

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

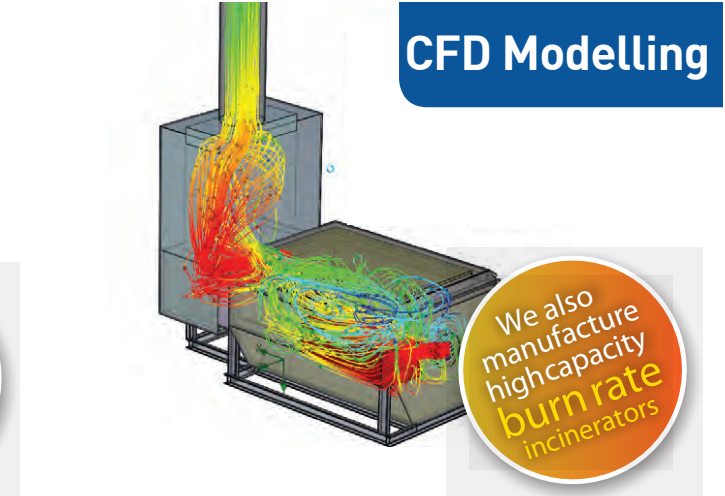


# TB-AB AQUA 2000Kg Marine Waste Incinerator

The largest low capacity marine incinerator on the market, extremely robust with a 10mm steel periphery and a pre-cast block abrasion/impact resistant seal that protects the refractory from mechanical loading. The TB-AB Aqua is ideal for very large loads of up to 2000kg. With an internal chamber volume of 4.18m<sup>3</sup> the TB-AB Aqua ensures that 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. Our Aqua range comes with stainless steel fittings as standard to withstand the harshest of environments.



All Stainless Steel Fittings as standard on ALL models



We also manufacture high capacity burn rate incinerators



Touch Screen



Refractory

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

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

# TB-AB AQUA 2000Kg Marine Waste Incinerator

The Aqua (Marine) 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 (CO <sub>2</sub> )	7.4%
Water (H <sub>2</sub> O)	22%
Oxygen (O <sub>2</sub> )	6%
Nitrogen (N <sub>2</sub> )	64.5%
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 45.7MJ/kg (animal carcase). 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 <sub>1</sub>	13.2%
Nitrogen	N <sub>2</sub>	0.70%
Oxygen	O <sub>2</sub>	0.00%

## Machine Specifications: TB-AB

External Length (mm)	3800
External Width (mm)	3565
External Height/Less Flue(mm)	3470/2270

## 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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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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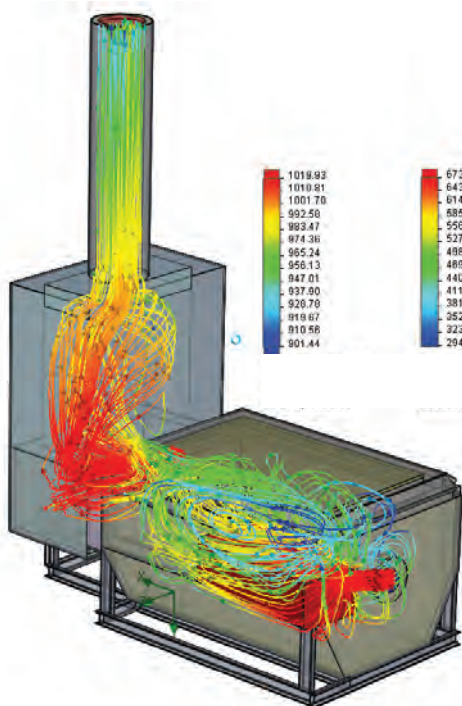
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## Computational Fluid Dynamically Modelled Incinerators

### 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 with stainless steel fittings.
- 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 Aqua Series is ocean blue for the primary and secondary chambers, lid, flue and counter balance.
- Three layers of refractory lining in the primary & secondary chambers totalling thickness of 180mm, rated at 1260°C, provide increased fuel efficiency.
- Lightweight resilient refractory fibre insulation lid, providing a tight seal and gives excellent thermal efficiency.
- Removable roof and back plate for ease of maintenance.
- All combustion fuel pipe work and electrical systems are weather proof and in accordance with BS7671-17.
- Excess air and rapid cooling systems fitted as standard, 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.
- 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 minimum.

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# TB-AB AQUA 2000Kg Marine Waste Incinerator



## Addfield Programmable Logic Controller

### 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.



## Waste Loading and De-Ashing

The Aqua (marine) series of incinerators are designed for top loading only through the main access door.

At the end of every incineration process it is recommended the ash should be removed prior to the next incineration cycle. In the UK regulatory requirements insist on sheep and cattle ash to be separated from other waste.

## Waste types to be used in the Addfield TB-AB Incinerator

- Fish
- Horses
- Cattle
- Pigs
- General Waste

## 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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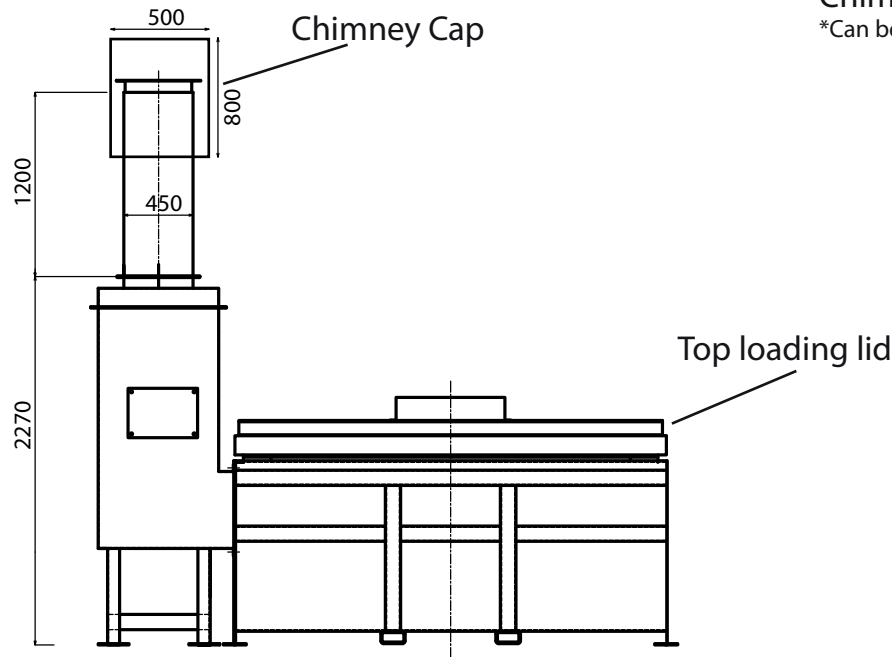
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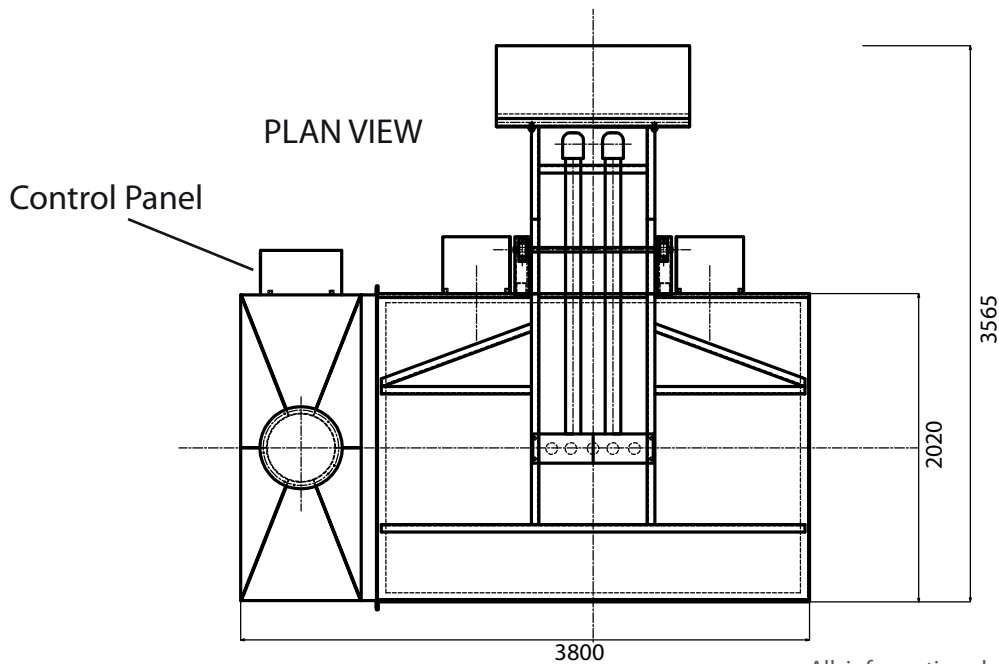
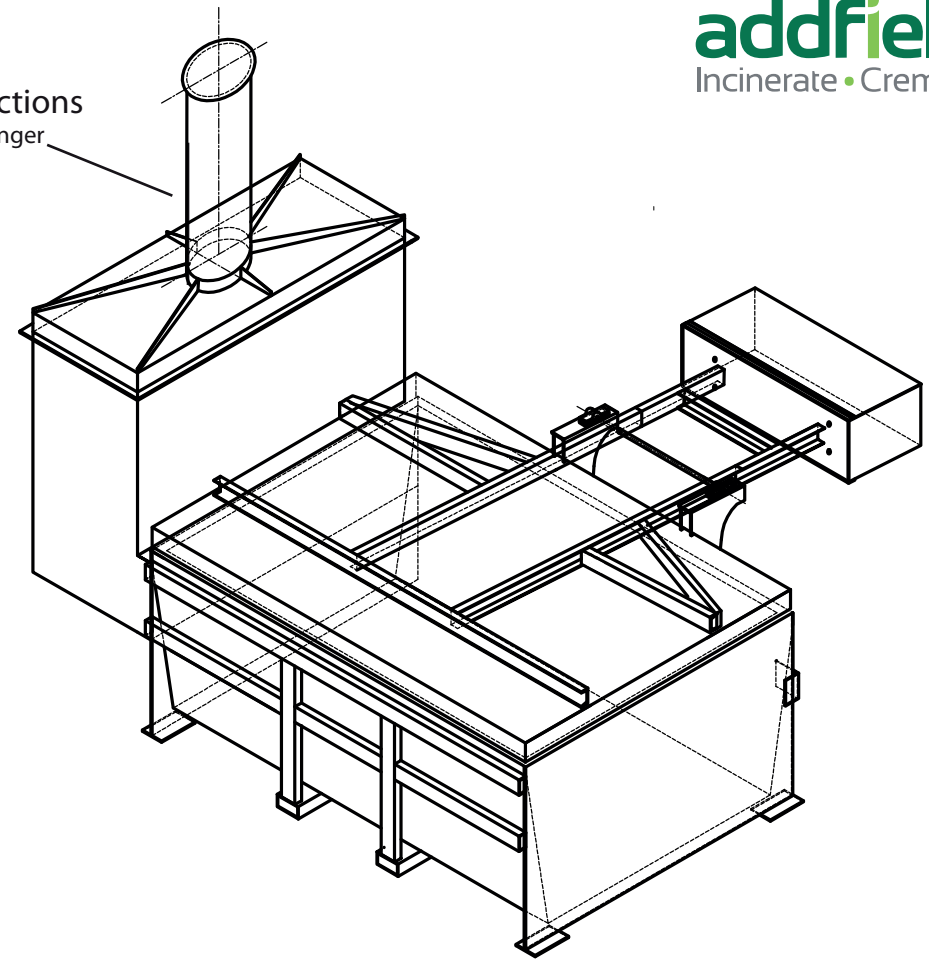
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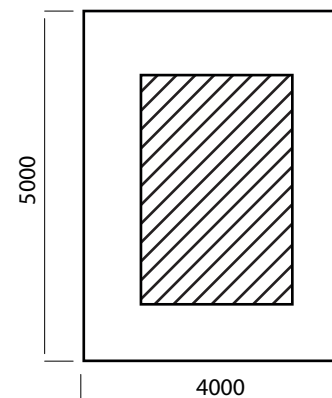
# TB-AB AQUA



Chimney Sections  
\*Can be made longer



FLOOR PLAN  
150mm concrete base



ISOMETRIC VIEW

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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 TB-AB INCINERATOR		
scale: Not to scale-		
drawn:-	RLC	date:-
drg. no.	TB--AB-GA	rev.