



Comparison of Antiviral Air Cleaning Systems

Assurance™ SafeAirUV fixtures compared to all available devices for clearing indoor air of all COVID viruses.

Purpose

The main objective of this analysis is to compare the UV Health Group – Assurance™ SafeAirUV System with 4 other types of systems you may be considering for cleaning room air. This chart will highlight the differences and key advantages of SafeAirUV products – based on attributes, requirements and considerations from most buyers.

Air Purifier Device Types

HEPA Filter based systems: A large free standing device that uses a fan to pull air into a series of HEPA and/or MERV filters, trapping particles larger than .3 microns, then exhausting the filtered air back into the room at 160-300 CFM; typically they are placed at the edge of the room. Some of the HEPA based machines also use UV-C lights from mercury-vapor bulbs, at the end of the process as the air is moving quickly back into the room.

FAR UV-C Systems: Ceiling mounted fixtures that shower the room with UV-C light (207 – 222nm) from krypton-chlorine bulbs, while the room is occupied, inactivating viruses in the air and on surfaces - potentially without harm to exposed human tissues and eyes as limited studies have been conducted into investigating the effects of prolonged exposure on humans. This wavelength is thought to limit human health hazard due to the strong absorbance in biological material, meaning the light should not penetrate far enough into multi-cell organisms (such as humans) to create any long-term damage.

Upper Air UVC: Fixtures pointing up at the ceiling, broadcasting 254nm UV-C light upward, from mercury-vapor bulbs, inactivating viruses in the air that naturally circulates above the fixtures. Works on the air in the upper zone in the room (not an “air change” type device)

UV-C Robots: Rooms are showered with UV-C light from a roving device with exposed 254nm UV-C bulbs, only when rooms are unoccupied, and curtains are closed. These robots inactivate viruses on surfaces (non-shadowed areas) and in the air. Once per day ensures a virus-free room, at the moment the robot has completed its mission.

Assurance™ SafeAirUV – Ceiling or wall mounted near where people congregate, this UV-C LED based system actively pulls room air into a sealed chamber filled with 275nm UV-C LED lights, As the room air passes through the sealed chamber, the powerful UV-C light inactivates any viruses, bacteria or pathogens, before another fan distributes the cleansed air back into the room. Smart feature controls available to achieve optimum air changes per room.

Air Purifier Device Comparison

	UV Health Group Assurance™ SafeAirUV	HEPA Filter with UV-C Air Sanitizers	Far UVC Light Systems	Upper Air UVC Fixtures	UVC Robots
Product Focus					
Surface Cleaning			✓		✓
Air cleansing	✓	✓	✓	✓	✓
Testing & Efficacy					
Tested with aerosolized COVID-19 virus	✓				
Efficacy Claim	99.9996%	99.99%	99%	99.4%	99.9%
Scientific Lab reports available	✓				
Virus particle size limitation	None	.3 microns	None	None	None
Inactivate or captures viruses	Inactivates	Captures	Inactivates	Inactivates	Inactivates
Impact on Humans					
Works in occupied rooms	✓	✓	✓	✓	
Potential for UV-C light exposure	None	None	✓	✓	✓
Safe for humans when operating	Yes	Yes	Undetermined	Questionable	NO
UV-C Technology					
UV-C wavelength	275nm	254-273nm	222nm	254nm	254nm
UV-C Light Source - LEDs	✓				
UV-C Light Source - Bulbs		✓	✓	✓	✓
Life expectancy of UV-C light before replacement	10 years	6 months	9 months	1 year	9 months
Environmental Impact	None	Contaminated HEPA filters & Mercury-vapor bulbs	Mercury-vapor /Krypton/ Chlorine bulbs	Mercury-vapor bulbs	Mercury-vapor bulbs
Operations					
Air Circulation - Fan speed(s)	20-60 CFM	600-1500 CFM	No fans	No fans	No fans
Operating noise (db)	28-48db	60+ db	N/A	N/A	N/A
Time to clear a room of all viruses (20X20 sf)	20-30 mins	Only partial	30-60 mins	Only partial	30-60 mins (per session)
Smart Phone App Controls	✓	✓			✓
FDA Approved	Pending	No	No	No	No
Cost of ownership	\$	\$\$	\$\$	\$\$	\$\$\$



Summary:

Purpose-fit, science-based design is core to the products from UV Health Group. There are several key advantages from the Assurance™ SafeAirUV System over other technologies for cleaning room air of viruses and pathogens, including:

- Works in occupied rooms
- No possible exposure to UV-C Light
- Disinfecting power closest to the point of infection (the air people are breathing)
- Highest proven efficacy – 99.9996%
- Utilizing the most powerful germicidal UV-C wavelength (275nm)
- Long-life UV-C LEDs (10 years)
- Lab tested with SARS-CoV-2 (COVID-19) in the air
- Zero maintenance for 5+ years
- No hazardous waste from UV-C bulbs
- Whole room air changes multiple times per hour
- Programmable fan speeds to optimize air changes
- Smart App for set up, control, and monitoring systems
- Lowest cost solution per cubic foot

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