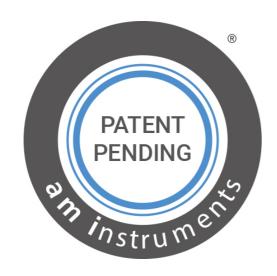


amtech





### THE NEW BOUNDARIES OF BIODECONTAMINTION

Our new system for environmental biodecontamination designed and built to meet operators' need and GMP requirements.







# Advantages

Ease of use

Real-time connection

Connectivity

High speed



**AM Cloud** 

Operator safety

Advanced maintenance

Design







# Technology





# HPE Technology

An <8% hydrogen peroxide solution is dispensed through a nozzle, creating a mist of micro droplets, that are then passed through an high voltage electromagnetic field that ionizes the H<sub>2</sub>O<sub>2</sub> mist.

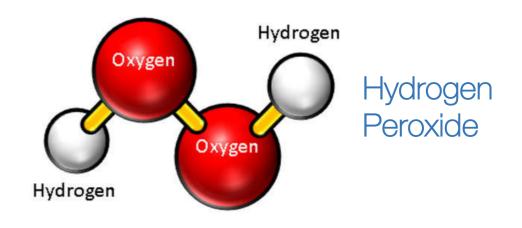
The solution quickly diffuses throughout the space, killing all microorganisms present in the area.



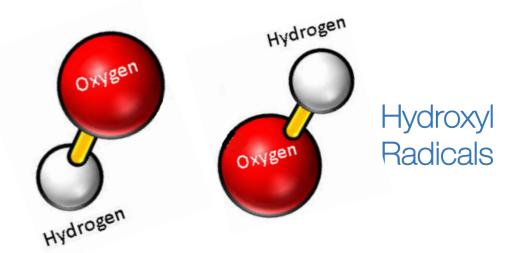


### HPE Technology

Due to the ionization, the resulting solution has a high concentration of hydroxyl radicals and Reactive Oxygen Species (ROSs), which damages micro-organisms through oxidation of proteins, carbohydrates, and lipids. This leads to cellular disruption and/or dysfunction and allows for rapid biodecontamination in targeted areas.



High Power Electromagnetic field









# Efficacy

Oxidizing Species		Potential REDOX / V	
Fluorine	F <sub>2</sub>	3,0	
Hydroxyl Radical	НО	2,8	
Ozone	O <sub>3</sub>	2,1	
Hydrogen Peroxide	$H_2O_2$	1,8	
Potassium Permanganate	KMnO <sub>4</sub>	1,7	
Chlorine Dioxide	CIO <sub>2</sub>	1,5	
Clorine	Cl <sub>2</sub>	1,4	
Nitrogen Dioxide	$NO_2$	1,4	

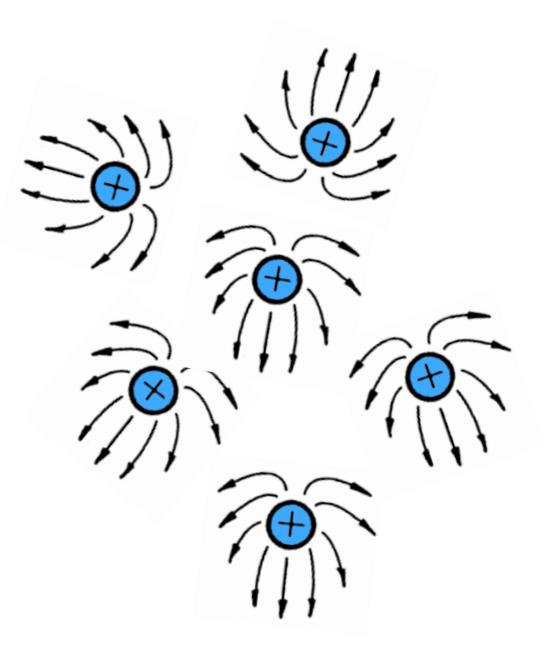




# HPE Technology

The electro magnetic field imparts an electrostatic charge to the mist, that acts like a gas due to mutually repulsive positively charged particles.

The results is an extremely high diffusion property to easily reach 100% of the whole area.



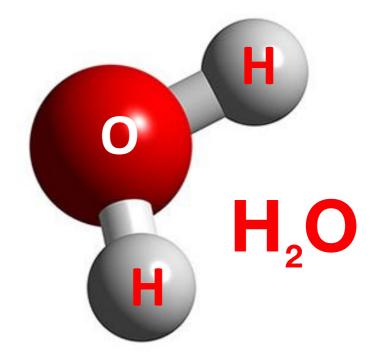


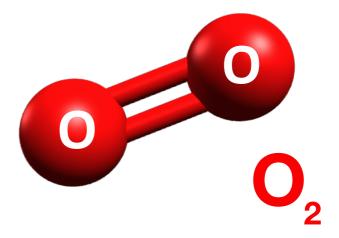


### HPE Technology

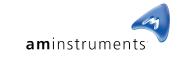
The by-products of the hydrogen peroxide solution are oxygen and water that do not leave any residue on surfaces.

No wiping required as by-products are far safer to manage than those left by other conventional methods











### ADVANTAGES

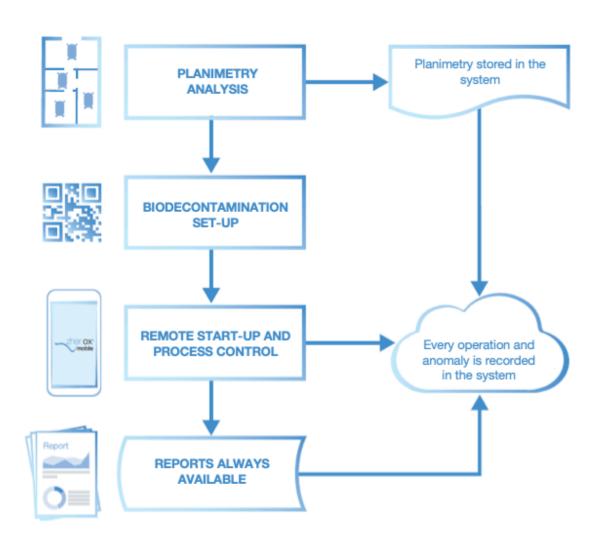






### Ease of use

Zherox® simplifies biodecontamination activities and their set-ups



- Simple initial set-up activities
- Configuration via QR Code
- User-friendly interface
- Simplification of complex operations







#### Real-time connection

Zherox® can be controlled by iOS and Android smartphones or tablets

- Connection through iOS and Android smartphones
- Control on the entire biodecontamination process
- Precise information on tanks and Zherox® state with the possibility to receive notifications and warnings
- Reports available at any time and anywhere
- Possibility to plan interventions and to save devices layout







## Connectivity

Zherox® machines are able to autonomously organize biodecontamination activities



- Creation of a Wi-Fi network shared between Zherox® machines
- Possibility to connect machines and organise the biodecontamination process for optimal results
- Reliable and consistent system synchronisation



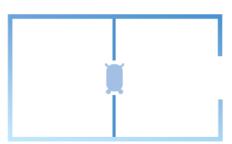


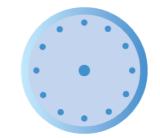


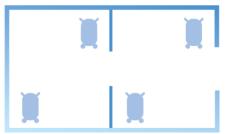
# High speed

You can use multiple Zherox® machines to speed up your biodecontamination activities

- Simultaneous collaboration between multiple Zherox® machines
- Decrease in decontamination times
- Possibility to activate up to 10 Zherox® machines per activity
- Innovative TLP system















### AM Cloud

Zherox® is integrated in AM Cloud: your data are available at any time and anywhere



- Storage of all data related with machines and activities state and operators' actions during the biodecontamination process
- Data traceability in compliance with ALCOA+ regulations
- Cloud storage, in comparison with local storage, ensures higher data integrity
- Certainty of constant and punctual updates



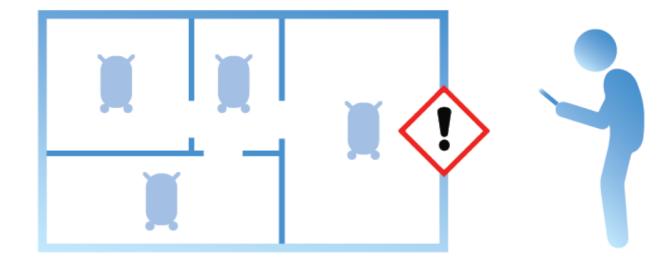




### Operator safety

Zherox® can be remotely controlled and reduce operator's exposure to disinfectant solution

- Redefinition of safety standards of biodecontamination
- Remote start, control and completion of activities
- Missing exposure of operators to disinfectant solution
- Possibility to integrate a hydrogen peroxide sensor
- Immediate visual feedback through status LED









#### Advanced Maintenance



Zherox® is equipped with advanced systems that simplifies your ordinary and extraordinary maintenance activities

- Control of every machine state
- Real-time notifications related to maintenance activities
- Integrated diagnostic system
- Smartphone notifications of timely interventions







# Design

An innovative design ensures best ergonomics during use and transportation

- Tilting monitor to ease operators
- Pivoting wheels and side handles for easy transportation
- Dedicated case for risk-free transportation on any vehicle







# Sanitizing liquid

- Solution based on H<sub>2</sub>O<sub>2</sub> < 8%</li>
- Disinfection of the entire surface thanks to electromagnetic ionization of hydrogen peroxide
- Automatic control of lot, expiry and opening date of tanks through RFID





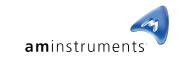




# COMPARISON WITH OTHER TECHNOLOGIES

FEATURES	HPE tech	Vapor H <sub>2</sub> O <sub>2</sub>	Chlorine Dioxide
Works indipendently of temperature & humidity	<b>/</b>	×	×
Short cycle & creation times	<b>~</b>	×	×
Excellent material compatibility		X	X
Outstanding distribution properties		X	
Easy to contain and control			X
Superior biological efficacy			
No-carcinogenic			
Easy clean up with no precipitation	<b>/</b>		
Environmentally friendly	<b>/</b>		







### Contacts

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