



WASTE DISPOSAL AND RECYCLING THERMAL USE OF WASTE

Plants for thermal treatment of a whole variety of wastes as a secondary source of energy or raw material have been included in Eisenmann's product range. This waste includes waste fractions with high calorific values, residues from industrial processes, sewage sludge or valuable recyclable material in solid, liquid or paste-like form. The plants can also be used to condition other waste which cannot be recycled so that it can be landfilled, as well as for hazardous waste, such as toxic substances containing flammable constituents and substances containing persistent organic pollutants (POPs). Procedures for thermal waste disposal include drying, pyrolysis, gasification and combustion as well as multistage combinations. There are multitudes of advantageous construction types for each procedure. Eisenmann's technology includes: the high-turbulence combustion chamber Turaktor, the twin-chamber rotary kiln Pyrobustor (for a combination of pyrolysis and combustion), the classic single-chamber rotary kiln and the chamber kiln Chambustor (for batch operation, especially the recycling of valuable substances) as well as stationary fluidized bed incinerators. You will find more information on the specific use of the different technology in the table below.



Turaktor

The Turaktor high-turbulence combustion chamber is used specifically for the thermal treatment of liquids, suspensions, harmful gases and dust. In addition, this process can be used to regenerate catalysts, and is a proven method of recovering precious metals.

Material used	Continuous operation																		Batch operation		
	Turaktor®			Pyrobustor®			Fluidized Bed			Rotary Kiln						Chambustor®					
	< 2 MW	2-6 MW	6-30 MW	< 2 MW	2-6 MW	6-30 MW	< 2 MW	2-6 MW	6-30 MW	Brick lined			Full steel			< 2 MW	2-6 MW	6-30 MW			
Slurry	—	—	—	★	★	★	○	★	★	★	★	★	★	—	—	—	—	—			
Animal meal	—	—	—	—	—	—	★	★	★	★	★	★	★	—	—	—	—	—			
Refinery sludges	—	—	—	—	—	—	—	—	—	○	○	—	★	★	—	★	★	○			
De-oiling of scobs and secondary mill scale sludges	—	—	—	○	—	—	○	★	★	★	★	★	—	—	—	—	—	—			
Shredder residues, fractions of domestic/ industrial waste	★	★	★	—	—	—	—	—	—	—	—	—	—	—	—	★	★	★			
Precious metal recovery	★	★	★	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
Catalyst regeneration	★	★	★	—	—	—	—	—	—	—	—	—	★	○	—	★	★	○			
Contaminated soil	—	—	—	—	—	—	—	—	—	★	★	★	★	○	—	○	—	—			
Persistent organic pollutants (POPs)	★	★	★	—	—	—	—	—	—	★	★	★	★	○	—	—	—	—			
Hazardous wastes/ toxic substances	★	★	★	—	—	—	○	○	○	★	★	★	★	○	—	★	★	○			

★★ Best for task ★ Good for task ○ Suitable in special cases — Not suitable



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Fluidized bed incinerator for solid and viscous waste materials

A wide range of uses, reliable operation and energy efficiency – these are just some of the positive attributes of the Eisenmann fluidized bed incinerator. It can also process a large variety of input materials. It enables the thermal treatment of diverse solid waste materials, including biomass, and also viscous waste, including dewatered sewage and oil sludge.

Single-chamber rotary kilns

Single-chamber rotary kilns – available in all-steel or brick-lined designs – are employed for the thermal treatment of sewage sludge. It is also possible to utilize them for the thermal treatment of solid and viscous substances.

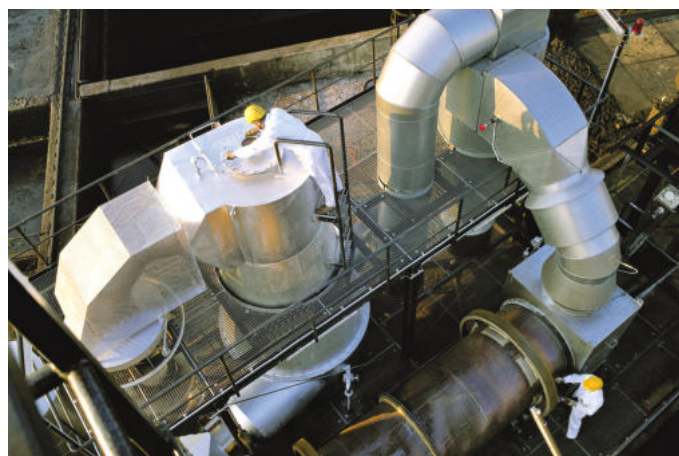
Chambustor – chamber kiln

The Chambustor is employed e.g. to recover precious metals from solid and viscous materials. The chamber kiln is also used for the environmentally-friendly disposal of highly toxic or contaminated materials.

Used for batch processing, this technology represents a cost-efficient solution for the disposal of waste produced discontinuously or in small quantities.

Thermal treatment of sewage sludge – Pyrobustor

The all-steel Pyrobustor dual-chamber rotary kiln, developed by Eisenmann, is particularly suitable for small and medium-sized sewage plant operators or regional co-operatives. Installed close to sewage plants, it generates heat from predried sewage sludge, and inert ash suitable for landfill disposal.



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