

Technical feature comparison of the V-III™ and typical incinerators designs

Feature	Typical incinerator design	V-III™ solution	V-III™ benefit
High speed vortex	Not present	Uses a high speed vortex, essentially a tornado on its side, that reaches temperatures of over 2,000° F.	A vortex increases the efficiency of the combustion process, therefore achieving complete and perfect combustion.
Waste and air mixture	Not present	Uses shredders tailored to the specific needs, in combination with primary air	This blend of shredded waste and primary air ensures that the vortex will continue to burn the material with the proper mixture of fuel and air.
Tangential insertion of waste, primary air, secondary air, and returned gases from the cyclone separator	Not present	Each port on the system is positioned tangentially to the curve of the chamber to ensure more efficient introduction of waste, air, and gases	By having the waste material or even the air and gases enter the chamber, there is no conflict with the high speed vortex, ensuring proper and continuous free flow of the vortex.
Grates	Usually have some style of grate, such as movable or even a shaker grate where the burning waste material is allowed to rest, therefore giving off odors, smoke, fly ash, and other harmful emissions	Grateless	The V-III™ uses the efficiency of the vortex to move the shredded material through the burning chamber, never allowing the material to sit and smolder, therefore not producing odors, smoke, fly ash, or other harmful emissions.
Air and exhaust scrubber systems	Standard incinerator designs require these expensive and complex systems, in order to pass the EPA air quality standards.	Not needed	Because the combustion process of the V-III™ allows for complete and perfect combustion, there is no opportunity for these emissions to be released into the atmosphere. With no harmful emissions present, the high cost systems are not needed.
Recirculation	Not present	There are actually two levels of recirculation with the V-III™; the first is through a patented process where material that has any mass, no matter how small, is re-introduced back into the vortex for continuous burning, and the second is when the gases are returned to the chamber from the cyclone separator.	The most unique feature of the V-III™ is the method for re-circulating the particulate matter so that it can burn continuously while trapped in the movement of the vortex. In addition, by returning the gases pulled into the cyclone separator back into the chamber, it is acting as a fume burner such as those used in manufacturing.