BIOCHEST

(OWC - ORGANIC WASTE COMPOSTER)

A device for all weather, On site, In vessel, labour free, safe, society friendly 100% natural way of composting. Dispose and convert your waste into fertilizer, without the nuisance from odour and insect

It converts all your organic waste into manure

PATENT PENDING TECHNOLOGY

BIOCHEST provides all the facilities, microbes needed in our reactor.
You just relax, the microbes will do the work for you, in a natural way

Hugros Inc.

What is In-Vessel Composting?

- "A process in which compostable material is enclosed in a drum, silo, bin, tunnel, reactor, or other container for the purpose of producing compost, maintained under uniform conditions of temperature and moisture where air-borne emissions are controlled"
- Uses forced aeration and/or mechanical agitation to control conditions and promote rapid composting
- Each system design is different, but there are some common elements.

Advantages of In-Vessel Composting

- Composting can be more closely controlled, leading to faster decomposition and more consistent product quality.
- Effects of weather are diminished
- Less manpower is required to operate the system and staff is less exposed to composting material
- Can often be done onsite, saving collection costs
- Less land area is required
- Process air and leachate can be more easily collected and treated
- Public acceptance of facility may be better
- Can accommodate various types and amounts of organic waste (e.g., odorous bio solids & food)

Factors responsible for composting

CARBON:NITROGEN RATIO

Raw materials blended to provide a C:N ratio of 25:1 to 30:1 are ideal for active composting, although initial ratios of 20:1 up to 40:1 consistently give good results.

OXYGEN

Oxygen is very important in composting because it enhances the growth of aerobic bacteria. Aerobic bacteria are bacteria that grow and live in the presence of oxygen and are very efficient in breaking down waste.

TEMPERATURE

Microbial decomposition during composting releases large amounts of energy as heat, which raises the temperature. Composting is most efficient when the temperature of the composting material is between 55-60 deg C . Composting stops if the compost becomes too cold or too hot. Hence the temperature to be monitored.

MOISTURE

Moisture is the lifeblood of the metabolic processes of the microbes. Water provides the medium for chemical reactions, transport nutrients and allows the microorganisms to move from place to place. Efficient activity is achieved when the moisture is maintained between 40% and 60%.

SURFACE AREA

More the surface area, the faster the decomposition and the more usable compost

The **BIOCHEST** (Organic waste Composting reactor) converts your biodegradable waste into compost (fertilizer) automatically. **BIOCHEST** was developed after extensive research and development work conducted at our premises in Chennai, India.

BIOCHEST Uses forced aeration and mechanical agitation to control conditions and promote rapid composting

The **BIOCHEST** is a combination of a device and process, targeting the quickest transformation of biological; waste into consistent - quality compost at the lowest possible cost and management effort.

With the **BIOCHEST** you are ahead of the rest ready to meet any stringent environmental standards that may restrict operations from using traditional disposal methods. With **BIOCHEST** you will be able to transform your biological and organic wastes into a value added product to your operation and in turn recover some or all of its capital investment.

BIOCHEST converts all these waste into manure

BIOCHEST OWC A Series

BIOCHEST OWC A Series composter works in batch process.. Waste can be loaded daily consecutively for 21 days. Composting will be finished in 21days. Compost can be unloaded on 22nd day . After curing for 7days compost is ready for use.

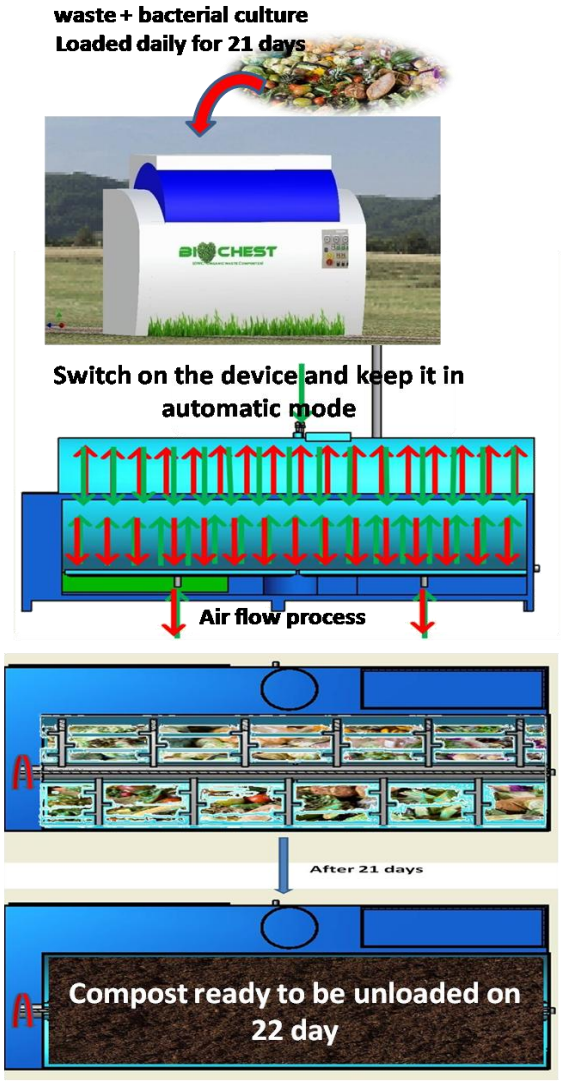
In **BIOCHEST OWC A Series**

➢Daily load the machine with the recommended quantity of waste and culture for 21 days

➢Put the machine in automatic mode, (the machine automatically starts to convert your waste into compost)

➢Unload the compost on 22nd day into the curing tray. And start the cycle again.

➢The Unloaded Compost can be used as fertilizer for plants and crops



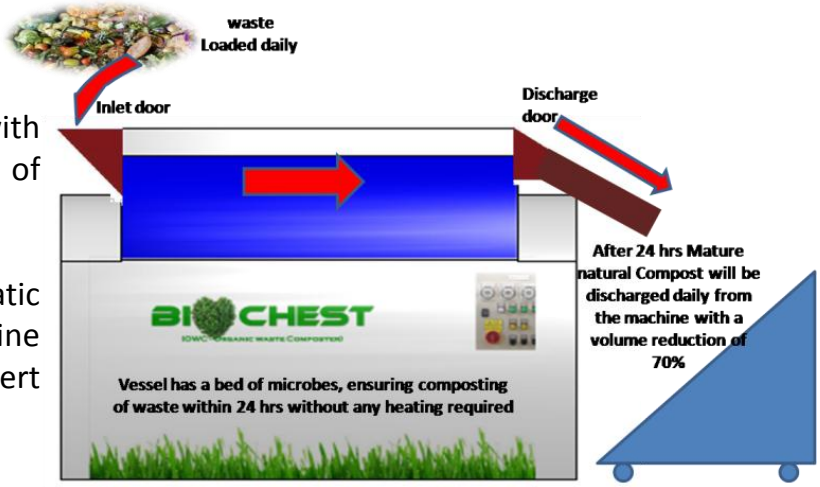
Model	Capacity (kg/day)	Chamber volume (m^3)	Space required			Dimensions(mm)				Weight (Kg)	Loaded Power (hp)	Additive (ml/day)
			L	W	H	A	B	C	D			
BIOCHEST OWC-25A	25	0.3	2600	1800	2200	1600	800	1200	620	550	3.5	12.5
BIOCHEST OWC-50A	50	0.56	2800	2000	2300	1800	1000	1300	760	650	4	25
BIOCHEST OWC-100A	100	1.17	3250	2200	2500	2250	1200	1500	1000	800	4	50
BIOCHEST OWC-250A	250	2.45	4000	2500	2500	3000	1470	1750	1250	1250	6	125
BIOCHEST OWC - 400A	400	4.42	4200	2650	3200	3200	1650	2200	1600	1750	7	200
BIOCHEST OWC-500A	500	5.5	4600	2800	3100	3600	1800	2100	1650	1950	7	250
BIOCHEST OWC-750A	750	8.16	5000	2900	3500	3600	2200	2600	2000	1950	10	375
BIOCHEST OWC - 1000A	1000	10.9	5500	3000	3500	4500	2300	2600	2000	2700	12	500

All the values and dimensions in the table were subjected to changeA-Automatic agitation

A- Length, B – Breadth, C – Height, D – cylinder Dia

BIOCHEST OWC B Series

In BIOCHEST OWC B Series composter waste can be loaded daily and the compost can be taken out daily. BIOCHEST OWC B Series comes with an inbuilt shredding and Demoisturizing technology, accelerating the composting process to provide daily output. The compost can be used after a few days of natural drying.

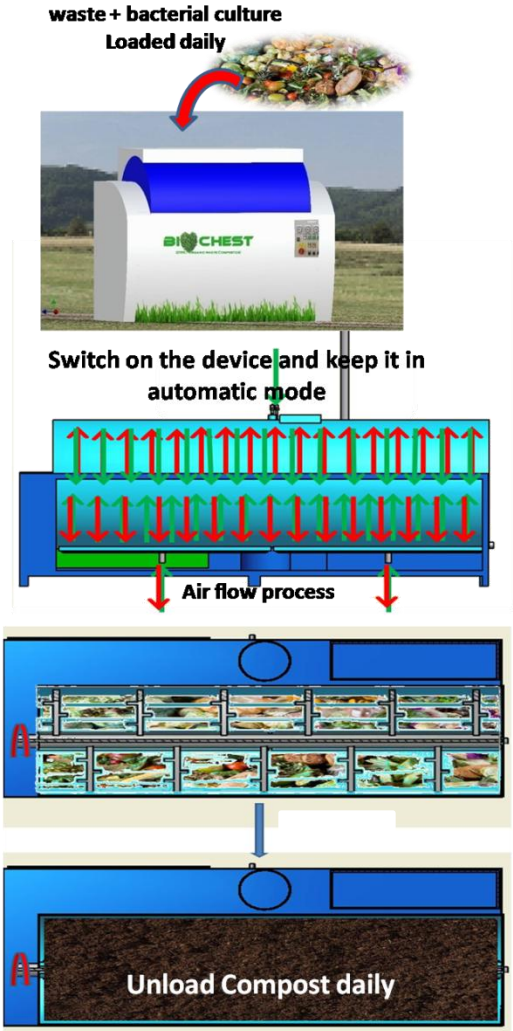


In **BIOCHEST OWC B Series**

➢Daily load the machine with the recommended quantity of waste and culture.

➢Put the machine in automatic mode, (the machine automatically starts to convert your waste into compost)

➢Unload the compost daily on the other side , before loading the machine for the day



Model	Capacity (kg/day)	Chamber volume (m^3)	Space required L	Space required W	Space required H	Dimensions (mm) A	Dimensions (mm) B	Dimensions (mm) C	Dimensions (mm) D	Weight (Kg)	Daily Compost output in kgs	Dewatering system	Shredder	Loaded power (HP)
BIOCHEST OWC-100B	100	0.65	3250	2200	2500	2300	900	1500	800	700	35	100 kg/hr	100 kg/hr	7
BIOCHEST OWC-250B	250	1.66	3500	2500	2500	2750	1200	1700	1100	800	87.5	200 Kg/hr	250 kg/hr	11
BIOCHEST OWC-500B	500	2.98	4250	2800	3250	3250	1400	2000	1300	1000	175	500 Kg/hr	250 Kg/hr	15
BIOCHEST - 750B	750	4.41	4500	3000	3500	3500	1600	2100	1500	1750	262.5	500 Kg/hr	500 Kg/hr	20
BIOCHEST OWC - 1000B	1000	6.23	4750	3250	3750	3750	1800	2200	1700	2000	350	500 Kg/hr	500 Kg/hr	20

All the values and dimensions in the table were subjected to changeA-Automatic agitation A- Length, B – Breadth, C – Height, D – cylinder Dia

Salient features of Biochest compared to other systems

Machine	Disadvantage in other makes	Advantages in Biochest
Mfg 1 & Mfg 2	No time, microbes and oxygen (air) provided in this system - So it is not a composting system	We are adding microbes, providing aeration through blowers and providing enough time for the microbes to do their work. In our reactor we are providing all the required biotic and abiotic factors required for the microbes to work.
	Depends on the heating element	No heating element, The Microbes present, themselves will produce the heat required naturally
	Just charring the waste into black coloured char by heating	Waste are not charred artificially, they are composted by the microbes naturally by the process of aerobic composting
	No nutrient value in the charred material	Very high nutrient value, with more amount of readily available nitrogen for plants
	Power intensive, has it needs enormous heating load	Less power intensive, as there is no heating element
	Cannot be used as a fertilizer	Can be used as High quality organic fertilizer
	Its is not a composting reactor, just a mixer	**Biochest is a composting reactor.** We are adding microbes, providing aeration through blowers and providing enough time for the microbes to do their work. In our reactor we are providing all the required biotic and abiotic factors required for the microbes to work (Composting).
	Needs larger area for curing	No large area needed, only limited space needed for storage bins
	Needs very expensive supporting infrastructure	Very limited space and infrastructure is needed for the Reactor and the storage bins
	No provision provided to control odour and obnoxious gases produced during composting or mixing process	Our reactor has an inbuilt Biofilter, which removes all the odour and scrubs the obnoxious gases produced during composting or mixing process. **Our system is Odour free**
	Dangerous gases like SO2 are not scrubbed, will lead to health issue	The biofilter will scrub all the obnoxious gases like SO2 produced during the composting process. And releases only the odour free gases out
	Laborious, needs more labour	Less laborious, since **the reactor automatically operates and produces compost**

Composting process in Biochest 25 A – Demo Machine

Input – 25kg (10 kg vegetable and fruit waste + 12.5 Kg Food waste + 2.5 Lg dry waste) Daily

Day 1

Day 2

In Vessel

Outside

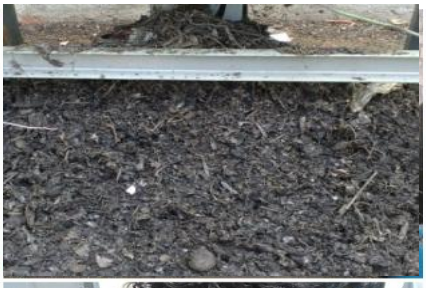
Day 7

In Vessel

Outside

Day 15

Day 22



When we throw anything away, it must go somewhere

Let it be Earth, but Via Biochest

To make wonders with waste

Our Success stories

Belivers Church Hospital Cochin, BIOCHEST OWC250 A – 2Nos

Comfit Composite Knit Ltd Bangladesh, BIOCHEST OCW600 A

Municipal Corporation, Tirupathi BIOCHEST OCW500 A – 2 Nos

Our Demo Machine BIOCHEST OWC25

Kabaleeswarar Temple Chennai, BIOCHEST OWC250 A

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