

LARGE SPACE DISINFECTION: EQUIPMENT AND APPLICATION METHODS



When an emerging pathogen situation (such as COVID-19 in 2020) transitions to community spread an enhanced surface disinfection protocol is critical to help reduce the risk of further spread. Large spaces such as schools, airports, public and commercial buildings present a unique challenge. Utilizing an application method designed for these situations brings significant benefits.

- **Minimize interruptions or closures to avoid inconvenience, economic hardship or relocation**
- **Balance speed and scale with required dwell time to ensure efficacy**
- **Reduced contact between public and cleaning crews**

FOAMING APPLICATORS



Foam sprayers can be powered or manual, and in an array of configurations and sizes.

Attributes:

- Lower cost compared to other methods
- Minimal runoff results in less cleanup
- Increased hang time, ideal for vertical surfaces
- Product is easy visible during application, reducing overuse/waste
- Minimal training
- Often slower than the other methods in large spaces
- Terrific for hard to reach spots that breed germs like backwash/overflows in sinks
- Useful in everyday remediation activity

AIRLESS SPRAYERS



Airless sprayers are ideal for large and complex areas and result in the best blend of wetting with minimal mess, solving surface tension holdout, and logistics.

Attributes:

- Disinfection specific settings utilizing high-efficiency tips yield large droplets and longer wet contact time
- Applicator can control spray fan radius reducing product use by as much as 70%
- High production rates, portable & flexible
- Equipment can be multi-functional, reused for other applications
- Lower cost to purchase, easy and inexpensive to maintain, field serviceable
- Larger systems can support 2-3 applicators working at the same time

ELECTROSTATIC SPRAYER



The only method that creates a “dry fog”. Electrostatic atomizes cleaning solutions to produce an electrically charged spray able to wrap around surfaces of all types for an even coat, and reach areas other methods cannot. After proper training, electrostatic has a valued niche role in disinfectant application.

Attributes:

- Dry fog produced can be useful as a pre-treatment or knockdown application within severely contaminated areas prior to entry of specialized cleanup teams, which improves worker safety
- Production rates can seem high, but efficiency of laying down an ultra-thin layer often works against disinfection because surface will dry out sooner than required dwell (“kill”) time
- Wrap around effect cannot be achieved if surfaces cannot be charged, so certain common needs like carpet sanitizing are not an option
- Equipment investment is expensive, field-fixes are difficult, and repair frequency is highest of these four methods
- Proper training is required

COLD MISTERS/FOGGERS



Cold mist and fog generating devices use pressure instead of heat to vaporize and deliver disinfectants. These powered devices can yield single digit micron droplets; or deliver a soaking mist.

As indicated by the name, ULV (Ultra-Low Volume) misters and foggers economically transform low amounts of fogging liquid to substantial yet very fine droplet mists.

Attributes:

- Adjustable to produce as small as <10 microns, these droplets can remain airborne for hours which increases probability of bonding with aerosols and particulates, and pulldown (bringing unwanted airborne contaminants down to cleanable floors).
- Cold mist/fog processes avoid problems with thermal foggers including fire risk, pungent odors, and hard-to-clean oily residues.
- To preemptively mist suspected areas of severe contamination, many units can be calibrated to set and walk-away: resulting in reduced hazard with less direct exposure to cleanup workers.
- Hand-held and directed by skilled applicators, mist/fog generators can deliver a targeted, mobile and efficient disinfection ideal for complex spaces like buses or metro/subway passenger cars.

The appropriate method will be dependent on the individual project and objectives. Whichever method utilized always review the disinfectant label for complete application instruction and to ensure it is appropriate for your project.