



HYDRO CLAVE

Infectious Waste Solutions

-  *HOSPITAL/CLINICAL WASTE*
-  *LIQUID WASTE*
-  *AIRLINE/SHIP WASTE*



FROM HAZARDOUS TO HARMLESS

THE HYDRO CLAVE TREATMENT PROCESS

Stage One

The Hydroclave will process:

- * Bagged waste in ordinary bags
- * Sharps Containers
- * Liquids
- * Cardboard Containers
- * Metal Objects
- * Mastics



Stage Two



- Ⓢ Powerful rotators mix the waste and break it into small pieces
- Ⓢ Steam fills the double wall (jacket) of the vessel and heats the vessel interior
- Ⓢ The liquid in the waste turns to steam
- Ⓢ After 20 minutes, the waste and liquids are sterile

Stage Three

- Ⓢ The vent is opened, the vessel de-pressurizes via a condenser, and sterile liquid is drained into the sanitary sewer
- Ⓢ Steam heat and mixing continue until all the liquids are evaporated and the waste is dry



Stage Four



- Ⓢ The unloading door is opened
- Ⓢ The mixer now rotates in the opposite direction, so angled blades on the mixer can push the waste out the unloading door
- Ⓢ The dry sterile waste can be fine shredded further or dropped in a waste disposal bin



The HYDRO CLAVE Test Results

The HYDROCLAVE was thoroughly tested by the University of Ottawa, Department of Microbiology and Immunology, with the following results:

6 log₁₀ reduction was achieved at 121°C at 5 Psi in only twenty minutes of treatment time. At this level, the waste is considered sterile.

No correlation between load size, liquid content, and sterilizing levels was found. This means that the waste is always equally sterilized, regardless of liquid content or waste density.

The HYDROCLAVE was independently tested on emissions for 40 known EPA contaminants and allowable exposure levels, with the following results:

- Ⓢ Only trace amounts in airborne contaminants were detected, far less than allowable levels.
- Ⓢ Sterilized liquid effluent has been found acceptable for discharge in sanitary sewers.

Due to the waste being dry, odor emissions are strongly reduced, compared to standard autoclaves, and the odorous steam is condensed and drained to a sewer.

The HYDRO CLAVE difference...

10 Models to suit Different Needs



From Small in house medical waste treatment

- High Level of Sterilization
- Lowest Treatment Costs
- Total Dehydration
- No Harmful Emissions



To large commercial treatment facilities serving medical, airline and ship waste.

- Small Space Requirements
- Easy Installation
- Up to 70% Weight Reduction
- Up to 80% Volume Reduction

Meets or Exceeds All Treatment Standards... Proven and Installed Worldwide

The HYDRO CLAVE is a low temperature steam sterilizer with significant technological advancements and innovation:

- HYDRO CLAVE sterilization vessel is a double walled, (jacketed) cylindrical vessel fitted with a powerful mixing/ fragmenting system on the inside
- Steam heat is applied to the jacket only, while the agitated waste absorbs the heat from the jacket, and makes its own steam from its moisture content
- All particles of the fragmented, agitated waste are exposed evenly to the heat, including sharps and liquids
- There is no need for special autoclave bags, or pre-treatment of the waste
- No pre-shredding of infectious waste is needed, the fragmentation occurs safely inside the sealed vessel
- Liquids and gases remain locked inside the vessel until sterilization is completed – nothing is vacuumed or pumped out in its infected state
- Jacket steam heat will completely dehydrate the waste, regardless of its original water content
- All the hot condensate from the jacket is recycled, making the HYDRO CLAVE very economical to operate, about a penny per Lb.!
- Due to the continuous agitation, all particles of the waste achieve a high level of sterilization (6 log.), and not just “disinfection”.
- HYDRO CLAVE emissions tests at normal operating temperature (21°C) demonstrated no harmful emissions
- Patented process, proven by many years of operation around the globe!

Typical HYDROCLAVE Treatment Applications

- ✦ In-hospital Medical Waste Treatment
- ✦ Centralized Treatment Facility for medical, airline and ship waste
- ✦ Landfill Operator
- ✦ Mobile Medical Waste Treatment
- ✦ Infectious Liquid Sterilization

HYDRO CLAVE Services

Sales and Model Selection

HYDRO CLAVE Systems Corp. manufactures the patented HYDRO CLAVE Infectious Waste Treatment Technology, and is represented worldwide. HYDRO CLAVE will assist the end-user in selecting the appropriate model required, based on anticipated waste stream and desired operating hours.

Design/ Build (Turn-key) Services

All HYDRO CLAVE products can be turn-key installed, in consultation with the end-user, at additional cost. HYDRO CLAVE engineers will assess the site, determine installation and operation requirements, and will provide a detailed proposal on design/build projects, from initial CAD drawings to final commissioning.

Training

As part of the sales contract, HYDRO CLAVE will train end-user personnel in equipment operation, safety procedures, preventative maintenance and repair.

Consultancy

HYDRO CLAVE can offer a comprehensive training plan that covers all aspects of infectious waste management, from handling & packaging, transport, treatment, disposal, worker safety, and compliance to local and international standards.



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