

# Electronic Spray Head for Airborne Disinfection

Tekceleo's Micronice vibrating Mesh technology provide a unique dry fogging technology **that allows modularity and performances for airborne disinfection of volumes or equipments.**

Our airborne disinfection range **is specifically made only in stainless steel and HDPE components for very long lifespan.** With its very little footprint, its "plug and play" and modular design, our technology is very **well suited for direct integration in equipment or disinfection devices.**

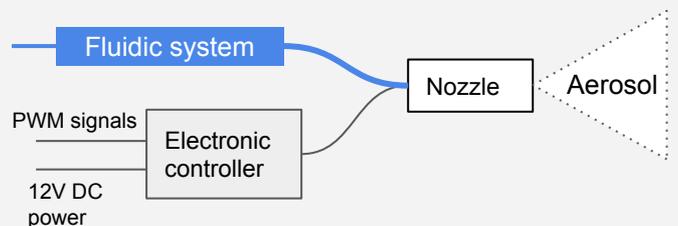
Our capacity to adapt the droplet size, a smooth nebulization (no pressure nor heating) and a very precise control of the flowrate allow our customer to easily integrate our nozzle to each of their specific situation and environment.

## Benefits of our technology :

- **Very smooth nebulization, without inertia, heat or pressure.** Allows disinfection of very small and sealed volume (<100L).
- **Full electronic control, plug and play** on AC power supply, adaptable flowrate.
- **Low footprint** : 20mmx46mm
- **Material savings** : no dead volume
- **Very low electrical consumption (<2W), can work on battery**
- **Quiet operation (<35dB)**

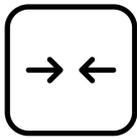
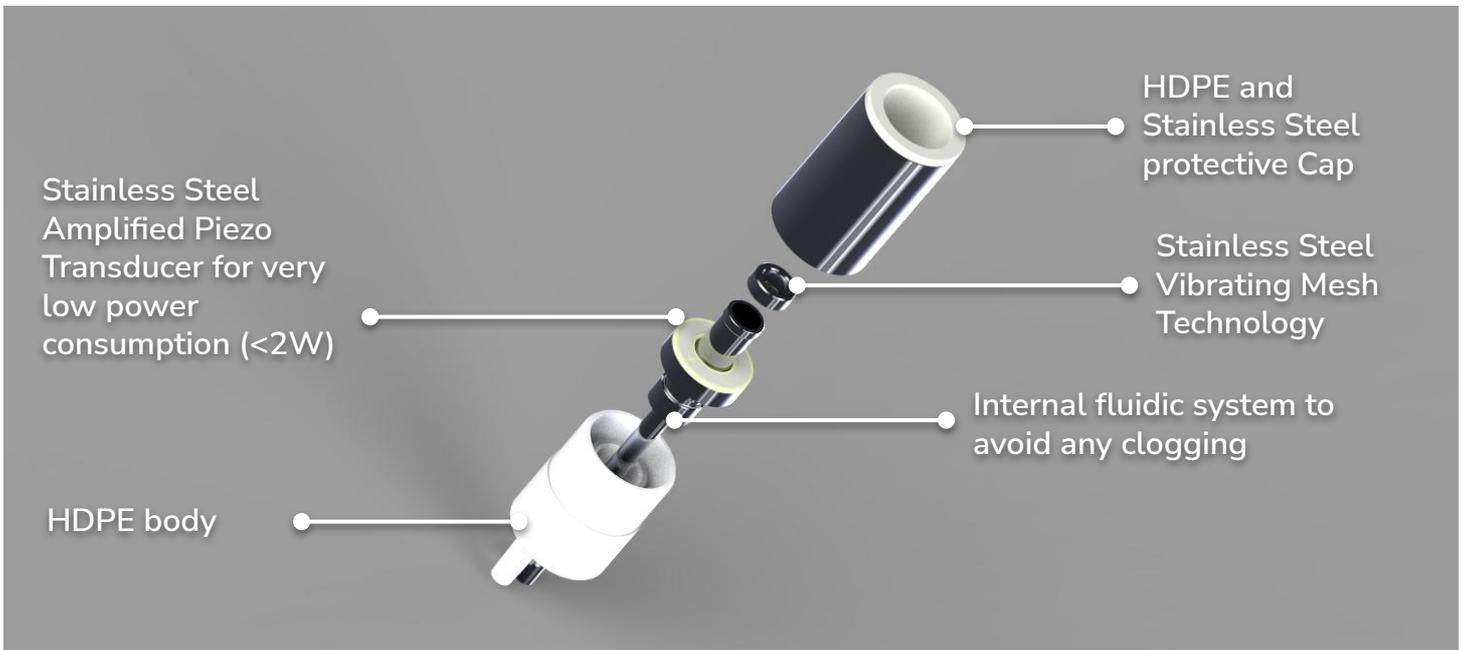
## How it works ?

Bring liquid to the nozzle to atomize. Operation controllable with a simple ECU (up to 5 nozzles simultaneously).



## An adaptable technology :

- **Adaptable droplet size**
- **Control from 1 to 10 nozzles simultaneously**
- **Can be controlled directly by a PLC via PWM signals.**



**COMPACT**



**EFFICIENT**



**RESISTANT**



**SIMPLE**

| Droplet size | Max Flowrate (ml/min) | Max Flowrate (L/h) |
|--------------|-----------------------|--------------------|
| 04 µm        | 0,7 ml/min            | 0,045 L/h          |
| 08 µm        | 2 ml/min              | 0,12 L/h           |
| 12 µm        | 3,5 ml/min            | 0,2L/h             |
| 20 µm        | 8 ml/min              | 0,5 L/h            |
| 50 µm        | 35 ml/min             | 2,1 L/h            |

Other droplet sizes available on demand

| Liquid Tested  | Resistance | Lifespan     |
|--|------------|--------------|
| H <sub>2</sub> O <sub>2</sub> - 10%  | Excellent  | > 5000 hours |
| H <sub>2</sub> O <sub>2</sub> - 30%  | Excellent  | > 5000 hours |
| H <sub>2</sub> O <sub>2</sub> - 10%<br>C <sub>2</sub> H <sub>4</sub> O <sub>3</sub> - 1% | Excellent  | > 5000 hours |
| HClO - 0,1%  | Very Good  | > 3000 hours |

**Main characteristics :**

- Dimension : 20mmx46mm
- **Very high chemical compatibility with all biocides** (stainless steel and HDPE only).
- Energy Consumption : 2W
- Quiet operation (<35dB)
- Very low response time (<1ms)
- Operation for liquid below 3 cp viscosity
- Adaptable flowrate : possibility of very low volume atomization (<0,01ml/mn) to large volume (>5 L/h) depending on the configuration

## Features and advantages of Micronice for airborne disinfection

| Main problem  | Micronice feature to solve it   | Micronice advantages   |
|---|---|--|
| High time consuming disinfection process                                      | <b>Dry and cold nebulization process</b> , without heat or pressure. Dramatically reduces aeration time to acceptable H2O2 levels. On small volumes Micronice allows to reduce a cycle to 15min, compared to 1h30 with VHP. | Compared to other cold nebulization device, Micronice technology does not use pressure and is natively electronically controlled. It implies that it can be also used for very small volume or to be integrated in small places. |
| High consumption of consumables   | <b>Precise flowrate control</b> allows to exactly use the amount of biocide needed.   | The electronic control of flowrate and operation cycle with a very quick latency (< 1ms) allows to save a lot of biocide over time.  |
| High maintenance cost   | <b>HDPE and stainless steel</b> only, all active parts are separated from the corrosive liquids. Low power and robust electronics.  | All components are compatibles to corrosive and oxidant disinfection liquids. Moreover, our low powered amplified technology is very robust.   |
| Equipment too large for small volumes   | <b>Very compact</b> : 20mm x 40 mm nozzle, no need for compressor or large equipments to run..  | The high efficiency of our technology makes it very small and compact without sacrificing lifespan and robustness.   |
| Integration difficulties that increase the complexity of industrial processes | <b>Easy to integrate</b> : compact plug and play nozzles and electronics. Control possible via PWM in order to run the nebulization function via your own industrial equipment.   | Because it does not imply heating or pressure, in order to work in any environment our technology only need a power supply and a low power pump to bring biocide in the nozzle.  |

## Possible configurations

| Volume to disinfect | Required flowrate | M04  | M08  | M12  | M20 | Fan needed | Electronic control | Power range |
|---------------------|-------------------|------|------|------|-----|------------|--------------------|-------------|
| 0 to 0,1 m3         | <2ml/min          | 2 u  | 1 u  | 1 u  | N/A | No         | Yes                | 1,5 - 3W    |
| 0,1 to 1 m3         | ~4ml/min          | 4 u  | 2 u  | 1 u  | N/A | No         | Yes                | 1,5 - 6W    |
| 1 m3 to 5m3         | ~8ml/min          | 10 u | 4 u  | 2 u  | 1 u | Yes        | Yes                | 1,5 - 15W   |
| 5 to 40 m3          | ~12ml/min         | N/A  | 5 u  | 3 u  | 2 u | Yes        | Yes                | 3 - 8W      |
| 40 to 200 m3        | ~20ml/min         | N/A  | 10 u | 5 u  | 2 u | Yes        | Yes                | 10 - 20W    |
| 200 to 800 m3       | ~50ml/min         | N/A  | N/A  | 15 u | 5 u | Yes        | Yes                | 10 - 30W    |