



# Biomax Rapid Thermophilic Digestion Technology



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031-010  
100% Organic Fertilizer

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## About Us

### Waste to Wealth

Biomax Technologies Pte Ltd is a biotechnology company specializing in research and development, commercializing, and marketing of biotechnology solution. We aim to provide **profitable** waste to wealth innovations.


One of the innovations is our **Biomax Rapid Thermophilic Digestion Technology**.

### Biomax Rapid Thermophilic Digestion Technology

The technology works by combining our specially designed **Biomax Rapid Thermophilic Digestor** and **BM1**

With this technology, organic waste is converted into 100 % pure solid organic fertilizer in **one day**. The organic fertilizer produced is of good quality, odourless, and free of pathogens.

## Comparisons with other methods

Parameters	Conventional Method	In-Vessel	
Time	3 – 6 months	1 – 2 months	24 hours
Advantage	Low cost if land is cheap	Compact and close system	Small area required, high speed and low consumption of energy
Disadvantage	Huge land is required and poses enviromental problems	High energy consumption and maintainance	New technology
Product quality	Compost	Compost	Organic fertilizer



## Biomax Rapid Thermophilic Digester

Working together with BM1, Biomax Rapid Thermophilic Digester provides the optimum environment and reaction dynamics to accelerate aerobic fermentation.

Biomax Rapid Thermophilic Digester is designed to be easily set up at a location to treat biomass waste. This location serves as one-stop centre for waste collection, waste processing, and storage of composted product.

The user-friendly reactor uses a closed system to treat agriculture wastes, thus reducing air-pollution and pests. It is also durable and easy to be maintained.

There are two capacities to suit different industrial needs.



### BIOMAX 4000L RAPID THERMOPHILIC DIGESTOR SPECIFICATION

Motor Power: 22 kW

Size: 3660Lx1550Wx1900Hmm

Weight: 4.5 tons

Volume: 4000 litres

Pneumatic valve discharge opening

Electric heating system 27 kW

Interface material: SUS304

Blend surface: SS41

Blending blades: SIS304



### BIOMAX 22000L RAPID THERMOPHILIC DIGESTOR SPECIFICATIONS

Motor Power: 45 kW

Size: 5300Lx2460Wx3700Hmm

Weight: 14 tons

Volume: 22000 litres

Pneumatic valve discharge opening

Electric heating system 64 kW

Interface material: SUS304

Blend surface: SS41

Blending blades: SIS304

## BM1

### Accelerates Thermophilic Digestion Process

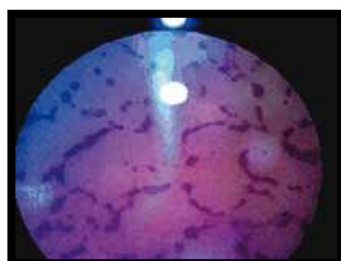
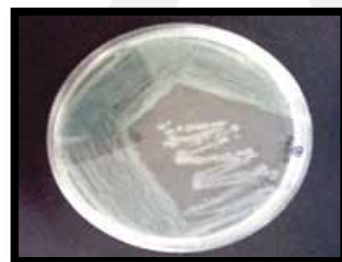
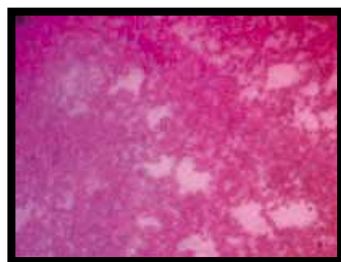
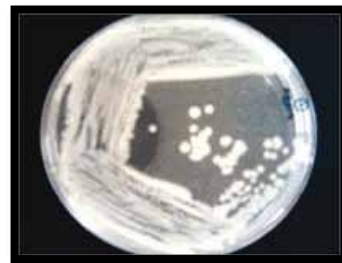
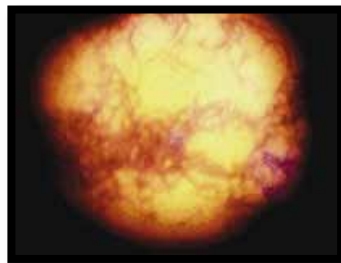
BM1 is able to reduce fermentation time (24hrs or less) by activating fermenting microorganisms at high temperature region (thermophilic process)

### Non genetically modified

The BM1 is specially formulated after years of research. It is a natural cocktail which contains enzyme such as proteinase, keratinase, lipase, cellulose, and other ingredients needed to accelerate thermophilic digestion process.

### Soil & Plant Conditioner

The product of the rapid thermophilic digestion process is able to provide nutrients and food for both plants and soil. It naturally sustains long term plant growth and fertility of the soil





## Applications

Biomax Rapid Thermophilic Digestion can be used to process organic waste from various sources such as animal, plantation, and industrial.



AND MANY MORE...

# Process of Biomax Rapid Thermophilic Digestion

BM1 is added into chamber at 1 kg per ton of waste

Organic Waste (Biomass)

Biomax Rapid Thermophilic Digester

For the next 24 hours, temperature in digester is maintained at 70°C and above for thermophilic enzyme activation and pasteurization

100% pure organic fertilizer





# Benefits of Biomax Rapid Thermophilic Digestion Technology

## Input

**Land:** The system does not occupy large space (100 m<sup>2</sup> for 3 ton per day processing), and can be easily set up.

**Manpower:** The automated machine requires lesser workers per treatment site to handle the machine, and also other operations such as trashing, loading-unloading, and packaging.

## Product output

**Nutrients:** The end product is a pure organic fertilizer with substantial NPK value to provide the nutrition for plants. The low C/N ratio also helps restore soil structure and fertility.

**Soil fertility:** Upon soil application, the organic fertilizer improves the soil CEC (Cation Exchange Capacity) which will reduce nutrient leakage.

**Soil microorganisms:** The optimum water and organic content of the fertilizer provides a healthy environment for the growth of soil microbes.

**Smell:** The composting process removes offensive odour which causes pests pollution and diseases.

**Consistency:** The composting system is in a closed and controlled environment which is independent of the surrounding conditions such as weather.

## Processing

**Time:** Biomax Rapid Thermophilic Digestion system is able to complete the composting process within 1 day.

**Pollution:** The digestion is carried out in a closed chamber, which removes smell and air pollution.

**Harmful pathogens:** High temperature digestion process is able to destroy all harmful pathogens, insect eggs and larvae.

**Harmful by-product:** There is no harmful by-product because it is an aerobic fermentation process.

## Financial benefits

**Logistics:** The more compact form of organic fertilizer reduces transport and handling cost.

**Reduction in chemical fertilizer usage:** Continuous application of organic fertilizer could replace up to 70% of chemical fertilizers in the long run.

**Quality of crops -** The use of pure organic fertilizer continuously improves soil fertility, which produces healthier trees.

**Return of investment:** A combination of various benefits enables lucrative return of investment.



WASTE TO WEALTH

**Biomax Technologies Pte Ltd**



Block 1200 Depot Road #03-01  
109675 Singapore  
[www.biomaxtech.com](http://www.biomaxtech.com)

Phone: 65 - 62748606  
Fax: 65 - 62748607



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