

FAST, SAFE AND FULLY AUTOMATED STERILISATION PROCESS



Exclusive brand of **UNITECH**

ESTech provides all the products and support needed to build H₂O₂ vapour **sterilisation plants**, including all the essential equipment for an accurate installation, calibration and validation of the system.

The need to carry out recurrent sterilisation cycles in working environments is becoming more and more common in the pharmaceutical sector – where it has been used for a long time – as well as in other industrial areas such as food, cosmetic industries and health sector.

H₂O₂ vapour has been recognised for a long time as the optimal system to be used in both the pharmaceutical and the food sector, but it is currently applied almost exclusively to the sterilisation of specific parts of equipments or in some limited phases of the manufacturing processes.

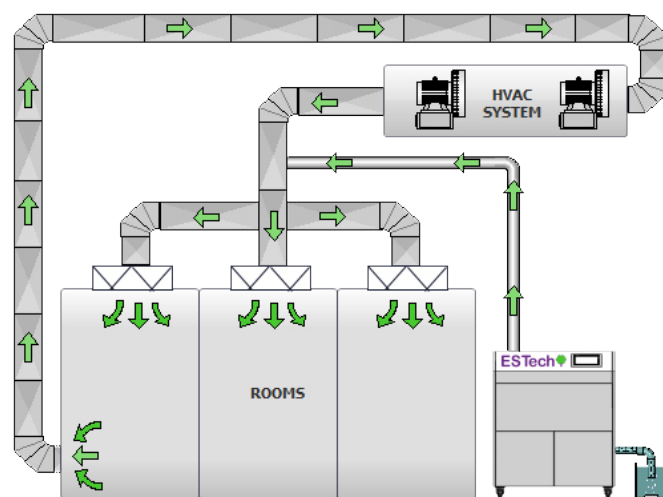
Moreover, the existing equipment – typically used for the sterilisation with H₂O₂ vapour – does not indeed offer the same features, nor does it have the adequate power for an accurate treatment of big volumes.

The H_2O_2 vapour generator is the main relevant component produced by ESTech in different sizes, with vapour production ranging from 0.8 to 44 kg/h. The result is a series of generators whose power is perfectly adjusted to the various volumes and features of the plants to be treated.

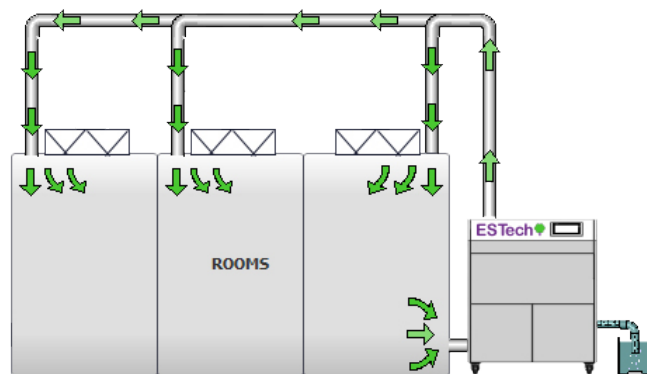
PHARMACEUTICAL INDUSTRY

- An effective alternative to the use of substances that are acknowledged as extremely dangerous for human health, in the sterilisation of manufacturing areas in clean rooms.
- Automated cycle treatments integrated with the functionality of existing HVAC plants, using exclusively the H_2O_2 vapour generator, with no need for auxiliary spreading or distributing equipment.
- Sterilisation of biosafety cabinets and HEPA filters.
- Treatment of defined areas where filling and sealing of sterile liquid containers takes place.

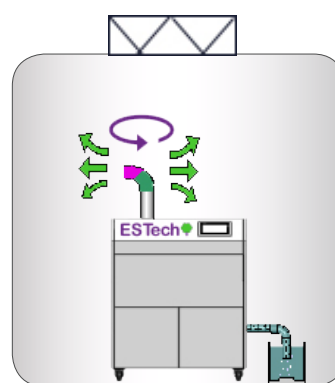
INTEGRATION WITH HVAC SYSTEM



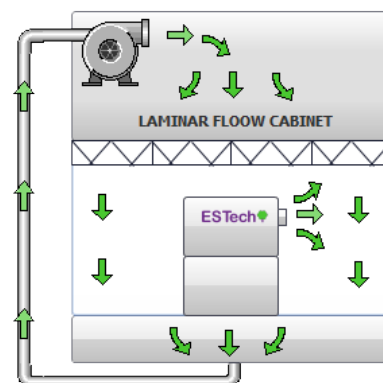
SUPPLY PIPING OVER THE FALSE CEILING



ROTATING DIFFUSER FOR SINGLE ROOM



LAMINAR FLOW CABINET



HEALTH SECTOR

- Sterilisation of hospital wards of infectious disease departments.
- Cyclic sterilisation treatment for operating theatres.
- Biodecontamination treatment for first aid environments.

FOOD INDUSTRY

- Sterilisation of those areas close to filling and packaging points of delicate products.

MEANS OF TRANSPORT

- Sanitisation or sterilisation of means of transport or places where it is necessary to carry out decontamination cycles in order to avoid any diffusion of infectious agents.

EFFECTIVENESS OF H_2O_2 VAPOUR STERILISATION

H_2O_2 vapour proved to have a high antimicrobial activity against nosocomial infections, as well as against bacterial spores, which are the most resistant structures.

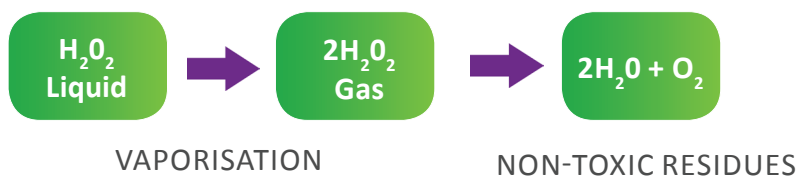
Among the micro-organisms deactivated by H_2O_2 there are: Staphylococcus aureus, Bacillus subtilis, Clostridium botulinum, Pseudomonas aeruginosa, Candida albicans and Mycobacterium tuberculosis.

The biological indicators used in the decontamination process clearly show a microbial load reduction following the sterilisation cycle with H_2O_2 vapour.



ENVIRONMENTAL IMPACT

The by-products of H_2O_2 vapour are water vapour and oxygen, i.e. non toxic residues that are already present in the natural environment.



ADVANTAGES OF ESTECH H_2O_2 VAPOUR GENERATORS

- Multiple applications
- The biodecontamination cycle is fully automated
- The process can be carried out in both small and large areas
- H_2O_2 is highly compatible with a wide range of materials
- HEPA filter decontamination
- Fast cycle, two / three hours overall duration
- Totally innocuous by-products (oxygen and water)
- Remote control
- Fully controlled and repeatable process
 - ✓ Measurement of H_2O_2 concentration with appropriate sensors
 - ✓ Chemical indicators to verify H_2O_2 vapour distribution
 - ✓ Biological indicators to prove cycle effectiveness

TYPE OF H_2O_2 INDICATORS



✚ SERIES LGH 0.8

Designed for the sterilization of HEPA filters and biosafety cabinets when maximum simplicity and easiness of use is required. Power is adjustable up to 0.8 kg/h.



✚ SERIE CMP 3.6-7.2

Portable solution designed for the sterilisation of clean rooms for internal or external installation.

Possibility of integration with HVAC by means of control system

Vapour production ranges from 3.6 to 7.2 kg/h.



✚ SERIE CMP 16-22-44

Designed for the sterilisation of clean rooms already provided and integrated with HVAC plant.

These generators allow both a full reflux treatment with temperature and humidity control in the room, and a full inlet/exhaust cycle with final aeration in the last phase of the sterilisation cycle.

Vapour production ranges from 16 to 44 kg/h.



TECHNICAL DATA

Model	Max H ₂ O ₂ vapour production (kg/h)	Application field	Air flow (mc/h)	Air static pressure (Pa)	Electric power input (kW)	Electric power input with dehumidifier (kW)	Size Width x Height x Depth (mm)	Weight (kg)
LGH 0.8	0.8	Biohazard hoods Materials decontamination box Isolators	30	400	1,6	/	380 x 240 x 260	12
CMP 1.6	1.6	Materials decontamination box Isolators	100	800	3,1	/	420 x 400 x 260	44
CMP 3.6	3.6	Filling machines	200	2100	/	7,8	500 x 760 x 500	82
CMP 7.2 *	7.2	Clean rooms HVAC for clean rooms	500	800	12,5	/	950 x 1260 x 600	118
CMP 16	16	HVAC for clean rooms	160	2200	18,8	21,6	1000 x 1950 x 550	240
CMP 22	22	HVAC for clean rooms	200	2100	24,5	28,2	1000 x 1950 x 550	240
CMP 44	44	HVAC for clean rooms	320	2200	48,4	52,8	1000 x 1950 x 550	345

* Wheeled

Data reported in this paper might be changed without notice. Please do not hesitate to contact ESTech for further information before ordering the generators.

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ESTech ✚
Decontamination technology