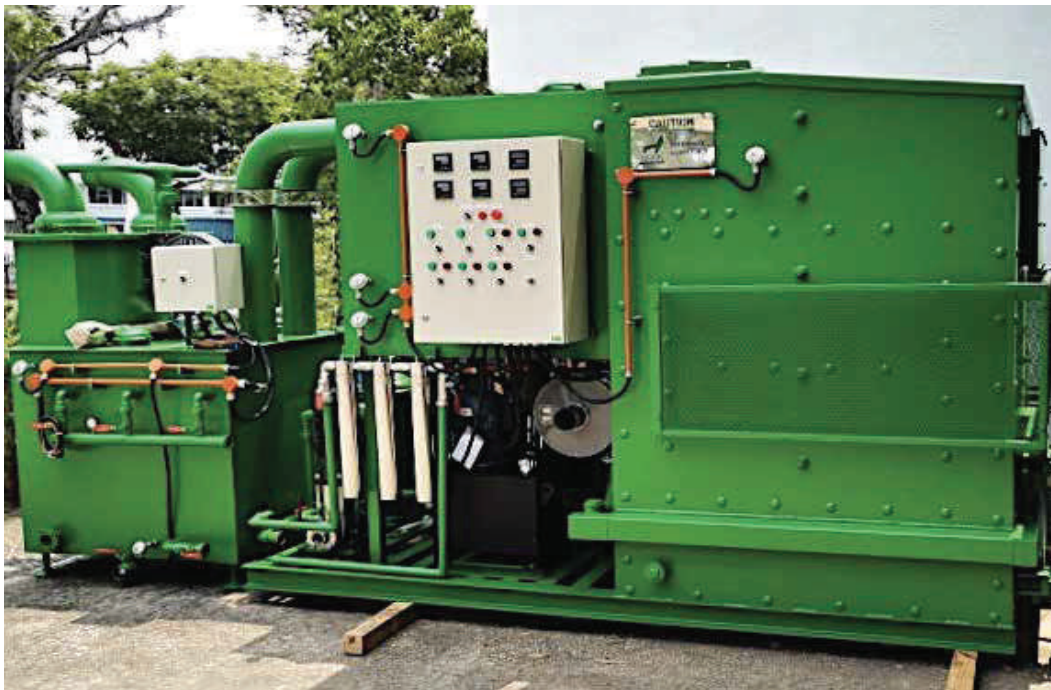


ALPHA AMP SYSTEM

*On-site Decentralised
Solid Waste Solutions*



EXISTING WASTE HANDLING COST



Waste bin & sorting cost



Storage (Dust drums & compactor) cost
Digesting & Composting cost



Logistic & segregation cost

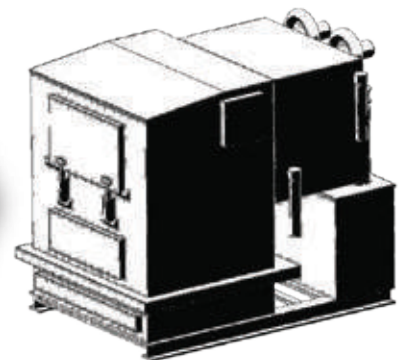


Energy cost
Environmental Pollution cost

NEW DECENTRALISED ON-SITE SOLID WASTE MANAGEMENT CONCEPT



All kinds of organic waste



Low cost Alpha AMP System



Ash

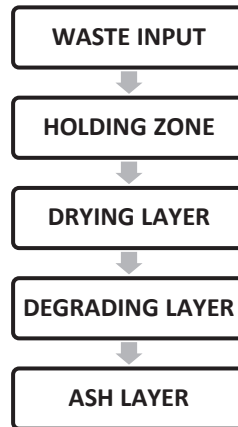
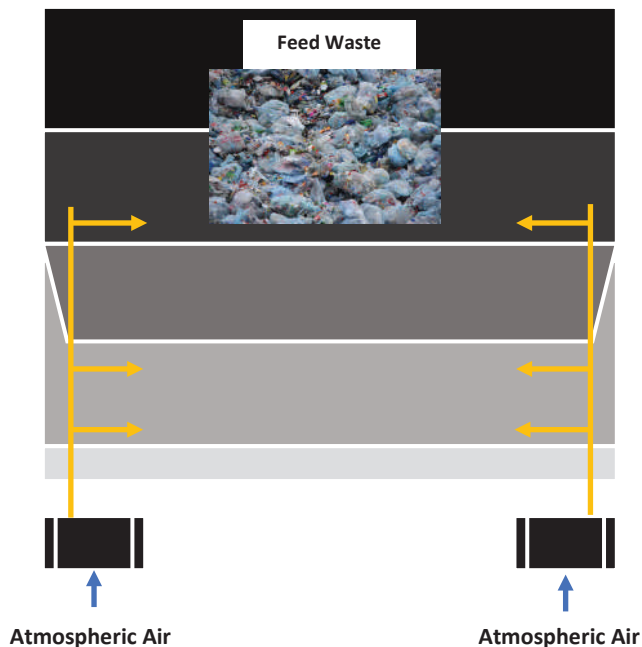
NEW

100% to 5% volume reduction
No Odor; No Emission

WORK FLOW INSIDE AMP

AMP converts all municipal waste, including organic waste to **concentrated ash**.

The system operates at low temperature using plasma assisted technology to generate negative ions to break down and disintegrate all organic matters without the use of diesel and gas for burning. During the thermal degradation, the organic waste disintegrates and breaks down into gaseous fumes at a temperature around 300-500 degC. Chemical heat is further produced during the breakdown and creates a closed cycle to raise the temperature naturally to around 600-1000 degC. Waste fed in goes through a process of drying, degradation, carbonisation before turning into ashes. Ashes and inorganics such as metal, glass can be collected from the bottom collection tray and cooled.



Potential Application
- Bio Medical Waste



ADVANTAGES OF AMP

NO TOXIC FUMES – No gas or diesel used for burning and hence produces lesser toxic emission which are negligible after our gas treatment processes.

MINIMAL FLY ASH – Lesser fly ash as compared to big incinerations due to chamber design, more bottom ash is generated. However, some fly ash maybe carried by the fumes into the gas treatment and are removed through filters.

SMALL FOOTPRINT - Space required for set up is minimal, system is compact and CAN FIT INTO 2 x 20 foot containers or 1 x 40 foot container.

NO SMOKE & ODOUR - Proprietary self cleaning process for smoke and odour. It does not require special facilities to set up the unit.

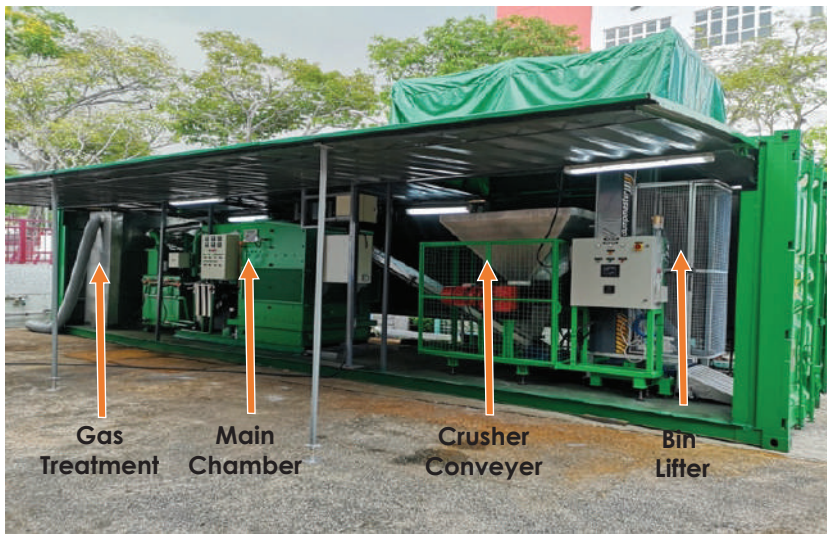
LOW OPERATING COST - Low cost of installation WITH extremely low operating cost. No diesel or gas is required on a continuous operation, the heat is self sustained through the system's plasma technology.

LOW MAINTENANCE COST – minimal cleaning of filters and blower fan. Low operating expenses.

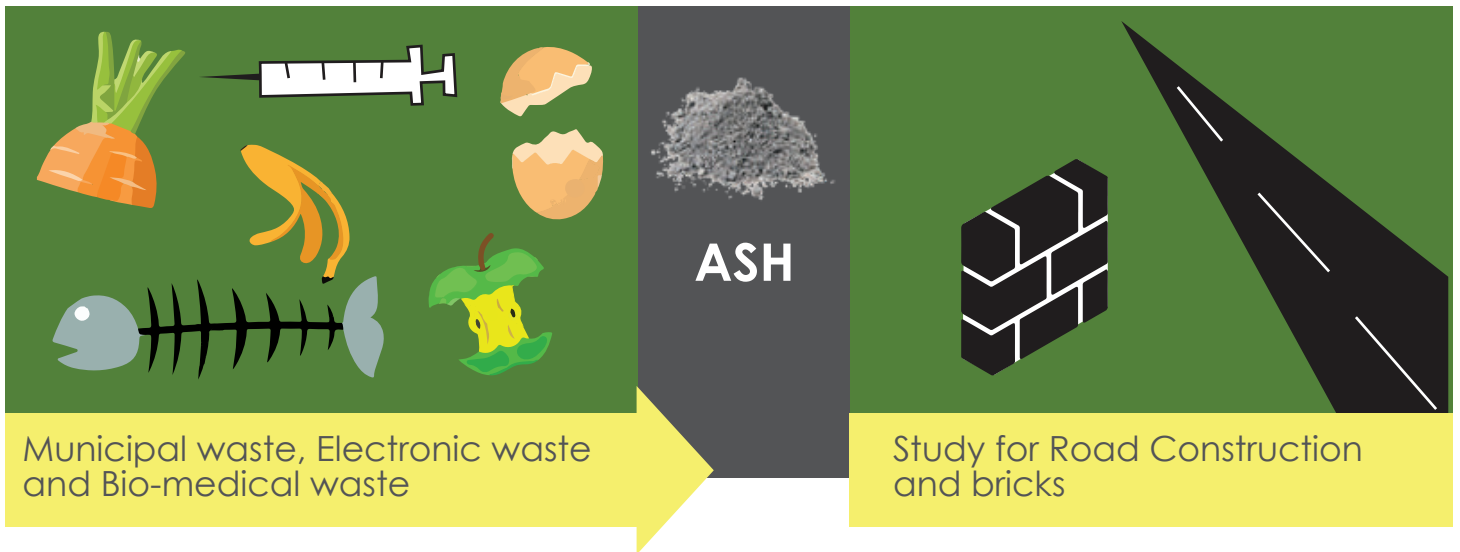
ENVIRONMENTALLY GREEN - Concentrated ash has the potential to be used in road/building construction or compost/media for farming.

HAZARDOUS WASTE REDUCTION – solves organic and toxic biomedical waste onsite storage issues. Volume reduction of waste to 5% ash. Can be collected in a safe manner as required.

Picture of containerised AMP for reference



**100% WASTE REDUCTION TO 5% CONCENTRATED ASH
(WITH THE POTENTIAL TO BE RECYCLED)**



Municipal waste, Electronic waste and Bio-medical waste

Study for Road Construction and bricks

WASTE MATERIAL CATEGORISATION

Items that can be reduced

- Petroleum Products eg plastic, styrofoam, pet bottle, etc.
- Tyres
- Animals & Fisheries waste, meat, intestines, bones, fishing nets, scraps
- Agriculture & Horticulture waste eg rice husks, dead flowers, straw
- Medical waste eg syringes, diapers, bandages, transfusion bags, etc.
- Wood and paper eg wooden pallets, carton boxes, paper waste, etc.
- Food waste that has less than 30% moisture, expired food
- Electronic waste eg pcb board, plastics

Items that cannot be reduced

- Metals
- Sludge, sand
- Glass
- Porcelain or china
- Stone
- Construction material eg asbestos, concrete, etc.
- Explosive items, fireworks, Aerosol cans etc. are not to be loaded



Top: Alpha AMP System

ALPHA AMP SYSTEM 3MT/5MT Per Day Unit for Bio-Medical Waste/Municipal Waste

As nations around the globe develop, one of the most daunting issues facing the world is the mounting waste problem that causes environmental pollution, public health risk and increasing carbon footprint.

Alpha Grace Enviro-tech AGE's advanced Alpha AMP System (AMP) is an on-site mobile green system that converts operational and hazardous bio-medical waste into safe ash for landfill disposal. This treatment process drastically reduces the mass and volume of solid bio-medical waste from 100% to 5% ash, providing hospitals and medical centres with huge savings in logistic and landfill costs.

The new **AMP** utilizes plasma assisted technology that generates negative ions inside the reaction chamber to break down all organic matters. The unit operates at low temperature range of 500-800 degC and does not require any fuel or gas thus making it an extremely low cost waste treatment process. At the processing temperature, any form of bacteria and pathogens are fully deactivated, thus providing a safe decontamination waste solution for infectious medical waste. All the inorganic matters such as metals, glass, fibre can be segregated and filtered out from the system in its original form.

Our mobile compact **AMP** unit is a hassle free waste management solution that comes with an attached air plus water treatment chamber for environmental compliance and add on safety features. By treating and reducing the waste onsite, customer can enjoy savings on waste handling while achieving sustainable and green solid bio-medical waste management.

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GENERAL DATA

System Model Number	1) AMP100; 2).AMP500
Organic Waste Feed Input Capacity	1) 1000KG per day or 41.5KG per hr 2) 5000KG per day or 208KG per hr
Feed Loading Type	Manual or Auto with bin lifter
Feed Process	Batch/ Discrete Continuous
Sorting	No (except large bulky items)
Moisture Content	<30%
Discharge or Output	5% Ash plus Inorganic metal, glass, fibre
Controls	PLC

MECHANICAL DATA

Dimensions L X W X H (m)	
1) AMP300	1) 10 m x 2.2 m x 2.3 m
2) AMP500	2) 11 m x 2.2 m x 2.3 m
Containerized units	Yes, upon request
Weight of System	1) 9.0 tons; 2) 12.0 tons

SYSTEM DATA

Operating Temperature	< 1000 degC (in chamber)
Operating Pressure	Atmospheric
Electrical Maximum/Operations	10 to 30 KW Three phase 415V 50KW for cold start up
Air or Stack Emission	Treated gases
Water Discharge	None. Close loop treatment
Gas Treatment included	Yes, Water scrubber, Bag Filter
Air Filtration/Treatment	Carbon & Thermal Oxidiser
Water Filtration/Treatment	Cartridge type
Water Top up, Inlet size	Yes. 25L per day. ½" BSP
Blower	Centrifugal type



BENEFITS TO TECH ADOPTER?

- Complete waste management solutions for different kinds of waste, including hazardous and bio-medical
- Achieve a sustainable waste reduction and recycle model
- Disposal cost savings and profit generation programme
- Environmentally friendly system
- Decentralised low volume on-site waste treatment where big incineration plants (capex) are not viable