

**'The most thermally efficient, robust and reliable medical incinerators on the market  
Simply Built Better!'**



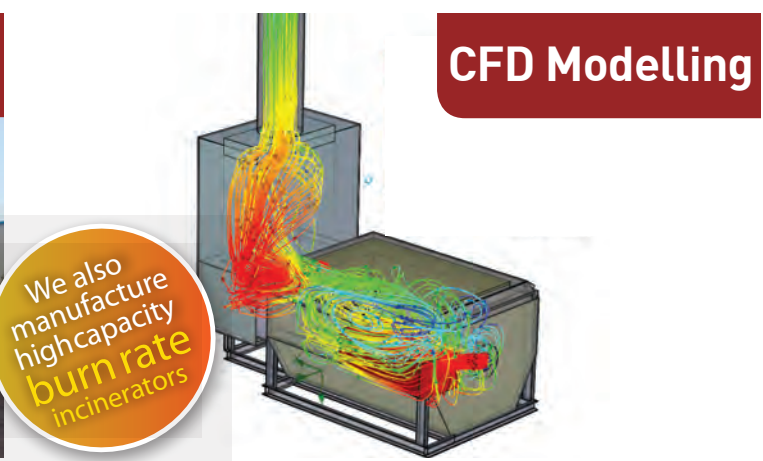
# GM2000 2000Kg Waste Incinerator

Specifically designed for Medical waste

Our largest low capacity medical incinerators on the market, extremely robust with a pre-cast block abrasion/ impact resistant seal to prevent damage through mechanical loading. The GM2000 is ideal for medical, clinical and pathological category 0 to 2 type waste. With an internal main chamber volume of 4.18m<sup>3</sup>, the GM2000 ensures even the largest material can be loaded fast and efficiently. Complete with an excess air systems that maintains a constant burn rate up to 50kg per hour cleanly and efficiently every time.



**GM2000**



**CFD Modelling**

We also manufacture high capacity burn rate incinerators



**Touch Screen**



**Refractory**

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 All information should be used as a guide only, specifications are subject to change without notice.

# GM2000 2000Kg Waste Incinerator

## Specifically designed for Medical waste

The medical GM range is designed as a two stage incinerator unit comprising of a primary loading chamber and a secondary after burner chamber. This afterburner system draws the hot gases from the primary chamber, this ensures a clean (and compliant) burn at temperatures of 850-1150°C.

The Addfield range of incinerators are CE Certified to BS EN 746-2 :1997, a recent emissions testing concluded the following results based on two second residue time within the secondary chamber, results are well below the EC limits.

Expected Emissions*	% by Volume
Carbon Dioxide (CO2)	5%
Water (H2O)	29%
Oxygen (O2)	6%
Sulphur Dioxide (SO2)	6%
Nitrogen (N2)	54%
Smoke	0%
(Not detectable under standard operating conditions)	
Odour	0%
(Not detectable under standard operating conditions)	
Volume of ash	1-3%
(Dependent on waste stream)	

\*These emissions are based on minimum waste calorific values of 6kcal/g (blood) 45.7MJ/kg (human organs), 70-100% moisture contents. With no other waste streams present other than general packaging containers that do not make up more than 1.5% of the total load weight.

### Composition of fuel being used:

Fuel Input	Diesel	Composition %
Carbon	C	86%
Hydrogen	H1	13.2%
Nitrogen	N2	0.70%
Oxygen	O2	0.00%

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### Machine Specifications: GM2000

External Length (mm)	3800
External Width (mm)	2270
External Height/Less Flue(mm)	3702/2102

### Primary Chamber Sizes:

Internal Length (mm)	2460
Internal Width (mm)	1640
Internal Height (mm)	1160

### Chamber Volume (m<sup>3</sup>)

Weight (Approx. Tonnes)	6.8
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6.4

CE Certified	YES
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EU Regulations Compliant	YES
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Max Load Capacity (kg)	2000
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Nominal Burn Rate UK*(kg/hr)	< 50
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Burn Rate [Export Only]*(kg/hr)	50-75
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Thermal Capacity (kw/hr)	190
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Power Supply 50/60hz	210/230v
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### Fuel Options:

Diesel	Yes
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LPG	Yes
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N-Gas	Yes
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† Based on general municipal waste streams

\* Depending on the type waste stream being loaded and excludes heat up time.

We reserve the right to change the specification, dimensions and quality of materials from time to time, so long as the alteration is minor or an improvement to the said products.

Robust, Reliable...  
...and Efficient

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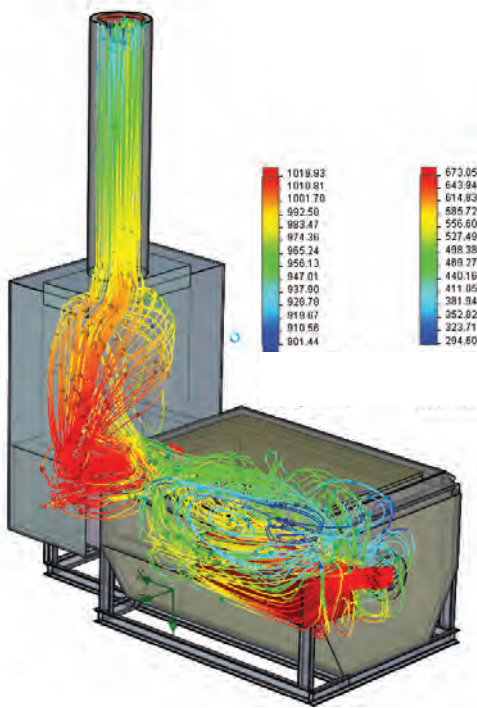
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**addfield**  
Incinerate • Cremate

# GM2000

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## Computational Fluid Dynamically Modelled Incinerators

### Key Features:

We have CFD modelled all of our incinerators by utilising some of the most advanced software available. By using Computational Fluid Dynamics software it helps us to predict gas velocities /movements within the chambers along with external surface temperatures whatever the external ambient parameters maybe.

We also use this information to develop a more durable, robust and efficient incinerator by:

- Identifying heat build-up and stress points within the structure.
- Reducing thermal heat loss by increasing insulation systems.
- Designing out hot & cold spots to ensure complete combustion within the chamber.

## General Construction Robust, Reliable and Efficient

- Pre-fabricated 8 & 10mm robust mild steel casing, seam welded & suitably stiffened/ braced where necessary.
- Paint finishing - The steel structures are completely painted using a two pack high grade paint system that is baked onto the steel structure at 70°C for 10hrs. The standard colour of the series is cherry for the primary and secondary chambers, lid, flue and counter balance.
- Primary & secondary chamber lining thickness – 180mm, rated at 1750°C.
- Three layers of refractory lining in the primary & secondary chambers totalling thickness of 180mm, rated at 1750°C, provide increased fuel efficiency.
- Lightweight resilient refractory fibre insulation lid, providing a tight seal & gives excellent thermal efficiency.
- All combustion fuel pipe work and electrical systems are weather proof and in accordance with BS7671-17.
- As an optional extra, an excess air and rapid cooling systems can be fitted, aiding cleaner burns and faster cool down times.

## Primary Chamber

- Fully insulated internal refractory lining, constructed from high grade refractory brick ensuring a self-supporting interlocked arrangement.
- High alumina content refractory bricks, hold heat for longer.
- One manually operated, access lid.
- Two waste ignition burner, temperature controlled on-off, complete with internal air fans.
- A pre-cast block impact zone, that protects the refractory lining when loading.

## Secondary Chamber

- Fully insulated internal refractory lining, constructed from high grade low thermal mass insulation.
- One secondary chamber burnout burner, temperature controlled on-off, complete with internal air fans
- Integrated combustion burner air fans with automatically controlled distribution to their designated area.
- One temperature sensor mounting point at the top of the chamber ensuring the chamber reaches the necessary 850°C/1100°C minimum.

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## Waste Loading and De-Ashing

The medical GM series of incinerators are designed for top loading only through the main access door.

Due to the type of wastes they incinerate, bio-security measures should be in place on the site of the incinerator due to the possibility of spillage and spread of disease. At the end of every incineration process ash should be discharged through the loading door onto the supplied catcher tray prior to being loaded for the next burn.

## Waste types to be used in the Addfield GM2000 Incinerator

- 0-50% Moisture
- Faeces/blood stained materials
- Cancer treatment Wastes
- Surgery waste
- Syringes/ needles
- Mattresses

## Key Features:

- Plug and play design for easy & efficient replacement.
- Touch screen interface.
- Data logging.
- Incoming and outgoing cable terminations.
- Burner time control during cycles.
- Temperature feedback and control during cycles.
- Interface relays and contactors.
- Emergency stop feature.
- Security lock out.
- Cycle status indicators.
- Fault status indicators.
- Integrated excess air controller.
- Operator interface.



## Combustion System

The burner system comprises of fully automatic package burners, these burners come complete with the following features:

- Flame failure controls
- Adjustable flame patterns
- Integral fuel pump
- Solenoid valves
- Integral continuous air fan
- Fuel sensors

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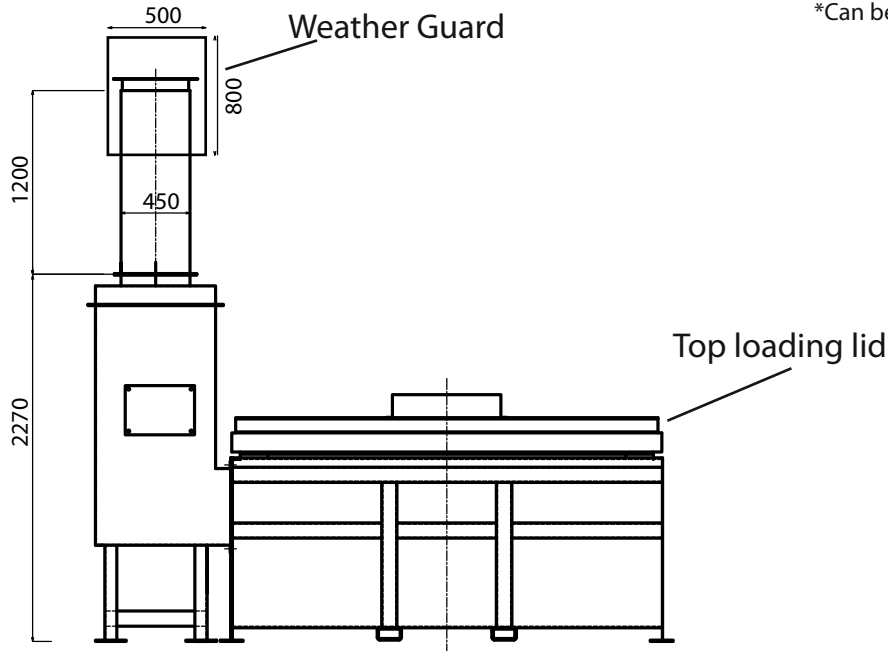
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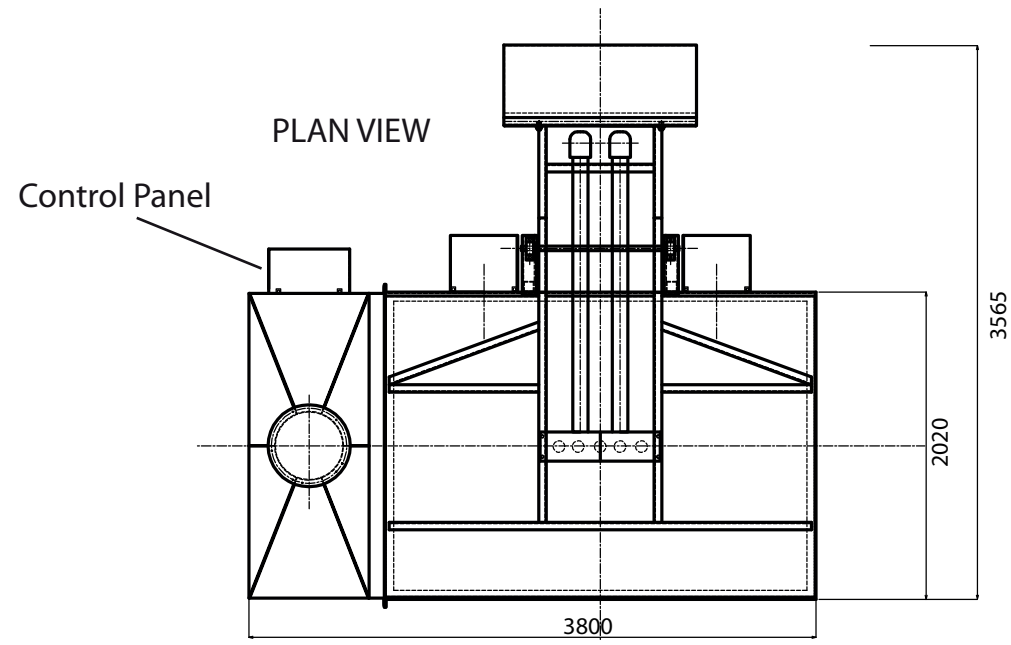
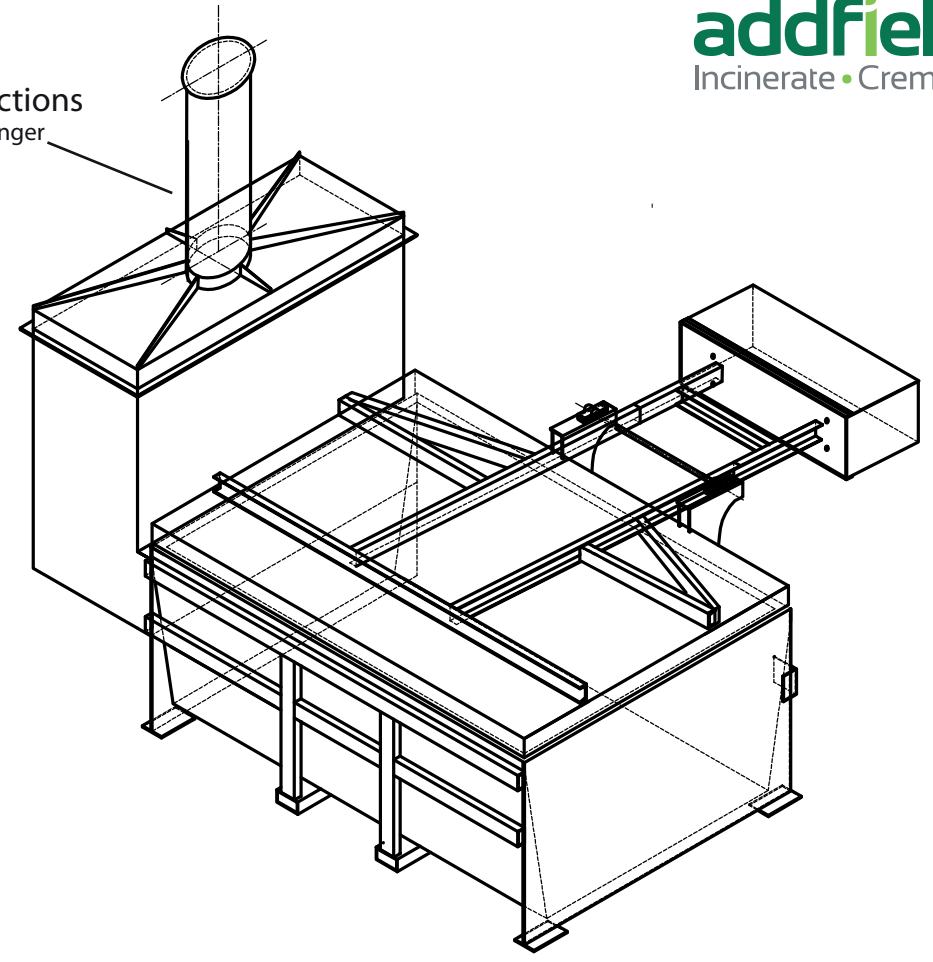
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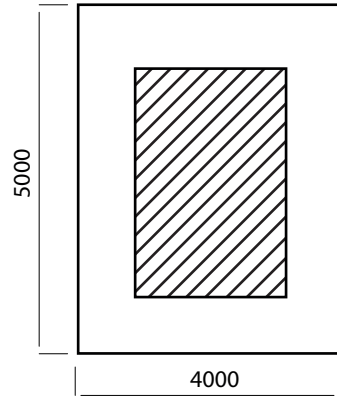
# GM2000 Incinerator



Chimney Sections  
\*Can be made longer



FLOOR PLAN  
150mm concrete base



ISOMETRIC VIEW

rev.	description	date
	<b>addfield</b> Addfield Environmental Systems Ltd Unit 9, Zone 4, Burntwood Business Park, Staffordshire, WS7 3XD <a href="http://www.addfield.com">www.addfield.com</a>	
	title GENERAL ARRANGEMENT OF GM2000 INCINERATOR	
	scale:- Not to scale	
drawn:-	RLC	date:-
drg. no.	GM2000	rev.