefits to individuals who are exposed to these compounds regularly.

The chemicals listed below are components of tobacco smoke. These chemicals, in particular, are known to cause serious adverse health conditions for individuals who are exposed to them over a prolonged period of time.

Acetaldehyde	Methyl chloride
Acetone	Nicotine
Ammonia	Nitric oxide
Dimethylamine	Nitrogen dioxide
Hydrogen cyanide	Propionaldehyde
Methylamine	Pyridine

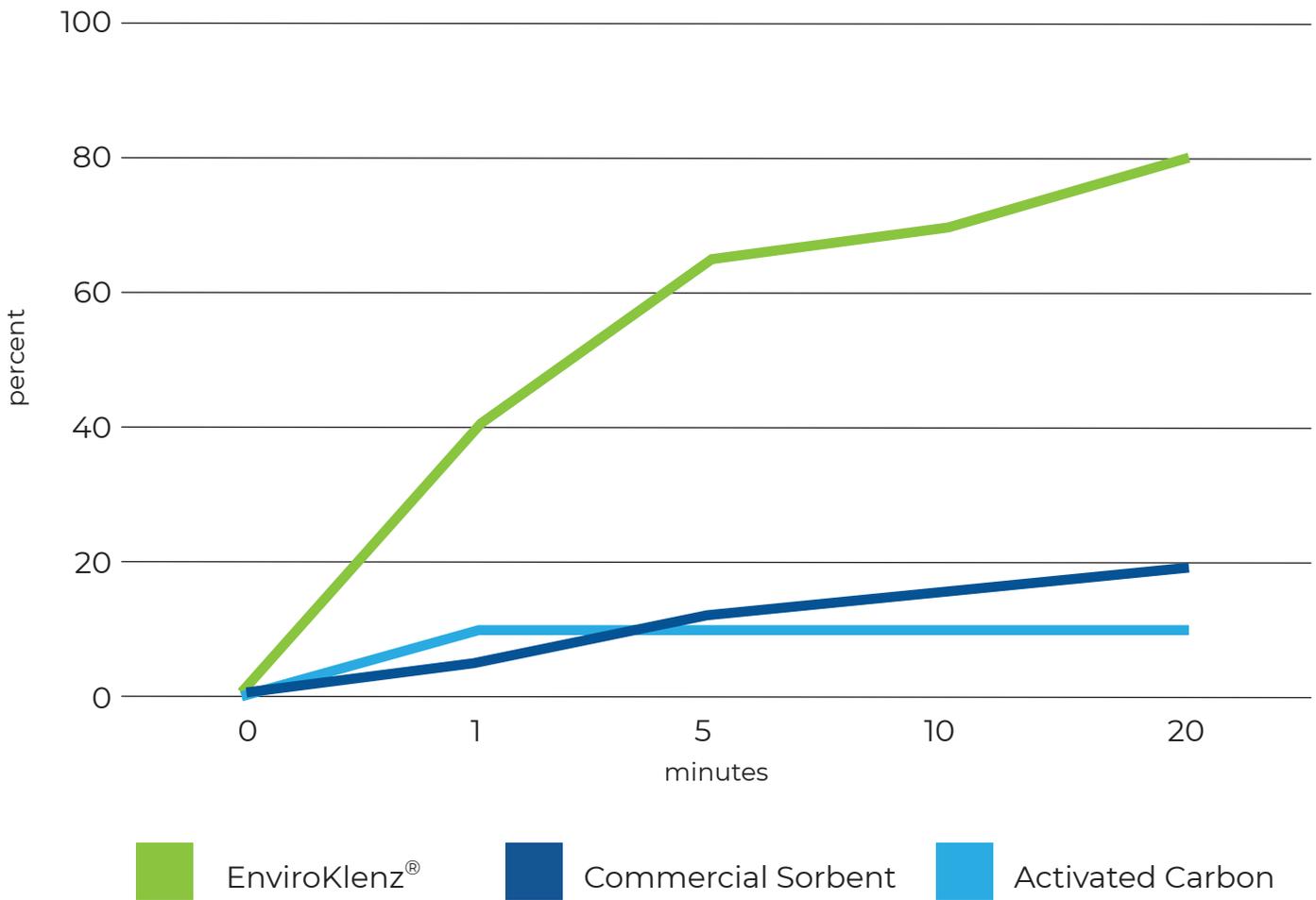
The testing indicated that for all compounds a greater than 90% level of reduction in the original compound after treatment with EnviroKlenz[®] components.

Acetaldehyde

A reaction of acetaldehyde with EnviroKlenz[®] sorbents proceeds through the interaction of the carbonyl group with surface sites followed by the aldehydic hydrogen dissociation leading to a multilayer dissociative adsorption. Such interaction increases the sorption capacity of EnviroKlenz[®] materials, increasing the life of the sorbent.

The figure to the right compares the chemical activity of different forms of EnviroKlenz[®] materials towards destructive adsorption of acetaldehyde. When acetaldehyde is adsorbed from an air stream, rapid adsorption takes place with EnviroKlenz[®] sorbent and almost none with commercial material. Note that activated carbon, a commonly used sorbent, is much less effective, while in just a manner of minutes EnviroKlenz[®] adsorbs over 80% of the chemical from the air stream.

Percent Adsorption vs. Time (minutes)



MOLD-GENERATED VOLATILE ORGANIC CHEMICALS (VOCS)

Understanding the long-term effects and risks of environmental exposures to a variety of chemicals is of paramount importance, as within the disaster restoration industry, professionals are routinely exposed to chemical compounds from a variety of sources. It is widely known that water jobs carry the risk of exposure to mold. Most people are aware of the allergic implications of mold exposure, but there are other chemical related risks on virtually all mold and water jobs that are often overlooked.

Background on mold-generated VOCs

Indoor mold growth has long been associated with a musty or earthy smell, which most people find offensive. This characteristic smell has been found to result from the production of VOCs by various molds, such as *Aspergillus* and *Penicillium* species. Many different indoor molds produce VOCs, and a large variety of VOCs may be produced depending upon the species of mold, the specific conditions under which it is growing, and the substrate it is growing on.

Health hazards

The VOCs produced by molds have been determined to be hazardous to health since they can damage the olfactory system and even be transported into the temporal lobe of the brain via the olfactory bulb. Some mold-produced VOCs have been demonstrated to be neurotoxic or to cause pulmonary inflammation. Persons exposed to indoor molds and mycotoxins (including mold-generated VOCs) have been shown to exhibit symptoms such as poor memory and concentration, in addition to the more commonly known symptoms of eye and throat irritation. The CDC states “If mold is seen or smelled, there is a potential health risk...”, and the U.S. EPA offers an entire pamphlet for physicians entitled “Guidance for Clinicians on the Recognition and Management of Health Effects Related to Mold Exposure and Moisture Indoors”.

Mold-generated VOC control measures

Recommended mold-generated VOC control measures center around ridding the building of the source of the VOCs, namely the growing mold. Contaminated materials should be removed from the structure and disposed of, and the conditions which permitted the mold growth should be addressed.

Additionally, the air inside the building will contain VOCs generated by the mold during the course of its growth. To prevent the health effects of VOC exposure, the building air should be purified. Air purification may need to continue for an extended period of time to allow any VOCs absorbed into the building's interior surfaces, particularly porous surfaces, such as furniture or ceiling tile, to be released.

Mechanism of action

The enhanced chemical reactivity found in the EnviroKlenz[®] Cartridge makes it ideal for removing harmful mold-generated VOCs, thus improving the indoor air quality in water and mold-damaged structures.

The proprietary EnviroKlenz[®] formulation contains a blend of high surface area metal oxides. The large surface area to volume ratio of the metal oxides makes them highly chemically reactive, and particularly suitable for chemical reactions involving destructive adsorption. Microbial VOCs which contact the EnviroKlenz[®] formulation are strongly adsorbed and removed from the air stream. Unlike the VOCs adsorbed by activated carbon filters, VOCs bound to EnviroKlenz[®] will not be released by off-gassing later.

Effectiveness

The EnviroKlenz[®] formulation was tested against 5 VOCs known to be produced by a number of different fungal species. For this testing, 0.1 g of EnviroKlenz[®] was placed into a headspace vial with ~ 3 μ L of test VOC. The vial was capped and crimped, then vortexed to assure good contact between the EnviroKlenz[®] formulation and the test VOC. After 24 h, the vial was subjected to headspace analysis by GC-FID. The results of this analysis are shown in table.

Efficacy of EnviroKlenz[®] against Fungal VOCs

VOC	ODOR CHARACTERISTICS	PERCENT REMOVAL BY ENVIROKLENZ
3-methyl-1-butanol	Highly Disagreeable	99.0
1-octen-3-ol	Moldy/Meaty	50.0
DMDS	Unpleasant	61.6
2-pentanone	Acetone	98.2
ethyl acetate	Sweet Odor- associated with glues and nail polish remover	95.1





HOW ENVIROKLENZ® STACKS UP AGAINST THE COMPETITION

The EnviroKlenz® Mobile Air System is your solution to improving your personal environment air quality through an “adsorptive neutralization” process for chemical odors, fragrances, and VOCs, combined with HEPA filtration for particulates and allergens all in one system.

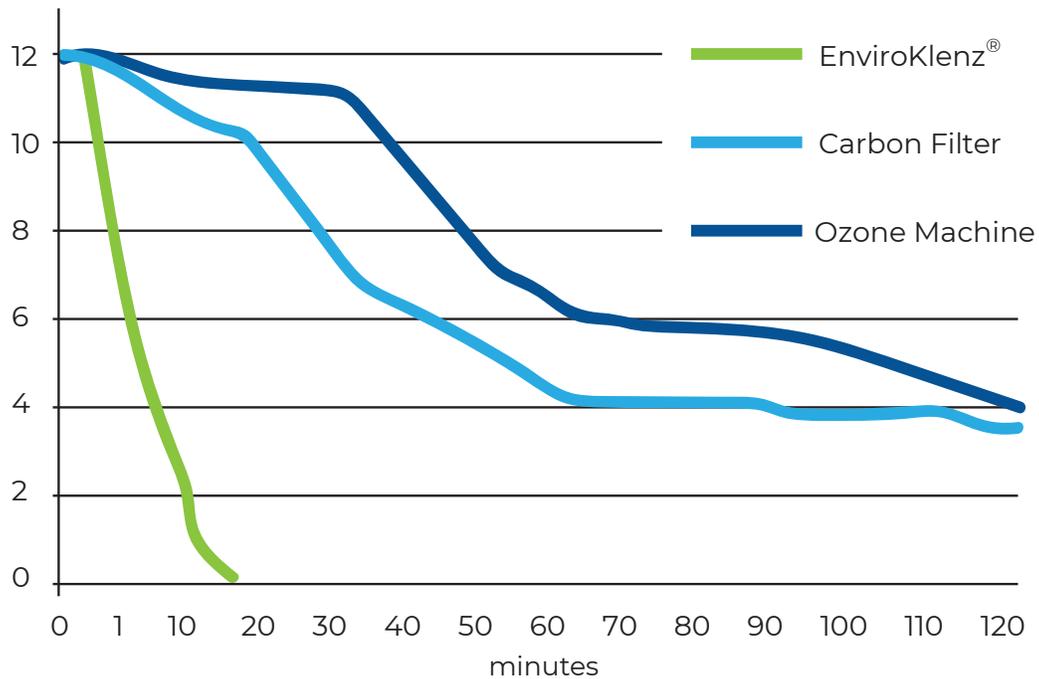
Since the multistage treatment and filtration approach is enhanced with the patented EnviroKlenz® technology, it is effective for a broad spectrum of indoor environmental sensitivity triggers.

The small size of the air processor allows it to be portable and easily maneuverable.

EnviroKlenz® offers many advantages over the competition including:

- Combination chemical pollutants (such as VOCs) and particulate matter reduction
- High air exchange and air movement in a compact system
- Advanced adsorptive neutralization technology that does not release chemicals/byproducts to the environment
- A multi-speed blower offers the quiet and efficient air flow. The low setting allows for near silent operation while still maintaining air flow. Medium to High speeds creates maximum air efficiency at noise levels still suitable for residential and commercial use.
- Simple and easy maintenance.

DEVICE TYPE	PARTICULATE REMOVAL	HEPA FILTRATION	VOC REDUCTION	RELEASED CHEMICAL BYPRODUCTS
EnviroKlenz®	YES	YES	YES	NONE
Carbon- based systems air purifiers	Yes	Depends on system	Varies based on chemical formulation and compatibility	Original chemical off gasing
Ionizer	No	Not typically	No	Yes
2-pentanone	No	No	Chemical change via oxidation	Chemical byproducts in air



The graph above illustrates the reduction of a chemical compound (hydrogen sulfide) in an environmental chamber over a period of two hours by an EnviroKlenz® System, Carbon Filtration (with HEPA), and an Ozone Machine. The concentration of the chemical is listed in part per million (PPM) and graphed over time in minutes. The carbon filter and ozone machine were not as fast or as effective as EnviroKlenz® which was able to reduce H₂S to 0 PPM in less than 20 minutes. Additionally, the ozone machine released harmful levels of O₃ that took several hours to dissipate. EnviroKlenz is fast and safe.

COMPARISONS OF VARIOUS AIR PURIFICATION SYSTEMS

SYSTEM	SIZE & WEIGHT	HEPA	POLLUTION TECHNOLOGY	SUMMARY
EnviroKlenz®	15x15x19, 38 lbs	99.99% > 0.3 µm	Patented Earth Minerals	Effective against particulates, odors, and chemicals pollution without releasing byproducts into the environment.
EnviroKlenz® w/ UVC	15x15x22, 45 lbs	99.99% > 0.3 µm	Patented Earth Minerals + Collection Side UVC	Above benefits, plus UVC inactivation of collected microorganisms.
Air Doctor	23x16x8, 18 lbs	99.99% > 0.3 µm	Carbon, Chemically Doped Carbon	Particulate removal, some odor capacity when carbon is used, but off-gassing likely.
HiTech (model 101)	14x15x7	No	UVC	Only UVC benefits, but exposure time is short. No significant particulate removal.
Vernado (PCO200 Silverscreen Air Purifier)	21x15x11, 16 lbs	99.97%	PCO	Particulate removal, some oxidation of chemicals.
Molekule	23x8x8, 18 lbs	No	PECO	Some oxidation of chemicals.
IQ Air (HealthPro Air)	28x15x16, 29 lbs	Yes	Optional Carbon	Particulate removal.
Airpura (R600)	23x15x15, 47 lbs	99.97%	Carbon	Particulate removal, some odor capacity when carbon is used, but off-gassing likely.
Alen (BreatheSmart FIT50)	17x22x10, 16 lbs	99%	Ionizer, optional modified HEPA/ filters	Particulate removal, some odor capacity when carbon is used, but off-gassing likely.
Odair	7x12x25, 17 lbs	99.97%	Carbon	Particulate removal, some odor capacity when carbon is used, but off-gassing likely.
Air Shield	13x9x23, 19 lbs	99.97%	Electrostatic, Carbon, UV, PCO, Ion	Uses many different stages of filtration. Relies on carbon for odor mitigation.

HEPA – HEPA filters remove particulates 0.3 microns and larger through mechanical (size-based) filtration. This includes dust, many allergens, pollen, pet dander, etc. HEPA filters do not capture or destroy chemical odors that can pass right through the filter. Typically made from fiberglass.

Activated Carbon – a high surface area material that can absorb some chemicals and odors through physical-absorption (not a chemical process). The absorption of the chemicals and odors, however, is typically reversible and the compounds can off-gas from the carbon media. To make the process destructive, harsh chemicals are sometimes added (these materials are often called doped carbons). This process can yield carbon materials with some neutralization ability, but they often have strong or potent odors of their own. Made from charcoal (and other chemicals for doping purposes).

UV – Ultraviolet light. UV light is a broad spectrum of light in which select ranges are germicidal (UVC). With long enough dosage of UVC light, various organisms can be inactivated or killed. Many air purifiers that use UVC light often have limited dosage or time exposure as the air passes through the UVC light too quickly. UV light alone does nothing to the particulate matter that may pass through it. It has to be combined with the particulate removal process such as filters to have any removal efficacy.

Negative Ion – The use of electrostatically charged plates to produce negatively charged gas ions that particulate matter sticks to in an effect like static electricity. These are often used in mechanical filtration, but some devices emit charged particles to the atmosphere to aggregate smaller particles to get them to fall out of the air.

Ozone – is an oxidizing gas (O₃). It can be produced in varying concentrations by devices and generators. Ozone generators produce harmful levels of the gas that can oxidize a variety of chemicals and odors, however, the reaction byproducts are left in the environment. Ozone does not work against particulates, and when used, should only be used in unoccupied spaces by trained professionals.

ENVIROKLENZ® - MOLEKULE COMPARISON

	MOLEKULE	ENVIROKLENZ® MOBILE AIR SYSTEM
HEIGHT	23"	19" – 483 mm
WIDTH	8.25"	15" – 380 mm
DEPTH	8.25"	15" – 380 mm
WEIGHT	18lbs.	38 lbs – 17.3 Kg
CONSTRUCTION	Aluminum cabinet	Metal cabinet
POWER SUPPLY	110/220V	115V/60Hz / 1 amp
POWER – ON HIGHEST SETTING	85 Watts	114 Watts (approximately same power per treatment area)
AIR VOLUME	100 CFM (estimated)	250 CFM (high speed)
NOISE LEVEL	55 dBA on high	70 dBA on high
PRE-FILTER	Yes	> 3.0 microns
CHEMICAL AND ODOR TECHNOLOGY	Photo Electrochemical Oxidation	Uses proprietary and patented technology for toxic and noxious chemical neutralization
HEPA FILTER	No HEPA Filtration	Yes; Removes 99.99% > 0.3 µm
UV ZONE	N/A	N/A. HEPA filter is used to capture microorganisms, spores, dust, pollen, and other particulate matter 0.3 micros and bigger.
UV DOSAGE	N/A	N/A
TYPICAL SQUARE FEET COVERAGE	600	750 (7,500 cubic feet)
AIR EXCHANGES PER HOUR	1	2.0 (based on 7,500 cubic foot area)

EnviroKlenz® Advantage

EnviroKlenz® products have proven to be highly efficient “adsorptive neutralizers” for chemicals making them not only competitively advantageous but very attractive in multiple chemical sensitive situations.

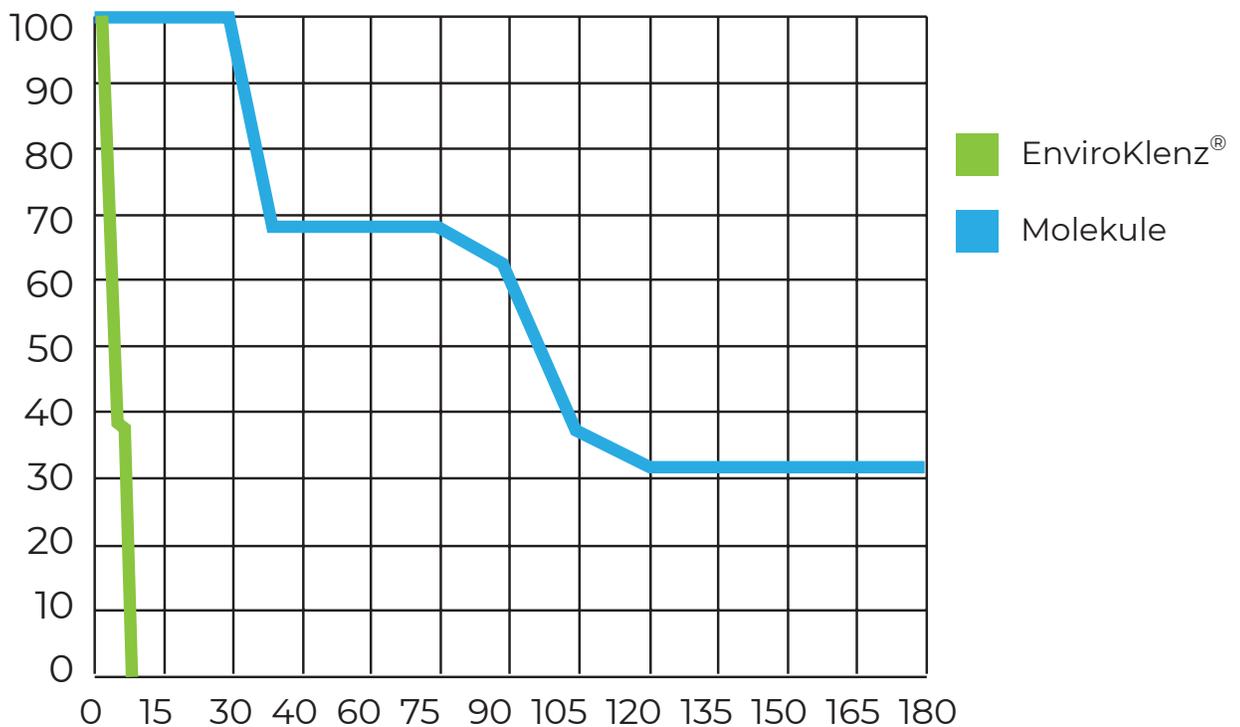
- The EnviroKlenz® system utilizes advanced, patented technology to neutralize a variety of toxic and noxious chemicals and odors. This is done through a 2 stage filtration process that combines traditional particulate removal (including HEPA filtration) with the EnviroKlenz® cartridge to accomplish what traditional filtration cannot do alone.
 - o The MoleKule also use photocatalytic oxidation which would work okay against strict hydrocarbons, but would not help against inorganic, or organic molecules with halogen, sulfur, phosphorous, etc.
- EnviroKlenz® offers HEPA filtration capabilities.
 - o The MoleKule only offers prefilter level filtration and it would not do anything to inorganic particles as they would not be oxidized like the organic compounds.
- The MoleKule is lighter, but that is because it utilizes mostly plastic and aluminum construction.
- Neither system uses UV lights, but the MoleKule does release chemicals and byproducts as it is working on photocatalytic principles.
 - o EnviroKlenz® has the belief that you should not intentionally be releasing chemicals or fragrances to the environment.
- The MoleKule treats a smaller area and processes the air less frequently (lower CFM rating).

DEVICE TYPE	PARTICULATE REMOVAL	HEPA FILTRATION	VOC REDUCTION	RELEASED CHEMICAL BYPRODUCTS
ENVIROKLENZ®	YES	YES	YES	NONE
MOLEKULE	Yes	No	Some	Yes

ENVIROKLENZ[®] VS MOLEKULE COMPARISON TESTING RESULTS

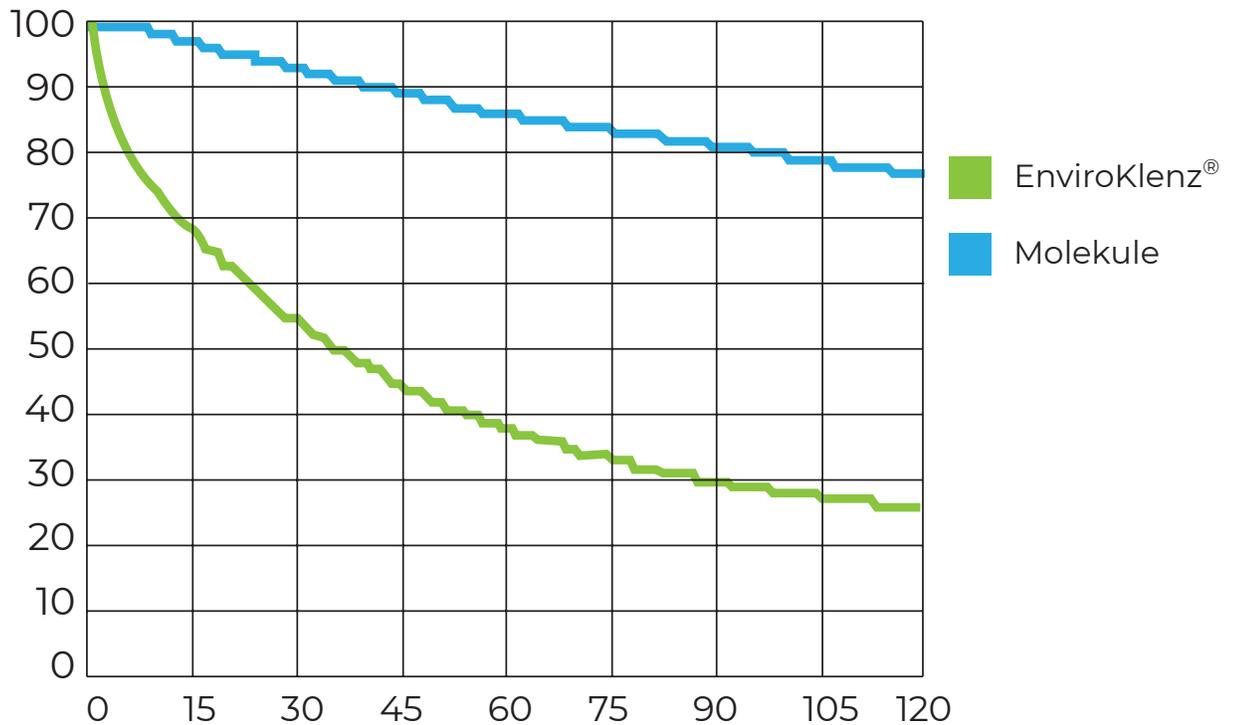
The EnviroKlenz[®] and Molekule were tested in an environmental chamber against a variety of chemical compounds. In the graphs presented, the EnviroKlenz[®] Air System's effectiveness is represented by the green line and the Molekule by the blue. These are the results of our findings.

Systems versus acidic gas



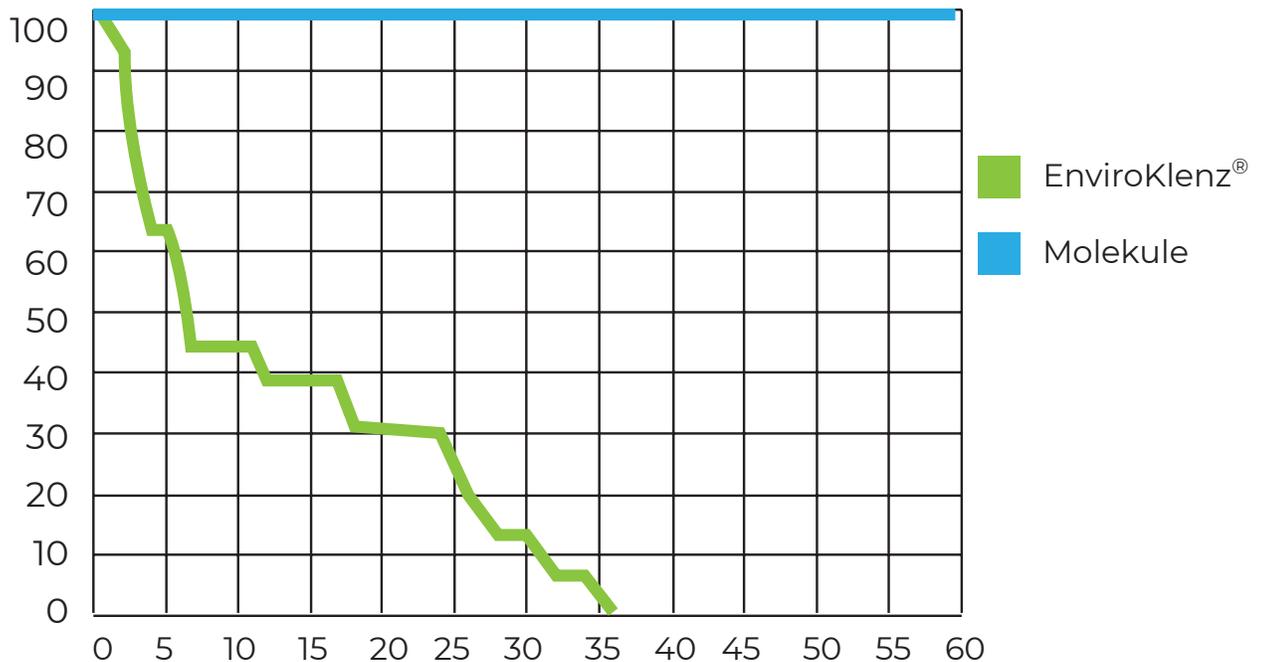
The graph above illustrates the speed at which the EnviroKlenz[®] Mobile Air System can neutralize an acid gas from the air. The environmental chamber had an initial target of 15 ppm (parts-per-million) of hydrogen sulfide released and stabilized. Each device was turned on and allowed to eliminate the chemical. Within minutes (less than 10 minutes) the EnviroKlenz[®] Air System cleared the air as illustrated by the sharp drop in relative concentration, while the Molekule struggled to reduce the concentration by even half, and only achieved a 50% reduction after over 90 minutes of operation.

Systems versus formaldehyde



In the second graph (located above), the two devices were challenged with formaldehyde, a common indoor air pollutant. The target starting ppm range for these tests was 6 ppm. The EnviroKlenz® Air System steadily reduced the concentration by 50% in 45 minutes, while the Molekule only achieved around a 20% reduction at 2 hours.

Systems versus NH3



In the third graph (located above), the two devices were challenged with NH3. Over the course of the 60-minute test, the EnviroKlenz system was able to completely neutralize the chemical compounds, while the Molekule had no detectable impact on the concentration of the compound in the air.

PRODUCTS



EnviroKlenz® Mobile Air System

The EnviroKlenz® Mobile Air System uses hospital-grade technology to guarantee the air in your home or office space stays as clean and pure as possible.

It's got certified HEPA filtration, but that's just the baseline. On top of that, we've added our own unique-to-us patented EnviroKlenz® Air Cartridge that does, even more, to remove and neutralize VOCs, malodors, and fragrances.

It covers up to ~1000 square feet with a quiet, efficient multi-speed blower that you can adjust to meet your needs. (The low setting is so quiet it's basically silent. And while you can hear the medium and high setting, it's a pleasant hum of non-disruptive background noise. It doesn't sound like a broken lawnmower the way some fans and filters do.)

Better yet, there are no tools required for maintenance, and the filter replacements are always available and easy to purchase from our website.

- 4-speed controls
- Comes with EnviroKlenz® Air Cartridge (VOC Neutralization) & HEPA filter (particulate removal)
- Height: 19" x Width: 15" x Depth: 15"
- Net weight: 38 lbs
- Power: 115V / 60Hz / 1 amp
- CFM Rating: 85, 150, 200 & 250
- 4 speed blower
- EnviroKlenz® Mobile Air System, 250 CFM Type – 115V

[Shop Now](#)



EnviroKlenz® Mobile Air System w/ UV

The EnviroKlenz® Mobile Air System with UV Light combines Advanced EnviroKlenz technology for toxic and noxious chemical and odor removal with HEPA filtration and ultraviolet germicidal radiation (UVC) to remove airborne particulates and allergens and inhibit the growth of captured microorganisms (such as bacteria, mold, and viruses). If you are looking for an air purifier that removes mold, EnviroKlenz® UV Model is your best bet.

- 4-speed controls
- Comes with EnviroKlenz® Air Cartridge For VOC neutralization & HEPA filter for particulate removal of up to .3 microns
- UV light radiates on HEPA filter for mold, bacteria, virus destruction
- Height: 22" x Width: 15.5" x Depth: 15"
- Net weight: 38 lbs "on wheels"
- Cord length: 5 feet (7.6 M)
- Power: 115V / 60Hz / 1 amp
- CFM Rating: 85, 150, 200 & 250

[Shop Now](#)

WARRANTY

Timilon Technology Acquisitions LLC warrants that for a period of one year from the date of purchase, this product will be free from manufacturing defects. Timilon Technology Acquisitions LLC, at its option, will repair or replace the product or any component of the product found to have manufacturing defects during the warranty period. If the product is no longer available, replacement may be made with a similar product of equal or greater value. This warranty is non-transferable and is valid from the date of the original purchase. Proof-of-purchase is required to obtain warranty performance. This warranty does not cover consequential damages and/or damages resulting from negligent use or misuse of the product by failure to store, maintain and/or use the product in accordance with directions otherwise. In addition, disassembly, repairs, or modification by anyone other than Timilon Technology Acquisitions LLC, acts of God, such as fire, flood, hurricanes, and tornados will not be covered.

Limited Warranty

Timilon provides a 30-Day Return Window and the following limited warranty. This limited warranty extends only to the original purchaser.

Please note that any warranty services or questions must be accompanied by the order number from the transaction through which the warranted product was purchased. The order number serves as your warranty number and must be retained. Timilon will offer no warranty service without this number.

Timilon warrants this product and its parts against defects in materials or workmanship for five years labor and five-year parts from the original ship date. During this period, Timilon will repair or replace defective parts with new or reconditioned parts at Timilon's option, without charge to you.

Shipping fees incurred from returns for under-warranty service will be paid by Timilon.

All original parts (parts installed by Timilon at the original system build) or parts replaced by Timilon or its authorized service center become the property of Timilon. Any after-market additions or modifications will not be warranted and the customer is responsible for the payment, at current rates, for any service or repair outside the scope of this limited warranty.

Timilon makes no other warranty, either express or implied, including but not limited to implied warranties of merchantability, fitness for a particular purpose, or conformity to any representation or description, with respect to this other than as set forth below. Timilon makes no warranty or representation, either express or implied, with respect to any other manufacturer's product or documentation, its quality, performance, merchantability, fitness for a particular purpose, or conformity to any representation or description.

The warranty and remedies set forth below are exclusive and in lieu of all others, oral or written, expressed or implied. No reseller, agent or employee is authorized to make any modification, extension or addition to this warranty.

Procedures for Obtaining Warranty Service

RMA (Returning Merchandise Authorization) Policy:

If repairs are required, the customer must obtain an RMA number and provide proof of purchase. RMA and services are rendered by Timilon only. All returned parts must have an RMA number written clearly on the outside of the package along with a letter detailing the problems and a copy of the original proof of purchase. No COD packages will be accepted. No package will be accepted without an RMA number written on the outside of the package. RMA numbers are only valid for 7 days from the date of issue.

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EnviroKlenz[®]

Mobile Air System Technical Overview

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