REDUCE YOUR IMPACT ON THE WORLD

WASTE DESTRUCTION PRODUCT DOCUMENT

There is no such thing as throw “away”. When we throw anything away, it all goes somewhere.

REVOLUTION IN WASTE DECOMPOSITION

PYROMAG WORLDWIDE

TOGETHER, WE CAN MAKE THE WORLD BETTER

PRESENTING A REVOLUTIONARY TECHNOLOGY IN THERMAL WASTE DECOMPOSITION

About Us
Pyromag Worldwide LLP is a company focused on commissioning turnkey projects, mainly in the area of environment preservation and infrastructure upgrading. The company's verticals comprise Clean Waste Treatment, Clean Water and Clean Air. One of our first introductions in this space is a technology in Thermal Waste Decomposition named **ECO BEAN**.

We at Pyromag Worldwide LLP have introduced a very unique and first-of-its-kind technology for destruction of Mixed Solid Waste using scientific principles of **Magnetic Pyrolysis**. This technology does not use fire, fossil fuels and works on a minimum power connection. Thus making it an environmentally friendly and at the same time, an efficient technology compared to any of the traditional solutions that are in existence today.

Our product, the Eco Bean uses a unique technology based on Magnetic Heat Decomposition method to convert Waste to Ash. The ash generated has got ceramic properties, which can be used in ceramic industries or construction industry which uses concrete.

Using Pyrolysis, these machines can convert 1000 KG of waste to just 0.5% to 0.10% of Ash and two tons of waste to 0.10% to 0,20% kgs of Ash, in every cycle.

How does it work?
Pyrolysis is the thermal decomposition of waste occurring in the absence of oxygen or in the presence of very little oxygen. The machine requires heat initiation to start thermal decomposition and the reactor is designed to generate and hold heat, up to 700 degrees Celsius and more. The machine does not use any fuel-stock i.e. gas or diesel. Instead, heat is generated based on an initiation point and is further built using ionized air that is channelled into the chamber.

Our emission records are excellent
Emission standards are the legal requirements governing air pollutants released into the atmosphere. The Central Pollution Control Board in India and other Government agencies have approved the test results and standards of laboratories accredited by NABL. Our Magnetic Pyrolysis Machines meet the standards of these NABL accredited laboratories and our emissions are well below the accepted standards in India.

Since what we input in our machines is not harmful to the environment, i.e. we do not use any type of fuel, we do not use the process of burning by fire, and we use very minimal electricity – the emissions that are let out during the process are controlled and further taken through a water scrubbing and heating process, to further destroy any harmful substances before letting it out through the chimney.

WHEN DESTROYING WASTE IT IS IMPORTANT NOT TO CAUSE OTHER ENVIRONMENTAL PROBLEMS IN THE PROCESS

NO BURNING. NO FUEL. MINIMAL ELECTRICITY

THREE BIG IDEAS ENABLED BY MAGNETIC PYROLYSIS

THE MACHINE

A unique distinctive garbage Decomposition / Destruction Technology

- Disposes off mixed solid waste in a scientific method with no expensive power consumption or fossil fuel consumption
- Functions much below all emission standards in India
- Special air space chamber filled with super-strong magnetic induction & hyperthermia, generating heat up to 700°C. Compact size & quick decomposition to ceramic ash
- No Fuel, No Burning, No Furnace
- Closed Chamber Destruction / Decomposition with Plasma & Ionization technique. Thermal decomposition method.
- Decompose many types of mixed solid waste. Reduction of Garbage @ a ratio of 1/200 or 1/300 (1000KG to 10KG)
- Machines require minimum space and can operate continuously without switching off.

The **Eco Bean** is capable of decomposing and destroying all types of urban mixed solid waste like paper, plastic, cloth, leaves, kitchen waste, human waste, vegetables, flowers, fruits, meat and seafood, cottons, body fluids, cans, plastic disposables.

The machine cannot decompose metal, glass and rock/cement.

TYPES OF WASTE

- **Organic Waste:** Unsegregated hard to recycle organic waste that's mixed with plastics
- **Non-Recyclable Waste:** Hard to recycle Paper & Plastic and other dry waste materials
- **Bio-Medical:** PPE Kits, Surgery Masks, Aprons, Gloves, Caps, Shoes covers, biomedical suits, cotton, surgical clothes, plastic syringes, plastic disposables.

Above waste decomposition must adhere to the guidelines of the Pollution Control Board.

The final residue after nearly 99% decomposition of all the waste, is **CERAMIC ASH** which is a reusable by-product of this process.

However, while our organisation is in talks with the CPCB for multiple approvals, we advise our clients to use our waste destruction machines keeping in mind the stipulated guidelines by all appropriate authorities.

TECHNICAL SPECIFICATIONS

Material for disposal	Mixed Solid Waste (MSW) Dry & Wet (Moisture content up to 30% to 40%) Complete liquid waste is not allowed, machine destruction function depends on volume and calorific value of the material so that external energy source is not required.
Waste Material Characteristics	Mixed Solid Waste (MSW) dry & wet, inert waste, sanitary napkins pads, sanitizer used bottles, saloon used PPE kits, aprons, polyethylene bags, Non veg waste of chicken, mutton. Masks, PPE Kits, Gloves, Plastic sheets and Plastic scraps. Avoid liquid waste, stones, metal nd glass.
Main chamber material Construction	MS construction with dressing , Mild Steel Channels & Angles with casting or advanced Insulation material, outside heat resist material will be fixed (3 to 4 layers)
Input Feed Mechanism	Manual and Automatic
Safety Features	Fitted with Pressure release valve, Digital indicating Temperature control and Monitoring Sensors
Scrubber for gases treatment	Centrifugal advanced scrubber complete assembly suitable for Machine size. Complete assembly made out of standard MS 5mm thick consists of Housing, Dynamic scrubbing impeller expansion joint, inlet scrubbing spray nozzles, outlet sludge extraction chamber with drain, inlet and outlet counter flanges, Axial load bearing block, equipped with motor, duly dynamically balanced as per IS standards
Ash Handling System	Manual or Automatic
Painting	Industrial top grade apex painting
Others	• Auto-loader for waste input • Hopper (Waste loading area) • Magnetic Pyrolysis Thermal Decomposition Chamber • Total No of Motors: 2 • Scrubbing Tank: 2 • Auto ignition heaters: 1 • Chimney: 10M • 1 Heater above 1050’C to destruct hazardous fumes, • 3 control panels • By-product collection box • Sludge Ejector • Bailing machine, conveyer belt, pre-loading dryer, shredder available in customised product

LANDFILLS

Of the total collected waste, only 20% (27,000 MT per day) is processed and the rest is dumped at landfill sites.

India is getting buried under mounds of garbage as the country has been generating more than 1.50 lakh metric tons (MT) of mixed solid waste every day.

Worse - approximately 90 percent (1,35,000 MT per day) of the total amount is collected waste – it is not being treated or destroyed.

Eco Bean is the best solution to get rid of legacy waste. The machine is capable of running non stop on daily basis. Multiple machines working at the same time will make a huge difference in reducing the landfill areas in cities.

What can be achieved with the Eco Bean?

- Allows collection and destruction of mixed slid waste closer to source that saves logistics cost
- Decentralised approach eliminates the need for landfill or secondary collection sites
- Promotes increased efficiency by allowing for intervention at various points of the waste value chain, thus allowing to integrate with existing solutions
- Very easy to operate
- Easy maintenance with ZERO down time

COVID-19 WASTE

The COVID-19 pandemic is generating tons of medical waste

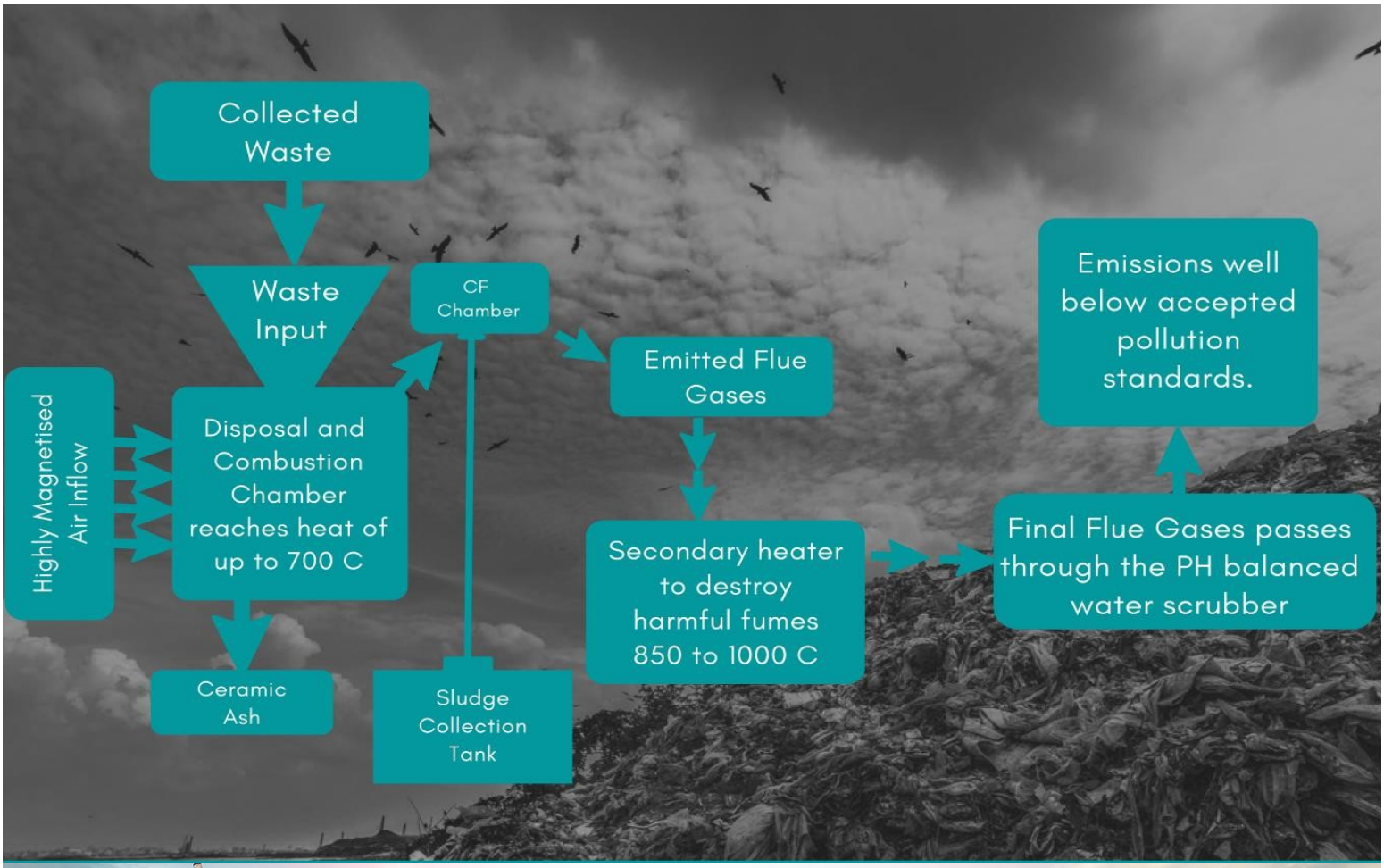
Garbage, contaminated with bodily fluids or other infectious materials, is becoming a bigger concern for hospitals as they brace for a surge in patients, sick with COVID-19, in India and the world over. Today there is no scientific method of disposing used masks and gloves and same is being carried to municipal landfills along with other mixed solid waste. This can lead to increase in harmful pathogens and cause the virulent spread of the pandemic.

Using the right disposal method is paramount

- During this pandemic or any viral contagion stage, it is easy for pre-existing and new viruses to spread easily without warning.
- Correct hospital waste management increases safety of employees and public and reduces future health related issues
- Such hospital waste should not be dumped in garbage pits or landfills and should be immediately destroyed.
- Destruction of PPE Kits, surgical masks, aprons, gloves, caps, shoe covers, biomedical suits, cotton, surgical clothes, medicinal waste, body fluids, plastic syringes, plastic disposables

The **Eco Bean** has the capability to destroy and decompose all bio medical waste that's generated in hospitals, especially during these trying times when the spread of the virus from discarded waste is a growing concern.

THE PROCESS



It can take up to **1,000 years** for plastic to decompose in landfills, on their own. The plastic bags we use daily take **10 years** to **1,000 years** to decompose, while plastic bottles can take **450 years** or more.

The **Eco Bean** can very effectively decompose plastic without causing environmentally harmful emissions within hours

Burning plastic, in traditional incinerators, creates harmful dioxins and if incinerators are inefficient, these leak into the environment. Traditional incinerators use fire and fuel to generate heat, thus creating more volume of flue gases to be treated. Thereby, the treatment of these gases is far less efficient.

WE HAVE JUST ONE EARTH
LET US PROTECT IT

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