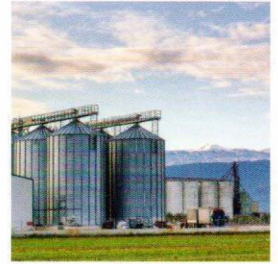


# Matthews International Waste Incineration Systems



**Today's  
sure  
Matthews**



# Welcome to Matthews

Welcome to Matthews International Corporation, the global leader in the design and manufacture of specialty incineration systems. Our product portfolio includes emission filtration, mobile waste systems, handling devices and service & maintenance repair. Our leadership extends to "Incinerator Green" technology aimed at environmentally focused services for our valued clients.



Matthews International Corporation (Nasdaq: matw) was founded in 1850, and represents a total solution provider for incinerator products and services with a passion for the environment and the success of our clients. We are the global leader for incinerator sales, emission filtration, service and supplies, with manufacturing facilities in the United States, Europe and United Kingdom.



**Orlando Florida (U.S.),  
Udine Italy (Europe) and  
Manchester United  
Kingdom (UK)**

## Classification of Waste

Our incineration models are designed to handle the disposal of bulk and batch loads of medical, general and animal remains waste as profiled below:

Type of Waste	Principle Components	Approximate Composition	Moisture %	Non-Combustible %	B.T.U. as Fired	Min. Burner Input
0-Trash	Highly combustible waste paper, wood, cardboard cartons, including up to 10% treated papers, plastic, rubber scraps	Trash 100%	10%	5%	8,500	0
1-Rubbish	Combustible waste, paper, cartons, rags, wood scraps, combustible floor sweepings	Rubbish 80% Garbage 20%	25%	10%	6,500	0
2-Refuse	Rubbish and garbage	Rubbish 50% Garbage 50%	50%	7%	4,300	1,500
3-Garbage	Animal and vegetable wastes, restaurants, hotels, markets	Garbage 65% Rubbish 35%	75%	5%	2,500	3,000
4-Animal Solids	Carcasses, organs, solid organic wastes	100% Animal & Human Tissue	85%	5%	1,000	8,000
5-Gaseous and Semi-liquid	Industrial process waste	Variable	Dependant on predominant components		Variable, according to wastes survey	
6-Semi-liquid and Solid	Combustibles requiring hearth, retort, gate burning equipment	Variable				

We manufacture to world standards such as Underwriters Laboratory (UL), Canadian Standards Association (CSA) and European Conformity (CE). We are also ISO compliant.

As the most comprehensive full-service provider, we offer a wide array of incinerator products and solutions to meet all your business requirements. Discover why Matthews International is the most trusted name in incinerator systems.

Today's sure Matthews brand incinerator systems, manufactured to CE and UL certification standards, meet and exceed these global environmental requirements:

- US EPA Regulations
- EU Waste Incineration Directive EC 76/2000
- EU Animal By-products Regulation 1774/2002
- World Bank Emission Standards
- NEMA Act (EMCA)
- World Health Organization Emission Standards
- British Standards BS3316



# Incineration Equipment

Today's Sure Matthews incinerators are engineered to provide a safe, environmentally clean solution for the disposal of a wide range of wastes. The scope of our expertise includes, but is not limited to:

- Rotary combustion chambers
- Starved air gasification units
- Fixed hearth units
- Thermal oxidizers
- Stepped hearth combustion chambers
- Sludge/liquid waste incinerators
- Containerized incinerators
- Waste oil combustion plant
- Mobile incinerators
- Waste to Energy systems

## Basic Features:

- Heavy steel shell
- Cylinder chambers for strength
- 1600° C (2912° F) grade Super duty refractory lining
- High efficiency calcium silicate insulation
- Automatic temperature controlled burners
- Forced combustion air
- Observation port with protective glass
- Full sized load/ash removal interlocked door
- Refractory lined stack for longevity
- Low fuel consumption
- Low maintenance
- Sterile ash residue less than 5% w/w
- Pre-wired, pre-piped, pre-tested before shipment
- User-friendly automatic control
- Two hinged doors – one for bulk and the other for small batch, continuous charge

## Incinerator models for specific applications:

### Static Design

These daily waste incinerators represent a simple yet cost effective solution for the disposal of bulk and or batch loads of medical, general and pathological waste. To insure the unit's effective destruction of the combustion products, we incorporate a high capacity thermal oxidizing secondary chamber, designed to operate with a minimum gas residence period of 2 seconds at a minimum of 850°C (1562°F).



Static Design

### Stepped Hearth Design

These specially designed waste incinerators are efficient, continuous 24-hour operation for the destruction of waste with mid to high calorific value.



Stepped Hearth Design

### Rotary Design

These specially designed incinerators are for continuous, 24-hour operation for the disposal of all types of waste. They are particularly suitable for high moisture content wastes such as sludge, paste and sewage.

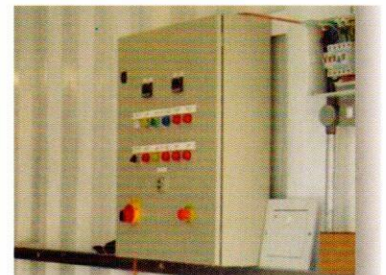


Rotary Design

### Operating Control System

Our simple, color-coded, pushbutton control panel simplifies and completely automates the operation of the incinerator. We monitor and report all the parameters for the waste incinerator. Our system incorporates visual display of both primary and secondary temperatures, status lamps and alarms.

*Optional: The unit can be equipped with a chart recorder that continuously captures the secondary chamber temperature during operations.*



Operating Control System

## TODAYSURE MATTHEWS INCINERATORS (PRODUCTION)

Model(s)	Burn Rate (per hour)	Volume M <sup>3</sup>	Daily Operation
TS25	25kgs / 55 lbs	0.5	8-12 hrs
TS50	50kgs / 110 lbs	1.0	8-12 hrs
TS100	100 kgs / 220 lbs	2.0	8-12 hrs
TS150	150 kgs / 330 lbs	3.0	8-12 hrs
TS200	200 kgs / 440 lbs	4.0	8-12 hrs
TS250	250 kgs / 551 lbs	6.0	8-12 hrs
TS300	300 kgs / 661 lbs	8.0	12-24 hrs
TS400	400 kgs / 881 lbs	10.0	12-24 hrs
TS500	500 kgs / 1102 lbs	12.0	12-24 hrs



Static Design



# Waste Handling Systems

*Introducing waste into an incinerator may be carried out either by manual or automated processes. The choice is determined by production capacity of the plant and the nature of the waste. We carefully study the operational safety and the physical nature of the waste and ultimately, the maximum efficiencies to meet supply & demand.*



**Top Load**

## **Top Load**

A top load system is designed to stage waste that is handled via a vehicle with a hydraulic bucket (IE. Bobcat, Tractor, etc.). This reduces the manual load requirement plus minimizes direct contact with the primary combustion chamber as waste is being introduced to the incineration process.



**Bin Tipper**

## **Bin Tipper (built to accommodate waste from wheeled bins)**

To facilitate plants where the waste is stored and transported to the incinerator in wheeled bins. A bin tipper can be selected to transfer the waste either directly into the incinerator or into the incinerator via a ram feeder.



**Ram Feed**

## **Ram Feed (hydraulic loading machine pushes waste into the incinerator)**

The ram loader is comprised of a horizontal or slightly inclined hydraulically operated machine, specifically designed to introduce the waste into the incinerator via an interlocked hydraulic charge door, which seals the primary combustion chamber from the waste and operator. The ram loader incorporates a hinged feed door and a hydraulic operated pushing ram, which on the demand of the control system, delivers the waste into the chamber via the hydraulic charge door. Once the waste has been charged into the chamber, the push ram withdraws and the charge door closes in preparation for the next load.



**Hopper Feed**

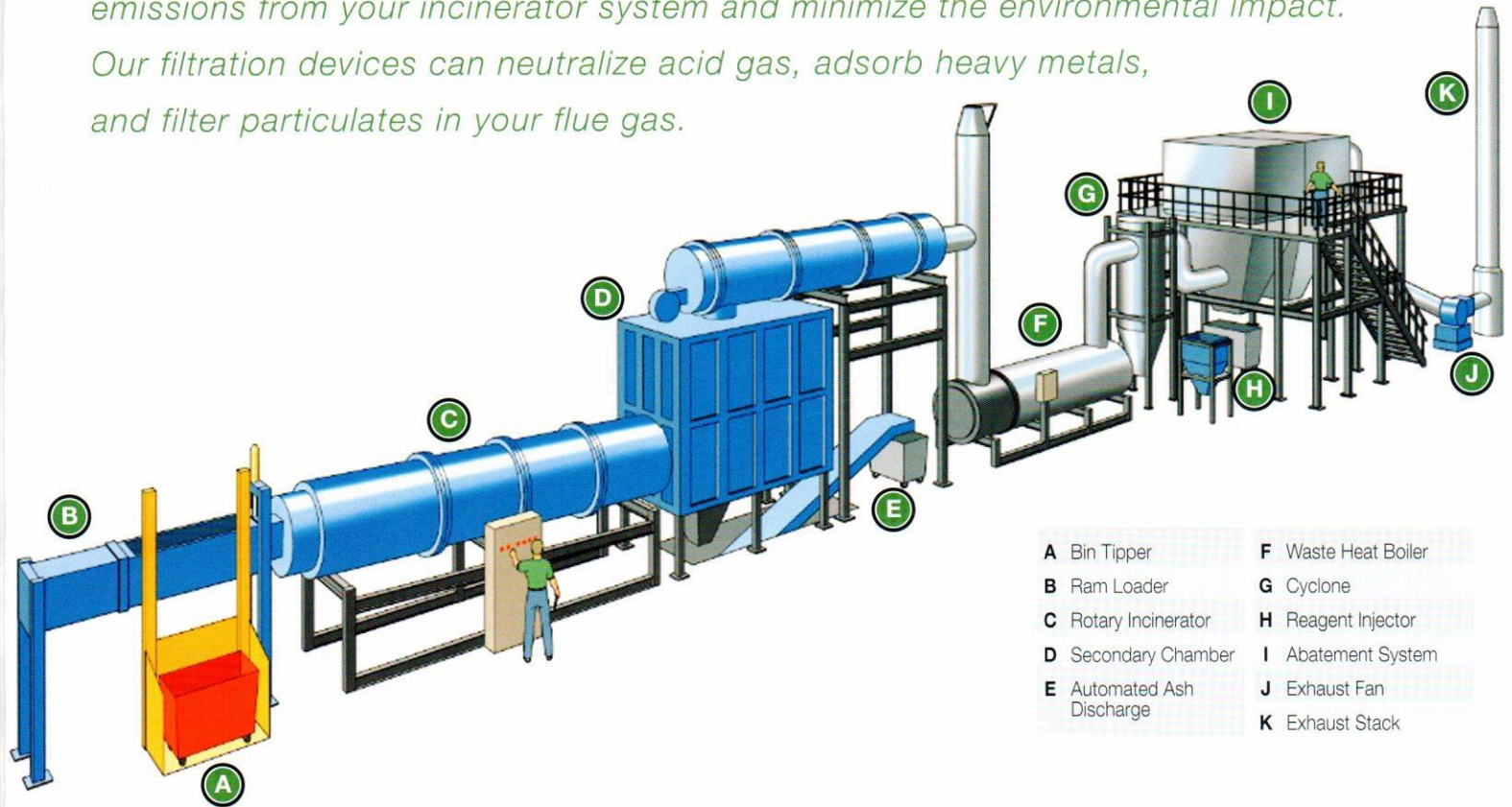
## **Crushers and Conveyors**

For dense waste such as wood or large animal carcasses, pre-treatment of the waste by crushing may be considered. Pre-treatment of this type of waste has several advantages. Large quantities of waste may be processed through the crusher and stored within a hopper irrespective of the incinerators availability. Crushing and shredding the waste also massively increases the surface area of the waste. As combustion works by thermally decomposing the surface area of the waste inwards, this increases the area exposed to the combustion process which minimizes fuel input and promotes stable operating conditions. Waste that is processed through the cutters of a crusher will be transported by a conveyor into a silo or storage hopper. On the demands of the incinerator, waste will be transferred by a second conveyor or pump directly to the incinerator.



# Emission Abatement Plant

Today's Matthews has the capability to adapt an array of abatement solutions to meet the toughest environmental standards in the world. We effectively clean the emissions from your incinerator system and minimize the environmental impact. Our filtration devices can neutralize acid gas, adsorb heavy metals, and filter particulates in your flue gas.



Filter Plant



Sorbent Discharge



Reagent Handling System



Waste Heat Boiler



Cooling Towers



Cyclone with Bag House Filtration



# Containerized & Mobile Systems

*Today's sure Matthews offers a versatile range of containerized and mobile incinerators allowing for both remote sites and temporary work camps. Our systems operate wherever it best fits into your business environment.*

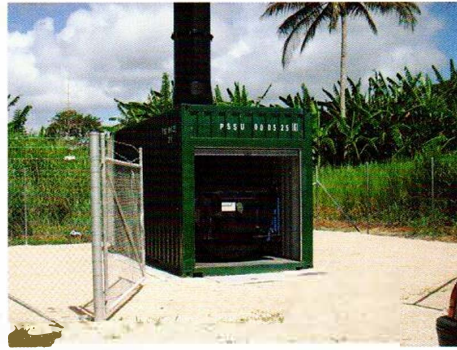
*Our capabilities include:*



**Trailer Mounted**

### **Trailer Mounted**

Our trailer mounted option grants immediate access to remote locations such as farms or disaster sites. The incinerator is constructed with a generator and fuel tank on a flat bed trailer. The incinerator also incorporates a hinged chimney to enable it to lie horizontally during transportation.



**Containerized**

### **Containerized**

This option incorporates the incineration facility permanently mounted within a standard modified ISO 20' or 40' container, enabling the incinerator to be delivered fully assembled for immediate use. The container incorporates one (1) fused electrical distribution board (with circuit breakers), lighting, a ventilation fan, a power socket, fire extinguisher and paint. This negates the need for a specific building or weather protection. The fuel oil pipe work is terminated in a isolation valve, making it a trouble free fitting to the external fuel source. This arrangement has been supplied to work camps, military bases, remote airports, polar bases and isolated islands.



**Skid Mounted**

### **Skid Mounted**

This enables the incinerator to be uplifted and transported with its ancillary equipment such as chimney, fuel and electric generator mounted on to a heavy platform with lifting points. These units are utilized on oil exploration pipelines and work camps. The skid enables the unit to relocate with the labor force.



**Skid Mounted**



**Containerized Incinerators with Ram Feeder**



**Today's sure Matthews**  
Environmental and Combustion Solutions

A MATTHEWS INTERNATIONAL COMPANY

### **United Kingdom**

Newton Moor Industrial Estate  
Hyde, Cheshire, United Kingdom SK144LF  
+1441613374488

[www.todaysure.com](http://www.todaysure.com)



Distribuidor Autorizado para México

### **Europe**

33100 Udine / Italy VIA ZANUSSI / Z.I.U  
+39 0432 524374 / 524103

[www.geminc.it](http://www.geminc.it)

### **United States**

2045 Sprint Boulevard, Apopka, FL 32703  
+ 01 (407)-886-5533

[www.matthewscremation.com](http://www.matthewscremation.com)