

Modern UVC Air Sanitizers for High-Intensity Animal Farms



The Critical Threat: Airborne Diseases in Swine Farming:

- PRRSV (*Porcine Reproductive & Respiratory Syndrome Virus*)—**PRRSV alone costs the US industry \$664 million annually**
- IAV (*Influenza A Viruses*)—Highly transmissible through air, affects productivity
- PEDV (*Porcine Epidemic Diarrhea Virus*)—80–100% mortality in piglets
- ASF (*African Swine Fever*)—No vaccine available, nearly 100% mortality
- FMDV, PRV, CSFV—Devastating economic impact, transmission via aerosols

Economic Impact: Airborne disease can result in:

Increased mortality rates • Reduced growth efficiency • Reproductive failures
Medication costs • Market access restrictions • Facility shutdown/quarantine
Loss of production • Major capital losses • Breakdown of supply chain

Current Filtration Methods: The Limitations

The Current Approach

- Filter banks only address incoming air
- Relies on negative static pressure systems
- No active intervention against pathogens already inside the facility
- Filters require costly maintenance and replacement
- Filters can become contaminated and harbor pathogens

Critical gap:

Once viral pathogens enter the facility, traditional filtration systems provide no mechanism to neutralize them, allowing unrestricted circulation and transmission throughout the entire building.

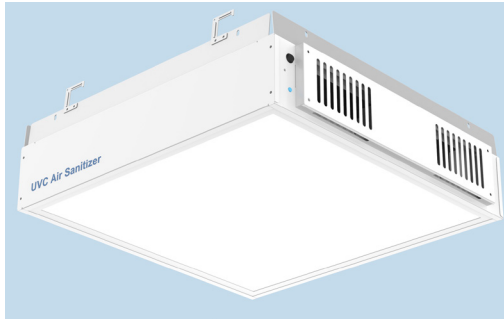
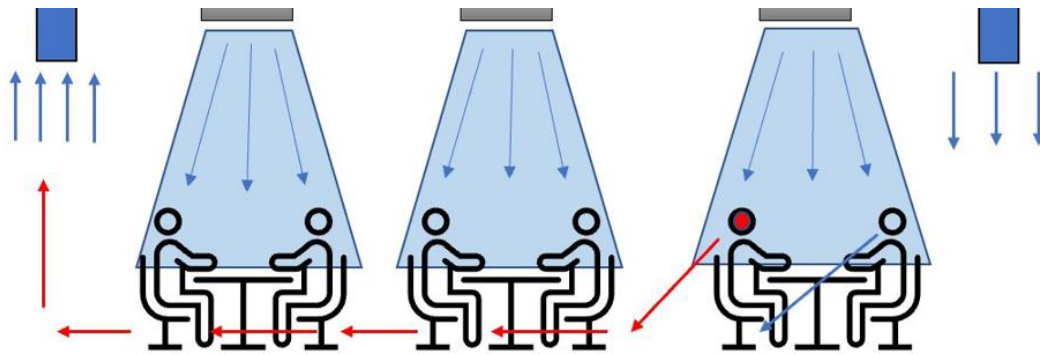
Different Methods of Biosecurity:

Feature	BioSecure UVC	HEPA Filters	Chemical Fogging
24/7 Active Protection	✓	✓	X
Neutralizes Pathogens	✓	X	✓
Treats Internal Air	✓	X	X
Low-Cost Consumables*	✓	X	X
Safe With Animals Present	✓	✓	X
Low Maintenance	✓	X	X
Annual Operating Cost	Low	High	High

After analysis of the needs in the swine, chicken and turkey industry, we have developed a comprehensive airborne disease protection plan. The products have been developed, tested and certified to human health standards and modified to meet the challenging environments in farming.

In-Room Sanitization:

To Keep the Humans Well, to Keep the Animals Well:



Many models available:

The 2x2' UVC Air Panel Light is a Safe Air Sanitizer that works with an LED Panel/Troffer Light fixture to reduce airborne transmission of viruses, molds and bacteria in school, office and health-care environments.

The ADA Model is a wall-mounted unit to sanitize the air in the bathroom and other small areas.



Advantages:

Enclosed UVC is 100% Safe (People and Materials) • Effective at reducing viral load in the facility
Low initial costs • Low unit cost • Low installation cost • LED room lighting • Energy savings
Commercial-grade materials • Low maintenance costs

Upper-Air UVC: The Best Animal Confinement Solution

- Sanitize the air in the confinement on a 24/7 basis.
- Create a layer near the ceiling that sanitizes all the air that passes into it.
- Each unit emits the invisible protection out 10' from the unit. Placing the units 20' apart from each other creates a full layer of protection for the entire building.

Designed for harsh environments:

A Quartz Sleeve and seals are added to the standard unit to bring it to IP54 Standards. This protects the electronics from high humidity and water sprayed on the unit.

Quartz is used for strength and because it does not interfere with UVC wavelength of light.



**Blue light is for illustration only. UV light is invisible to the human eye.*



USA and Foreign Patents and Patents pending.

Advantages:

IP54 Sealed • Effective at reducing viral load in the facility
Low initial costs • Low unit cost • Low installation cost • LED room lighting option
Energy savings • Commercial-grade materials • Low maintenance costs