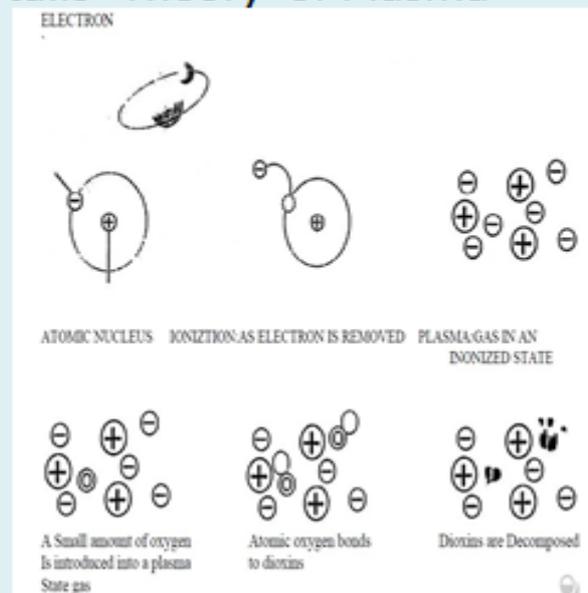


## MOST FREQUENTLY QUESTIONS ASKED ON BIOMAC

- ✓ **What Is THD**  
Method Operates on the principle of low-temperature Pyrolysis using Thermal Heat Destruction (THD) method.
- ✓ **What is the magnetic Pyrolysis**

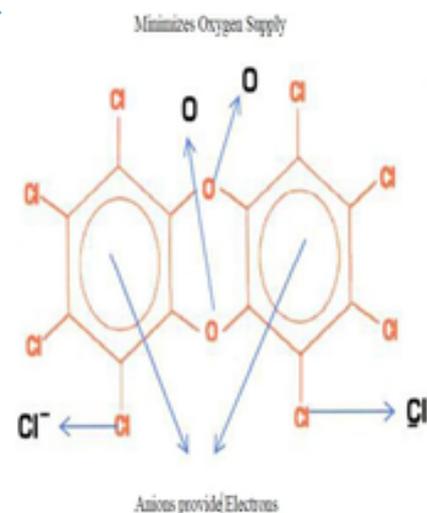
### Biomac Technical Details--Theory of Plasma

• Plasma (is an ionized gas, in which some electrons are removed from atoms and molecules and are free) is created by permanent magnets at high temperatures, 300–400°C. When a small amount of oxygen is Absorbed into the plasma, highly reactive, negatively charged oxygen ions (atoms and molecules that have lost electrons are positive ions (positively charged); electrons that have been removed are negative ions (negatively charged) are formed. This oxygen (negative ions) is highly oxidative, thus decomposing dioxins and other harmful compounds by oxidation.



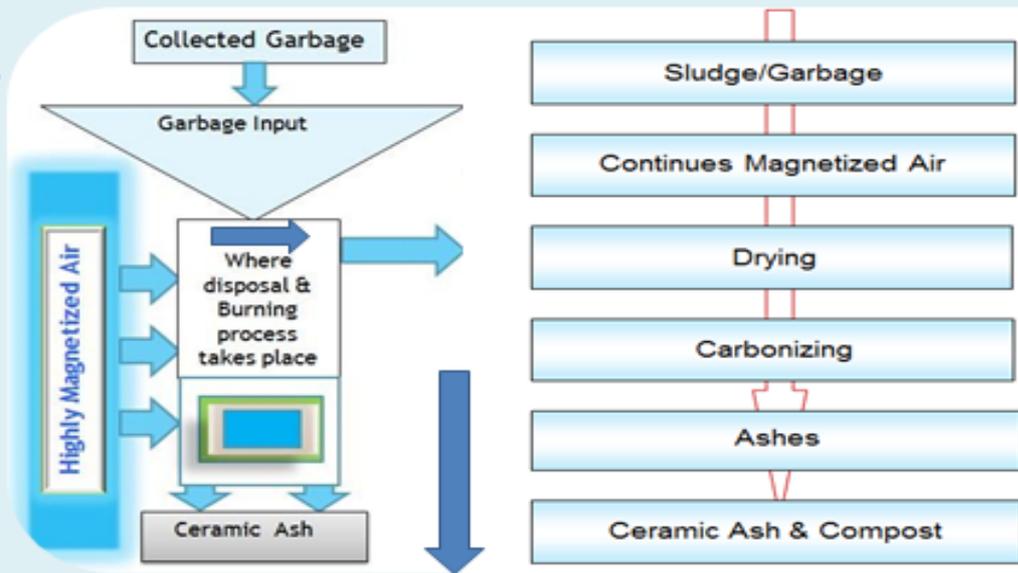
## Solutions to Air Pollutions

- It has been suggested that one of the causes of dioxins in an incinerator is the retention of oxygen due to imperfect combustion and low processing temperature (300–350°C). Consequently, it became mandatory to process waste at high temperatures, at 800°C or higher, which requires installation of a secondary combustion system.
- On the other hand, Our Decomposition system processes waste at low temperatures however, the generation of dioxins is inhibited. Why...How?
- The answer is because it hampers the bonding of two benzene rings with oxygen by minimizing the supply of oxygen. The system also inhibits the benzene rings themselves from being produced by utilizing the effect of anions which are generated when the waste passes through the Special magnetic device and enters a chamber.

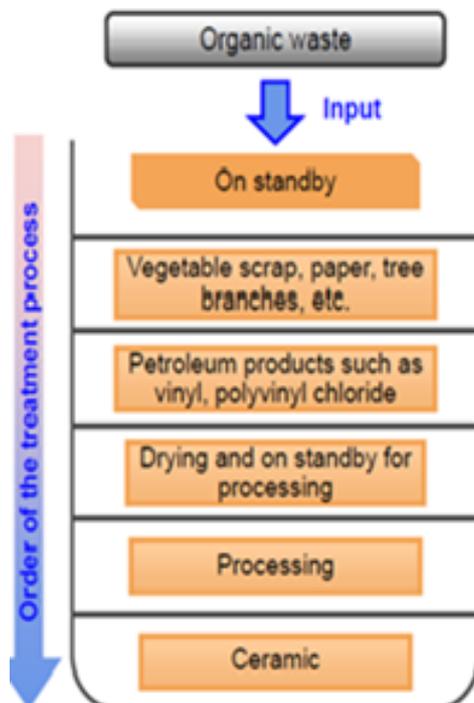


The Cl<sup>-</sup> that has jumped out then bonds with ions such as Na<sup>+</sup> to form a stable compound. Further, it effectively acts on NO<sub>x</sub> and SO<sub>x</sub>, inhibiting the generation of harmful chemicals.

## Process Flow Chart Wise



## Treatment process flow chart



1. Organic waste is fed in.
2. The fed waste is on standby on the top.
3. Due to the heat of the internal chamber, water in the waste is evaporated and dried (gasification by dry distillation). \* The dry distillation gas goes up and adheres to the inner wall of the chamber to form tar, which subsequently dries up and is exfoliated.
4. The treated waste undergoes thermal decomposition on its own by the heat storage function of the ceramic and the special magnetic force.
5. After being carbonized, the treated waste is turned into ash to complete the process.

- ✓ **What are Dioxins & Dioxins and their effects on human health**  
*Dioxins are a group of chemically-related compounds that are persistent environmental pollutants (POPs). Dioxins are of concern because of their highly toxic potential. Experiments have shown they affect a number of organs and systems. Once dioxins enter the body, they last a long time because of their chemical stability and their ability to be absorbed by fat tissue, where they are then stored in the body. Their half-life in the body is estimated to be 7 to 11 years.*
- ✓ **Effects of dioxins on human health**  
*Short-term exposure of humans to high levels of dioxins may result in skin lesions, such as chloracne and patchy darkening of the skin, and altered liver function. Long-term exposure is linked to impairment of the immune system, the developing nervous system, the endocrine system and reproductive functions.*
- ✓ **Sources of dioxin contamination**  
*Dioxins are mainly by-products of industrial processes but can also result from natural processes, such as volcanic eruptions and forest fires. Dioxins are unwanted by-products of a wide range of manufacturing processes including smelting, chlorine bleaching of paper pulp and the manufacturing of some herbicides and pesticides. In terms of dioxin release into the environment, uncontrolled waste incinerators (solid waste and hospital waste) are often the worst culprits, due to incomplete burning.*
- ✓ **What Actually happens with the waste in machine**  
*Machine actually Reduces the Volume output by 95-98% from the amount of the input waste loaded.*
- ✓ **What happens to the by-product where we can use.**  
*Small volume of normal Ash of about just 1-2% of the input waste which can be taken to landfills (or) for improving Soil amendment and as a disinfectant*
- ✓ **What Is The Batch Load**  
*Decomposition of waste takes place at a faster rate in an 8 hour period for the single batch load. MSW garbage bags can be loaded 2-3 times a day in the machine..*
- ✓ **Can We Put Both Wet & Dry Waste in machine or what should be the moisture content**  
*The MSW recommended less than 40% for optimum decomposition. No liquids in food waste are acceptable which will harm the speed of decomposition process*
- ✓ **What About Pollution Norms for machine**  
*No Flames, No Dioxins. Does not produce any flames, thus generating dioxins and other poisonous gases are eliminated, even when plastics and PVC are processed?*
- ✓ **Does it run on Electricity or any other fuel**
- ✓ *The beauty of the technology is that it does not require any kind of fuel for the incineration except for a one-time initial lighting up of the garbage in a double layered chamber of Stainless Steel Box fitted with intake facility of oxygen through a magnetic field that allows production of methane gas while garbage burns between 350 degree C to 500 degree C. "This gas helps ignite the rest of the garbage and keep it burning till the entire mass is reduced*

✓ **WHAT BIOMAC SYSTEM CAN PROCESS**

<b>***MACHINE WILL NOT DECOMPOSE GLASS, METAL, STONE, CERAMICS***</b>	
1.	All Type Of House Hold Garbage (Solid Municipal Waste)
2.	All Type Of Kitchen Food Waste, Open Drainage Waste ,Sanitary Napkins
3.	Cloth / Lenin/Mattress, Cotton ,Pillows, Beds,
4.	Corrugated Boxes/Chocolate Wrappers/Shampoo Pouches, Juice Boxes,
5.	Paper, Card Board, Thermocol,Coconuts Plastic Chips Packet,
6.	Gutka Packet, Plastic Bottles, Poly Bag, Tetra packs, Toys, Rubber Tyres,Tubes,Pipes
7.	Furniture, Small logs, Woods, Leafs, Twigs, Agriculture Waste And Many More—
8.	Non-Regulated General Medical Waste or Category 6/7/8 Non infectious waste
9.	Avoid Organic Waste With Less That 40% Moisture. Or processing time increases
10.	Avoid Watery / Liquid MSW Waste otherwise processing time increases
11.	Avoid Explosives/Highly Flammable/Highly Toxic/Hazardous Materials
<b>Machine Performance &amp; Stabilisation Period for the machine:</b>	
<ul style="list-style-type: none"> <li>Initially system requires minimum 1 week time to reach operational stability to obtain optimum output in performance.</li> </ul>	

✓ **MACHINE MODELS & TECHNICAL SPECIFICATIONS / SYSTEM DESCRIPTION**

1. Model & Dimension	2.0 Cu.Mtr / H2600mm X D1200mm X W1200mm (from ground level)
2. Capacity	1000 - 1200 kg MSW Decomposition System
3. Model & Dimension	3.5 Cu.Mtr /H2700mm X D1600mm X W1600mm (from ground level)
4. Capacity	2000 – 2200 kg MSW Decomposition System
5. Material for disposal	Mixed Solid Waste (MSW) Dry & Wet
6. Material Characteristics	Organic waste with less that 40% moisture. AVOID WATERY/LIQUID MSW WASTE
7. No. of feed daily	3-4 feed every 4-6 hours
8. Temperature reaches	350 – 650 Deg. Celsius
9. Area of operation	Non-flame proof
10. Material of construction	M.S. Construction 12 feet by 15 feet
11. Safety features	Pressure gauge, Temperature gauge installed

Sl.No.	Description	Amount
1.	AMC/year after 2 years of warranty period	2% of the Machinery cost + Labour charges extra (Local Transport Local Stay & daily Food Charges)
2.	Labour/person	1 Plant engineer + 1 Operational In charge
<b>Following Services are covered under AMC for Per Machine</b>		
1.	Magnet Life Checking ,Cleaning Main Chamber	
2.	Scrubber filter cleaning, Moisture drainer cleanup	
3.	Any minor parts replacement included (Silicon rubber, beading, locks etc.,)	
4.	Every month a supervisor from our site will visit the installation site and check the correct operation of the machine	
5.	Overhaul and check for periodic maintenance of the machine	

6.	<i>Machine breakdown, calls will be attended on priority basis to fix the same</i>
7.	<i>If any Mechanical or Physical damage of machine found repairing charge will be charged extra as per actual</i>
8.	<i>Necessary Manpower to handle the machine at site has to be provided by client</i>
<i>Without AMC any parts replacement or services to be paid @ actual</i>	

- *How much percentage of electricity or fuel does this machine consume?*
- ✓ *No electricity is required, only for scrubber there will be a blower or fan it consumes hardly in a month Rs.800 to Rs.1000.*
- *What is the life span of magnets?*
- ✓ *These are permanent magnets, it won't damage, until unless physical damage or any external heat*
- *Max and minimum capacity available machine?*
- ✓ *Min 1 ton ,2 ton,*
- *Efficiency compared to bio gas?*
- ✓ *Biogas is only food waste; our machine is mixed of all waste.*
- *Waste can reduced for what purpose and any data is available?*
- ✓ *Waste can be reduced to 1/200 to 1/300 times, example; 1 ton of waste reduces to 20 to 30kg.*
- *Advantage b/w organic and inorganic waste grinding?*
- ✓ *Organic waste can be used for Manure and inorganic waste can be used for tile making, flammable oil extracting.*
- *Air quality during emission?*
- ✓ *Emission test report is provided, its clean air.*
- *Sound in decibels?*
- ✓ *No sound.*
- *Whether the product is patented, if patent no of the machine?*
- ✓ *Yes it is International patented. Indian patent under process*
  
- *What extra safety measures are required if an employee works alone with machinery?*
- ✓ *General working condition should have hand gloves and nose masks*
- *Guide lines for the end user?*
- ✓ *Operation manual will be provided, do and don't also mentioned.*
- *How long has been in business?*
- ✓ *In Japan, year 2008, in India past 2 years.*
- ☐ *What industries or markets does machinery serve?*

- ➔ *Industrial Sector (All kind of Organic/Inorganic waste)*
- ➔ *Government Sectors like Municipalities, Corporations etc.*
- ➔ *Hospitals, Health Centers, Nursing homes.*
- ➔ *Apartments, Villas, Shopping Complexes, Residential Complex.*
- ➔ *Hotels , Restaurants , Stadiums , Sports centers.*
- ➔ *Corporate Sectors, IT Companies.*
- ➔ *Air ports, Railway Stations and Bus stations.*
- ➔ *Marriage halls, Public and Private Functions and ceremonies*

☐ *Advantages To Biomac Waste Management System*

- ✓ *Very less maintenance cost.*
- ✓ *No pollution to environment.*
- ✓ *No pollution to underground water.*
- ✓ *Reduce cost of transportation and saves diesel cost.*
- ✓ *Minimum man power required to handle the system.*
- ✓ *One time investment ,huge saving in long run.*
- ✓ *By product can be used as land filling or soil enhancer which is very less in quantity.*
- ✓ *No foul smell generation so can be installed in any place*
- ✓ *We Made sure that garbage is disposed on the spot.*