

Eliminating Waste

■ continuous feed **process overview**

The process of continuous-feed differs from the batch process. The waste is charged into the continuous-feed Primary Chamber after it has achieved operating temperature of 600°C-850°C (1200-1560°F). The loading method and configuration may vary but as the name implies waste must be supplied to the system on a continuous basis. Typically the waste is delivered to the system using a mechanical materials handling device such as a skid steer loader or conveyor. A waste charge or load is deposited in the first stage of the system via a hopper. The hopper directs waste towards the Primary Chamber where it is moved by a mechanical ram or platen that will push the waste into the system. The Operator is isolated from the heat of the process by a guillotine style door. Although this process may be highly automated, generally the Operator is required to be available to load the ram hopper every 20 minutes or so during the burn cycle.

Within the Primary Chamber the waste bed moves slowly along the stepped floor grate as it is pushed by a series of transfer rams. In this phase, which takes place over up to 6 hours, the solid waste is transformed into a gas that is drawn into the Secondary Chamber. What remains in the continuous-feed Primary Chamber is sterile non-combustible material such

as metals and glass and a non-toxic, non-leaching ash that is safe for disposal or re-use.

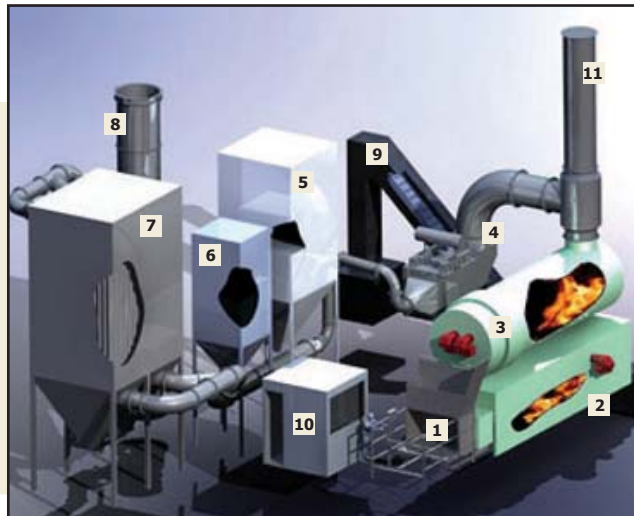
In the Secondary Chamber the combustion gases are exposed to a highly-oxygenated and extremely turbulent environment for a minimum of 2 seconds retention time at a temperature of 1000°C to complete the combustion reaction. The entire process is monitored and controlled by the EWS proprietary 4G control system.

Given the increased turbulence of the continuous-feed Primary Chamber compared to that of a batch incinerator the off-gases may require an Air Pollution Control (APC) system. The emission levels mandated by local environmental regulations and the waste composition will dictate the design selection of the APC. Typically the APC design includes stages to cool, neutralize and capture entrained particulate matter within the exhaust gas stream, before they can exit the stack.

The ash produced by a continuous-feeding system requires continuous-ash-discharge. Most commonly this function is performed by a wet ash conveyor system that will operate automatically.

■ ECO CF Model **Process Overview**

1. Continuous Loading System
2. Primary Combustion of waste
3. Combustion of Volatile Gases
4. Waste heat Boiler - Heat Recovery
5. Emission Controls - Acid Neutralization
6. Emission Controls - Metals/Organics
7. Emission Controls - Dust/Particulate
8. Exit of Clean Gaseous Emissions
9. Ash Removal - Conveyor
10. Controlling and Monitoring of Process
11. Emergency Bypass Stack



ECO CF Models

Standard sizes ranging from 250kg/hour to 4000 kg/hr. Custom sizing is also an option. These modular packages, of up to 100 tons per day, can be combined to meet larger requirements. All CF Models have the advantage of being modular and transportable - not requiring in-field construction. Smaller models are available as containerized packages.