

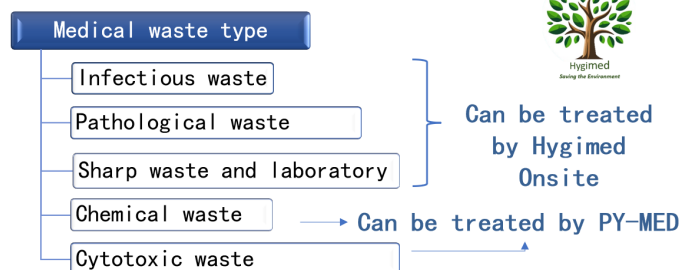


MEDICAL WASTE: Storage, treatment and recycling

“Medical waste is any biohazardous, pathology, pharmaceutical, or trace chemotherapy waste not regulated by the federal Resource Conservation and Recovery Act of 1976.” (CDC’s definition)



Medical waste is infectious, deleterious, corrosive and Flammable hazardous waste generated by medical service. The most dangerous feature is infectivity.



In 1997, **SteriMed** was launched in New York and quickly became a leader in onsite medical waste treatment. Its process is efficient, compact, and odorless, operating without heat or steam. This user-friendly system was rapidly adopted worldwide, reaching 33 countries across Asia, the Americas, Europe, Australia, and Africa. **SteriMed** set the "Gold Standard" in onsite biomedical chemical waste treatment technology.

Seventeen years later, EWA Technologies Group introduced the next generation of **SteriMed**, called **Hygimed®**. While maintaining **SteriMed's** core operation, Hygimed incorporates a new linear disinfection process using an advanced inactivated disinfectant, AI control, and reduced wastewater output.

The most common onsite systems for medical waste treatment, such as autoclaves, rely on high-pressure steam sterilization. However, autoclaves come with drawbacks, including high energy consumption, limited and uneven disinfection capabilities, and significant wastewater production. In contrast, **Hygimed** offers superior environmental performance. It utilizes an eco-friendly disinfectant that produces short-lived radicals with strong disinfection capabilities. Hygimed has minimal environmental impact—requiring no heat, emitting no carbon, and discharging minimal wastewater. Additionally, it is the only system that can recycle medical waste without sorting.

Hygimed features AI-based control, enabling the device to assess disinfection success and predict potential failures. It is available as a mobile system (**Hygimed Mobile**), with capacities ranging from 50 kg/h (250 liters) to 1,000 kg/h (5,000 liters).



EWA TECHNOLOGIES GROUP

Saving the environment



Hygimed Onsite 360



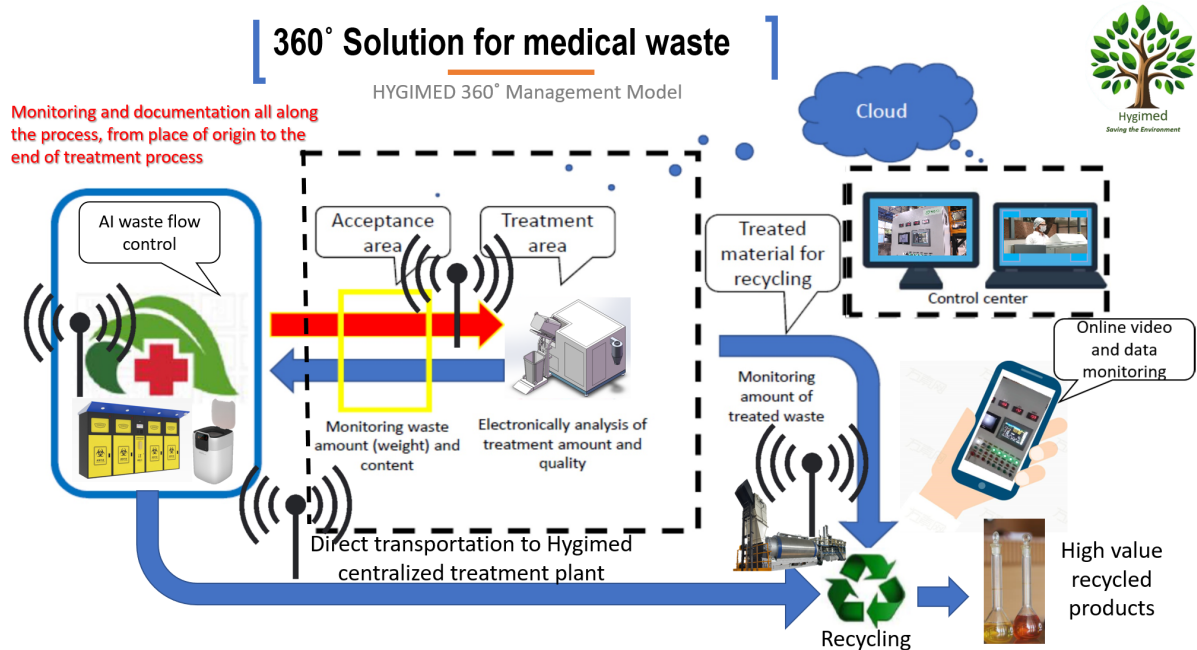
Hygimed OnSite 700



Hygimed Mobile

Hygimed addresses two categories of medical waste: Infectious waste (including sharps and laboratory bio-waste) and Pathological waste. After shredding and disinfecting, the treated waste can be temporarily stored before being transported for further processing. However, other types of medical waste, such as cytotoxic and chemical waste, present additional challenges. To address these, EWA developed and patented PY-MED, a pyrolysis-based, non-incineration thermal decomposition technology. PY-MED is suitable for both onsite and centralized waste treatment systems, converting treated waste into fuel. Beside treatment mechanical system, EWA Group also developed sanitary storage cabinet and disinfection generator.

Alongside these treatment technologies, EWA also developed sanitary storage cabinets and disinfection generators.





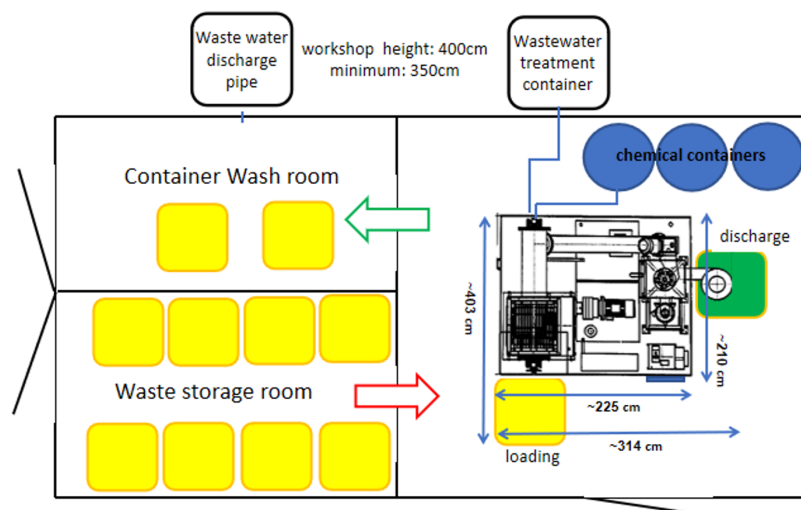
Proposal for Medical Waste Management

Our proposal involves treating all categories of medical waste through two operational centers. The primary center, which generates approximately 200 kg/day of medical waste. This center will be equipped with a sanitary storage cabinet, an *onsite Hygimed 360* system, and a disinfection generator. The second center, ideally located at the municipal solid waste (MSW) treatment site, will house a *PY-MED K0.5* unit.

Stage 1 - Collection: Infectious medical waste from clinics will be transported a Medical Center once a week for larger clinics, and once a month for smaller facilities, such as dental, plastic surgery, and gynecology clinics. The hospital's waste, combined with that of the clinics, will be stored in a sanitary storage cabinet pressurized with ozone.

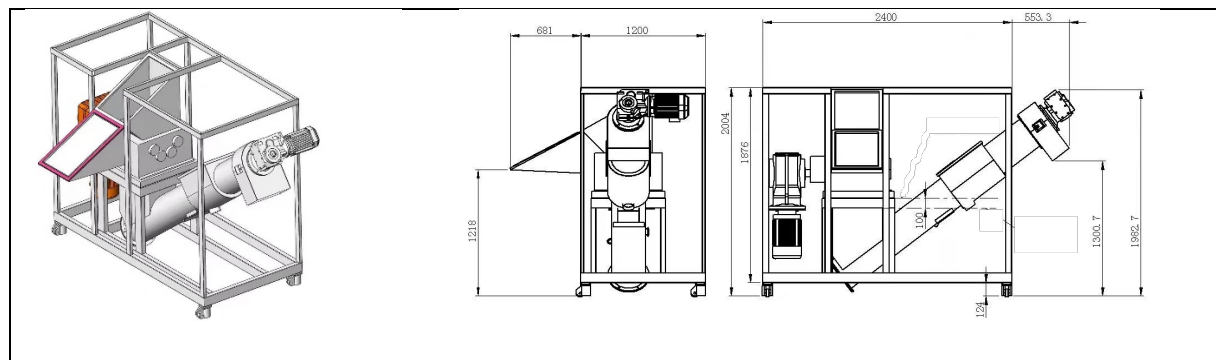


Stage 2 - Treatment: The waste will undergo short-term storage under controlled conditions without the need for cooling. It will then be treated onsite using the Hygimed 360, the smallest available model. The activated disinfectant used in the treatment process is regenerated by the system, forming short-lived radicals. This minimizes wastewater discharge, which undergoes overnight purification before being released.





The treatment process is linear, i.e., after feeding, the waste is shredding under aerosol of disinfectant, and thereafter mixed by screw inside pipe.



Stage 3 - Post-disinfection treatment: The treated waste will be shredded and disinfected, then stored for a few days before being transported to a centralized facility for thermal decomposition into fuel using *Mini PY-MED*.



solid plant for further thermal decomposition process to fuel, by mini PY-MED.

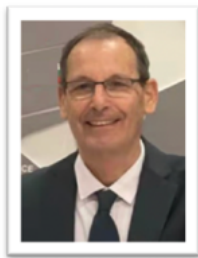


Treated waste after Onsite 360

Mini PY-MED

Stage 4 - Cytotoxic and Chemical Waste: Pathological, cytotoxic, and chemical waste will be processed by *PY-MED* alongside pre-treated infectious waste. The pyrolysis process operates at 320-490°C, producing fuel and carbon black (CB), which will be transferred to a biomass generator for the production of syngas. This syngas will heat the *PY-MED* reactor, with the entire process consuming approximately 1.5 kWh of electricity over 3-4 hours.

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