

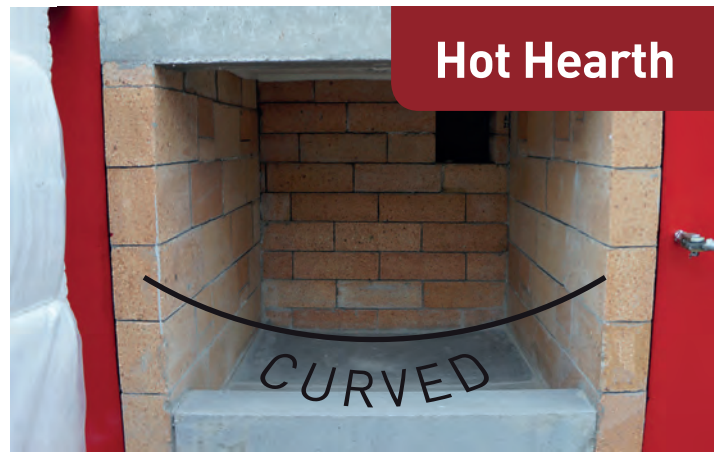
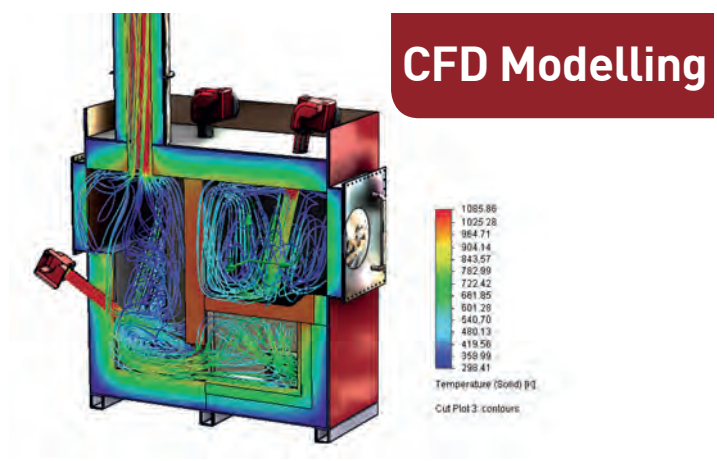
'The most thermally efficient, robust and reliable medical incinerators on the market
Simply Built Better!'



MP-400

Specifically designed for medical waste.
The MP medical hot hearth Incinerators

The Addfield range of Medical & Pathological incinerators (MP Series) are bespoke incinerators specifically designed for the destruction of high category medical/pathological red bag waste. These wastes types generally have high moisture contents and low calorific values such as blood, human organs/tissues swabs etc. The MP series has been specifically designed to completely and efficiently destroy these wastes with the higher moisture contents of 50% and above.



t: +44(0)1543 571280 | f: +44(0)1543 571173
e: sales@addfield.com | www.addfield.com
Addfield Environmental Systems Limited
Unit 9 | Zone 4 | Burntwood Business Park | Staffordshire | WS7 3XD | UK

addfield
Incinerate • Cremate

© Addfield Environmental Systems Ltd
All information should be used as a guide only, specifications are subject to change without notice.

MP-400 Specifically designed for Medical waste. The MP Medical hot hearth Incinerators

The MP range is designed as a two stage incinerator unit comprising of a primary loading chamber that incorporates a hot hearth construction for the total destruction of the solid/liquid wastes. The unit is further complemented by an integral after burner system. This afterburner draws the hot gases from the primary chamber under the hearth through an integral refractory brick system. This ensures maximum gas turbulence/mixing is achieved thus aiding clean combusted gases. All gases then reside inside the after burner chamber for a minimum of 2 seconds at temperatures of 850-1150°C ensuring complete high temperature termination/oxidation of the gas combustion products.

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 (Not detectable under standard operating conditions)	0%
Odour (Not detectable under standard operating conditions)	0%
Volume of ash (Dependent on waste stream)	1-3%

*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	H ₁	13.2%
Nitrogen	N ₂	0.70%
Oxygen	O ₂	0.00%

Machine Specifications MP-400

External Length (mm)	3040
External Width (mm)	1150
External Height (mm)	2100
Primary Chamber Sizes:	
Internal Length (mm)	2000
Internal Width (mm)	700
Internal Height (mm)	700
Max Load Capacity (kg)	400
Nominal Burn Rate UK*(kg/hr)	<50
Burn Rate [Export Only]*(kg/hr)	50-75
Thermal Capacity (kw/hr)	190
Power Supply 50/60hz	210/230v
Fuel Options:	
Diesel	Yes
LPG	Yes
N-Gas	Yes

† 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.

Ideal for Category 2, 3 & 4 type red bag waste with high density and high moisture contents.

MP-400

Specifically designed for Medical waste.
The MP Medical hot hearth Incinerators

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. Standard colours of the MP Series are cherry red for the main body, with a solid black door and upper cover plates.
- Lightweight resilient refractory fibre insulation door, providing a tight seal & gives excellent thermal efficiency.
- Primary & secondary chamber lining thickness – 221mm, rated at 1750°C.
- Low thermal mass roof lining, with removable roof and back plate for ease of maintenance.

Primary Chamber

- Fully insulated internal refractory lining, constructed from high grade refractory brick ensuring a self-supporting interlocked arrangement.
- One fully interlocked, manually operated, access door
- One waste ignition burner, temperature controlled on-off, complete with internal air fans
- One hot hearth combustion burner, temperature controlled on-off, complete with internal air fans
- Secondary combustion burner air fans with automatically controlled distribution to their designated area.
- Two temperature sensor mounting points

Secondary Chamber

- Fully insulated internal refractory lining, constructed from high grade refractory brick and 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.
- All combustion fuel pipe work
- All electrical requirements
- One temperature sensor mounting point at the base of the exit flue ensuring the chamber reaches the necessary 850°C/1100°C minimum.

t: +44(0)1543 571280 | f: +44(0)1543 571173

e: sales@addfield.com | www.addfield.com

Addfield Environmental Systems Limited

Unit 9 | Zone 4 | Burntwood Business Park | Staffordshire | WS7 3XD | UK

addfield
Incinerate • Cremate

MP-400

Specifically designed for Medical waste.
The MP Medical hot hearth Incinerators



Addfield Intelligent Controller

Key Features:

- Plug and play design for easy & efficient replacement.
- Zone ramp sequence three zone controller
- Incoming and outgoing cable terminations
- Burner control gear
- Interface relays and contactors
- Temperature indication and control of the primary chamber
- Temperature indication and control of the secondary chamber
- Plant status indicators
- Cycle status indicators
- Fault status indicators
- Operator interface.



Waste Loading and De-Ashing

The MP Series of incinerators are designed for manual 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 MP Series - Category 4

- Minimum 50-100% moisture
- Blood, drips, human faeces
- Human organs
- Human tissues
- Human limbs
- Cancer treatment wastes
- Pharmaceuticals
- Surgery waste
- Syringes/ needles

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

t: +44(0)1543 571280 | f: +44(0)1543 571173

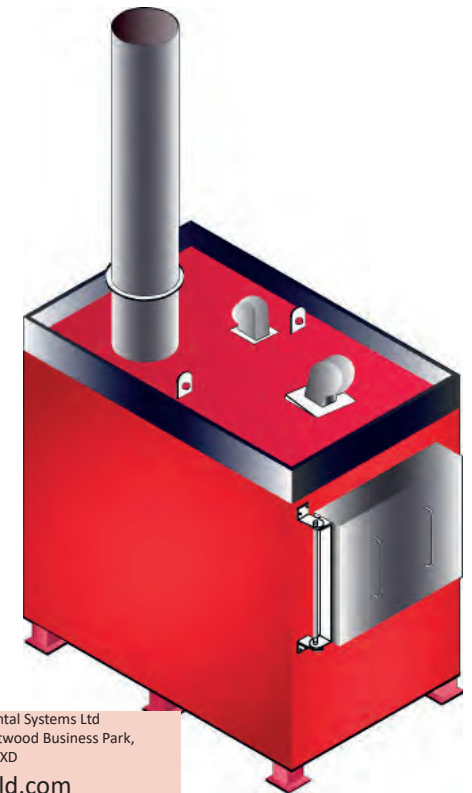
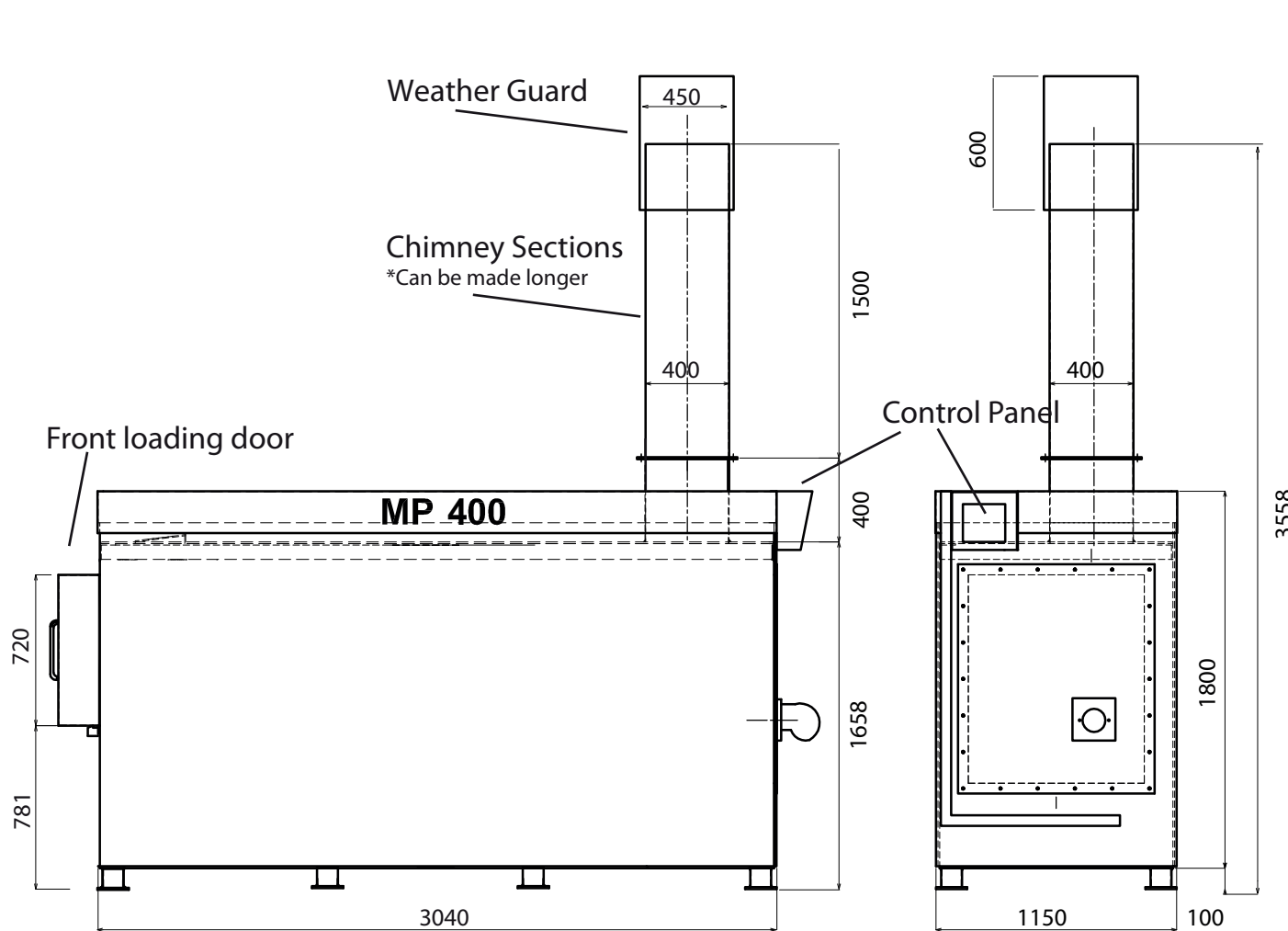
e: sales@addfield.com | www.addfield.com

Addfield Environmental Systems Limited

Unit 9 | Zone 4 | Burntwood Business Park | Staffordshire | WS7 3XD | UK

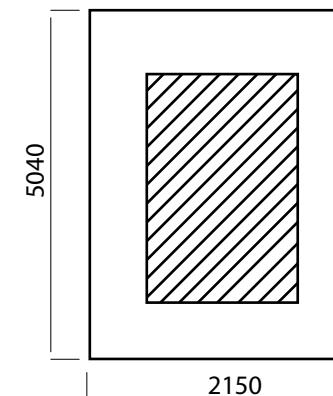
addfield
Incinerate • Cremate

MP-400 Incinerator



Addfield Environmental Systems Ltd
Unit 9, Zone 4, Burntwood Business Park,
Staffordshire, WS7 3XD

FLOOR
150mm concrete base



rev.	description	date
addfield Incinerate - Cremate Addfield Environmental Systems Ltd Unit 17 Hollies Park Cannock Staffordshire WS11 1DP www.addfield.co.uk		
title GENERAL ARRANGEMENT OF MP.400 INCINERATOR		
scale:- Not to scale		
drawn:-	RLC	date:-
drg. no.	MP.400-GA	rev.