

Process and design

In earlier times, incineration was always considered to be the safest and most economic way of treating and disposing of infectious hospital waste. However, results of a US-based study show that one of the prime reasons for the increase in Dioxin-based pollution world-wide was in fact this incineration process. As a result of this study regulatory guidelines related to the operation of hospital waste treatment plants are more stringent today. Even though the world-wide incineration of this waste is still common practice, other environmentally friendly processes - such as steam based sterilisation – have become more and more important. Through a controlled process of pressure, temperature and retention time, the infectious hazardous waste can be converted into a series of harmless residues. Additionally, by a further drying process, it is also possible to convert these residues into a refuse derived fuel (RDF). To differentiate the econ process from the numerous available small sterilisation systems, econ has developed a plant with an exceptionally high throughput capacity between 500 and 2.000 kg/h. This high throughput capacity operated in one single steriliser chamber is worldwide unique and especially useful for central hazardous waste treatment facilities collecting the waste from different hospitals. The plant is equipped with a shredding system prior to sterilisation – accordant to the EU recommendations for the treatment of infectious waste.



Key facts

Working principle:	2-steps process; shredding plus sterilisation; incl. metal separation
Effective throughput capacity:	0.5 – 2.0 t/h; useful for central hazardous waste treatment facilities
Average operation availability:	In excess of 6,000 h/a possible
System operating conditions:	Steam autoclave principle; 134 °C at 3 bar over-pressure
Steriliser chamber execution:	App. 5 m ³ ; with agitator to ease heat transfer into shredded waste
Residual moisture after process:	Adjustable according to subsequent vacuum drying step
Process target:	Sterile [= SAL x 10 ⁻⁶] product

Greatest benefits of the hospital waste sterilisation system

- Conversion of hazardous waste into non-hazardous industrial waste
- Fully automated batch process, low maintenance, no intermediate manual handling of waste
- No hazardous emissions, chemical-free process, no pollution of waste water
- Shredding system before sterilisation process, according to EU - recommendation
- Shredding and feeding system equipped with self-disinfection unit and metal separation
- Feeding unit design of the plant can be adapted to individual waste collecting systems
- Intermittent vacuum before sterilisation process, according to EU - regulations

Imagine – Zero industrial waste ... !