

Pathogens!

- No place to hide



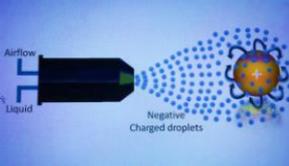
ELECTROSTATIC DISINFECTION MACHINE



Designed and Developed by
CSIR-CSIO, Chandigarh
under the
CSIR Mission Mode Programme
**FOOD AND CONSUMER SAFETY
SOLUTIONS
FOCUS**

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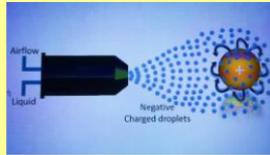
What's dangerous is not to evolve



CONVENTIONAL Vs ELECTROSTATIC DISINFECTION



- 180° area coverage
- Bigger droplet size
- Not target oriented
- Off-target losses
- Non-uniformity
- No back deposition
- Applicable for low viscous fluids
- Less efficient
- Low accuracy



- 360° Area coverage
- Smaller droplet size
- Target specific
- Minimum losses
- Uniform coverage
- Front and back deposition
- Applicable for all fluid types
- 7-8 times more efficient
- High accuracy

Socio-economic Impact

The developed technology has a direct impact on social and economic life, which provides healthy lifestyle by preventing pathogens growth. It has wide application in airports and railways, hospitals and healthcare facilities, public transport, work place and offices, poultry, defence artillery, hotels and catering, food commodities and many more.

SPECIFICATIONS

- Flow rate = 110 ml/min
- Droplet Size = 10-20 μm
- Air pressure = 2-3 bar
- Operating voltage = 1.07 kV
- Spray coverage = 25°-35°
- Efficiency¹ = 70-75 %
- No. of nozzles = Single headed
- Tank capacity = 10 litres
- Materials usage² = Reduced by 50-60 %
- External air supply = Required
- Uniformity coefficient = 1.71
- Battery usage hours³ = 10-12 hours

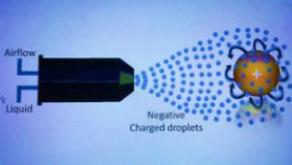


Power source for charging of liquid and air compressor is 9.0 Volts DC battery and 220-240 Volts AC (mains operated) respectively.

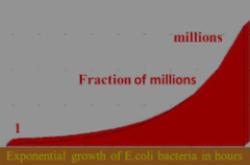
¹Compared to traditional application methods including wiping.

²Compared to misting, sprayers and floggers.

³Once fully charged (600 mAh) battery.

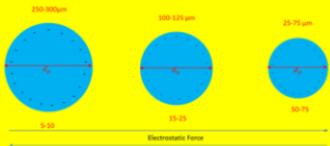


Pathogens grow exponentially



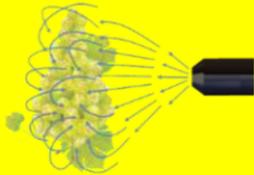
WORKING PRINCIPLE

A mixture of water and compressed air passes through the charging electrode and then charged spray droplets exit from the nozzle tip.

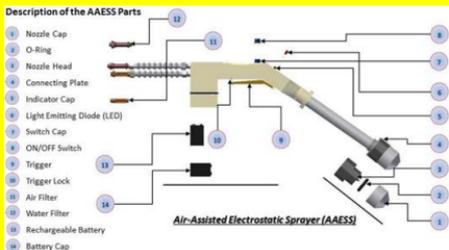


The negative charge impinged into the droplet enables it to cover the complex and hidden surfaces uniformly.

The innovative electrostatic sprayer delivers disinfectant solution to the front, back and sides of the surface. It provides uniform coverage for better germ protection.

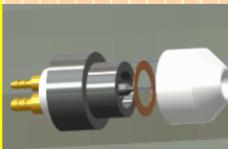


Like charges repel → More uniformity
 Unlike charges attract → More efficient



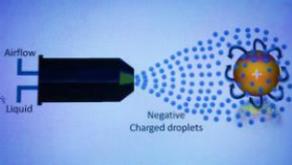
REASONS FOR DISINFECTION

Surfaces not regularly disinfected can become a hotbed for pathogen growth.



Protect your facility with a revolutionary system that helps to reduce pathogens like never before.

- Students miss on average 4 days per year due to illness.
- Teachers miss 5 days per year due to illness.
- 7.7 Employee sick days per year.
- Only 50% of space in hospitals is effectively disinfected.
- Approximately 85% of wheelchairs in hospital are contaminated.
- More than 50% of beds and mattresses are contaminated.
- Approximately 92% of curtains are contaminated even after one week of laundry.
- \$225 Billion productivity loss to businesses.



Don't Just Control Infections! Prevent Them

APPLICATIONS

23,582 Government Hospitals, 25,650 Primary Health Centres , 5,624 Community Centres

Healthcare

Rapidly growing with an annual growth rate of 10.5%

Public transport

21 million cases of stomach flu each year

Fruits and Vegetables

Poultry

To cure bacterial diseases, histoplasmosis, Avian Influenza

Airports and Railways

Indian railways transports about 14 million passengers on 9000 trains everyday

Hotels and Catering

Disinfection and sanitization is the utmost priority in this sector

Workplace and Offices

Tables, Chairs, Desks, Doors, Walls, Lockers, Beds, Wheelchairs, Furniture, Carts, Almira



Overdose
Charged spray droplet reduces overspray and other ambiguities

Uniformity
Electrostatic disinfection machine uses less material and achieves more uniform coverage



Droplet Size
Produces uniform droplets, which is more effective in killing the pathogens



Efficiency
7-8 times more efficient than conventional spraying

