



MANUFACTURER AND OEM's SALES ASSOCIATES FOR

FOOD WASTE COMPOSTING MACHINE

GREEN WASTE COMPOSTING MACHINE

ORGANIC WASTE COMPOSTING MACHINE

STP, ETP, WWTP FOR SOCIETY, HOTEL & RESTURANT, INDUSTRIAL

About us

We, RaiEco Systems and Management are one of the leading associates of well renowned and well reputed brand dealing in a Wet Waste Management System. Our Unique Design & Technology makes us the most advanced solution provider for your Waste Management needs, with Highest Grade of Material and State of the Art Automation Systems used in its manufacturing.

Our Machines are fully automated system to manage your Wet/Organic/Food/Garden Waste at site through the most labour free, energy efficient, and space efficient process.

Our Expertise

- ▶ With RaiEco, we help you manage your wet waste in an Efficient, Economical, Eco-Friendly and Easy manner.
- ▶ Fully equipped manufacturing facility in our Associates Plant
- ▶ Qualified design team, quality controllers and electrical and mechanical engineers
- ▶ Service assistance across India
- ▶ Customized solutions and installation and post installation support and training
- ▶ Waste Audit and Segregation Training
- ▶ Instant Online Support

Solid Waste Management

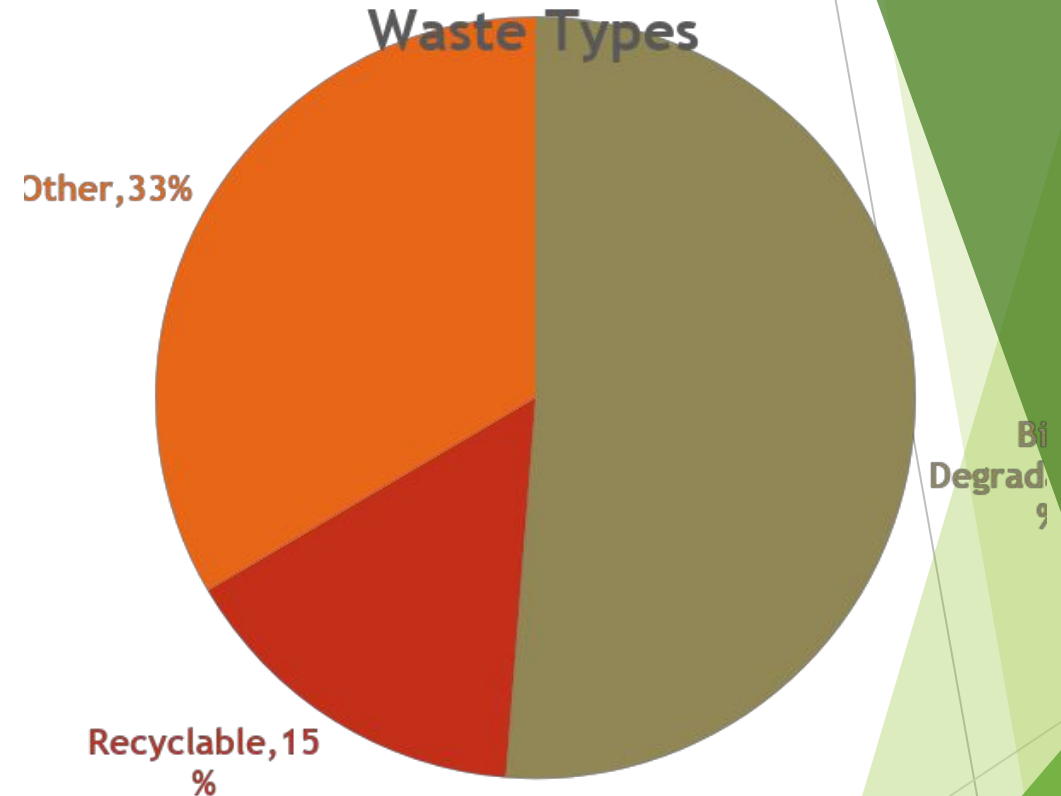
According to Britannica, *“Solid-waste management, the collecting, treating, and disposing of solid material that is discarded because it has served its purpose or is no longer useful. Improper disposal of municipal solid waste can create unsanitary conditions, and these conditions in turn can lead to pollution of the environment and to outbreaks of vector-borne disease—that is, diseases spread by rodents and insects.”*

Solid Waste can be divided into two categories:

- ▶ **Organic Waste:** This is the major share of the waste and includes residual food waste, animal waste, plants and naturally generated waste materials
- ▶ **Inorganic Waste:** This refers to artificial/man-made waste including plastics, metals, clothing, paper, rubber, glass etc.

The Need

- ▶ Waste is directly picked up and dumped at landfill sites
- ▶ No segregation of waste at source
- ▶ No scientific separation or segregation or processing of the waste at the landfills
- ▶ Harmful gases and ground water pollution due to leachate flow into the ground
- ▶ Frequent fires causing environmental disasters



Almost 70% of all Waste is recyclable or compostable. Out of this India currently recycles less than 30%, this too through unorganized channels.

Need of the hour: Segregation and Processing at Source!

Municipal Solid Waste Management Rules

- ▶ In view of notification of government of India regarding Environment, Forest and climate change dated 08.04.2016, the Municipal Solid Waste Management Rules, 2016 came into existence
- ▶ As per the provision of those rules, “waste generator” means and includes every person or groups. Every residential premises and non residential establishments including Indian Railways, Defence Establishments, which generate Solid waste; As per rule 4 of the aforesaid Municipal Solid Waste Management Rules and in conjunction with the section 368 r/w section 471 of Municipal Corporation Act, 1888, (M.M.C, Act), it is incumbent on the owner / occupier / waste generator to cause all dust, ashes, refuse, rubbish and trade refuse to be collected from their respective premises or cause to finally dispose off the aforesaid waste in the manner prescribed by this notice in the receptacle, depot or place provided or appointed u/sec.367 of M.M.C act within your premises

Available Waste Management Systems

- ▶ Collection and Dumping
- ▶ Pit Composting/ Vermi Composting
- ▶ Bio Gas/ Bio Methanation
- ▶ Incinerators

Available Waste Management Systems: Collection and Dumping

Process:

- ▶ Waste is collected by Sweepers and transported manually to a common collection point
- ▶ Dumper trucks/ Compactors pick up the waste manually
- ▶ Waste directly dumped in landfill

Issues:

- ▶ Complete waste of precious Organic matter
- ▶ Leads to methane generation causing health problems and fires



Available Waste Management Systems:

Pit Composting

Process:

- Waste is collected by Sweepers and dumped in Common Collection Pit
- Some Garden waste and Bio culture is added
- Waste converts to compost in 4-6 months

Issues:

- Huge space required to store waste of 4-6 months
- Intense Odour
- Attracts Flies, Rats, Stray Animals
- Not viable on Large Scale



Available Waste Management Systems: Bio Gas / Bio Methanation

Process:

- ▶ Waste is shredded and stored in special containers along with bio culture for a period of 15-30 days
- ▶ Methane generated is stored in tanks for use as fuel
- ▶ Remaining Slurry is passed through dewatering press to get a solid organic bye-product

Issues:

- ▶ Large Space required. Approx. 2,000 sq.ft. per ton of waste
- ▶ Fire hazard as methane is extremely flammable
- ▶ Serious Health hazard if there is any leakage of methane generated
- ▶ Labour Intensive as waste has to be shredded before feeding in the methanation plant. Slurry has to manually passed through dewatering press
- ▶ Shredder and dewatering press attract flies and insects causing a health hazard
- ▶ Liquid bye product has to be drained out



Available Waste Management Systems:

Waste Incinerators

Process:

- ▶ Waste is burned at high temperatures
- ▶ Ash end product generated

Issues:

- ▶ Causes air pollution
- ▶ Fire hazard as incineration performed at high temperature
- ▶ Dedicated operators required
- ▶ Ash generated is of no use
- ▶ Not acceptable under most Municipal rules

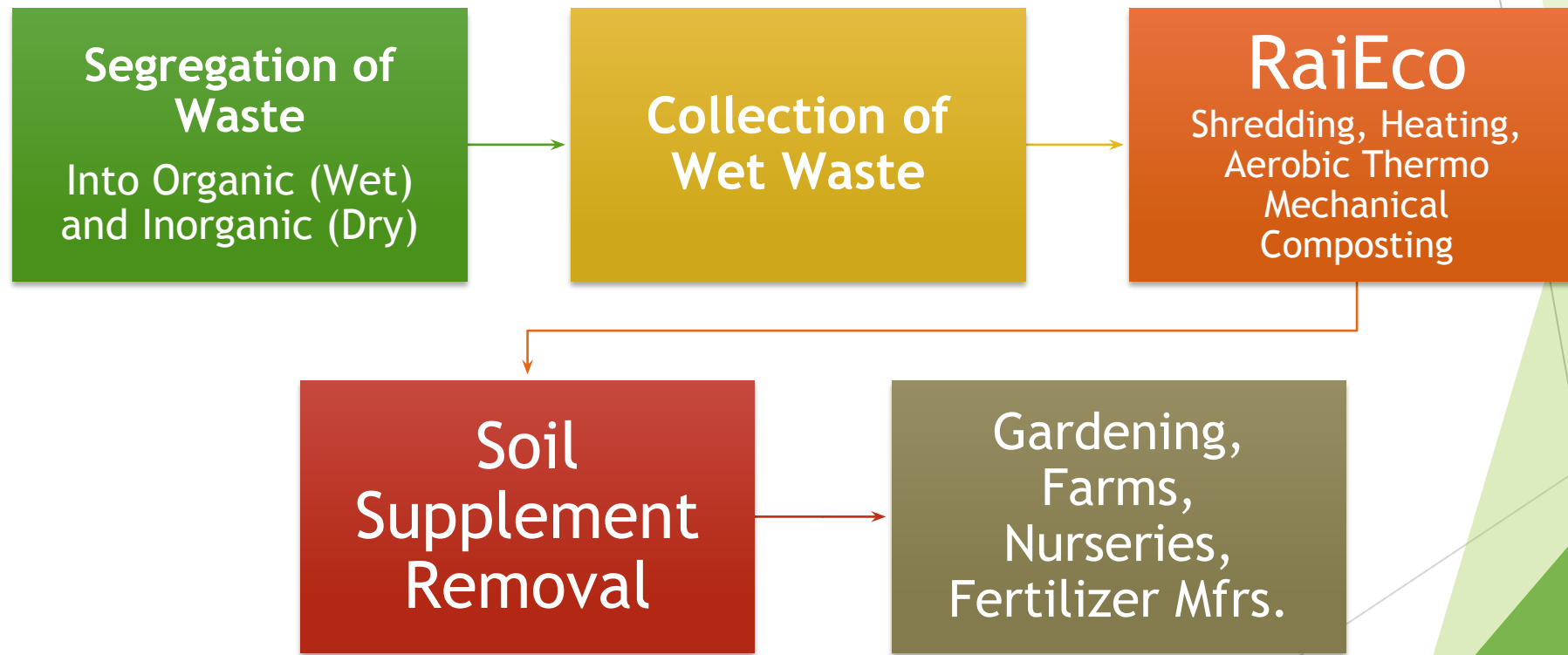


The Solution: RaiEco

India's Most Advanced Organic Waste Converter

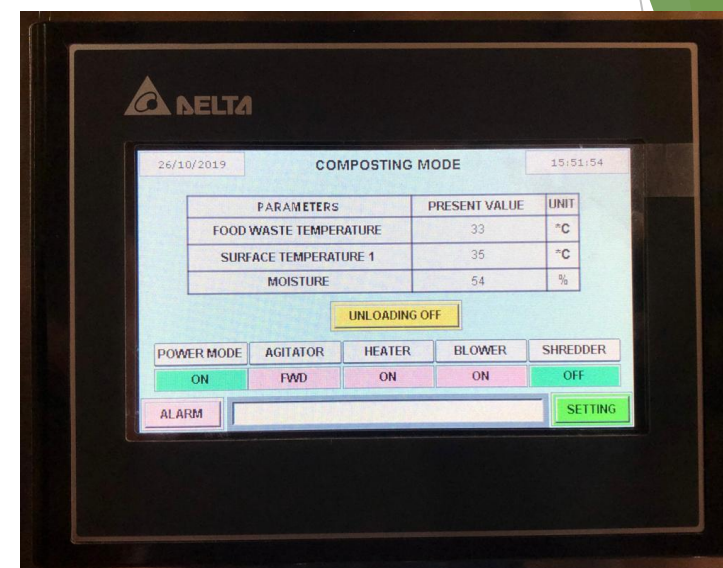


How it Works



Highlights & USPs

- ❖ 'Feed & Forget' Conversion solution
- ❖ Waste to Soil Amendment within 24 hours
- ❖ Inbuilt Shredder with 4140 alloy blades
- ❖ All wet contact points in **100% Stainless Steel 304 Grade**
- ❖ Fully Automatic Process, No full-time Labour required
- ❖ **Dual Inlet:** Primary through Shredder, Secondary direct inlet for liquids and operation
- ❖ **PLC Based Touch Screen HMI Interface**
- ❖ **Moisture Sensors** and Power Saving mode
- ❖ **Unique Coupling Design** to ensure No Damage to Shaft or Paddles
- ❖ Insulated Jacket Heating to ensure Minimum heat loss and Maximum efficiency
- ❖ No Curing required. No Odour. No Burning.
- ❖ Volume Reduction of 80-90%
- ❖ Compact and Mobile machine
- ❖ **Triple Zone Temperature Sensors**
- ❖ Available in Both Partial Stainless Steel and Full Stainless Steel variants



Why In-Built Shredder?

Shredding is an essential part of the conversion process. Non shredded waste leads to Soil supplement which is:

- ▶ Lumpy
- ▶ Non pliable
- ▶ Difficult to mix with soil
- ▶ Low Water Retention



Non-Shredded



Shredded

Why In-Built Shredder?

Advantages of In-Built Shredder:

- ✓ Single point feeding - 'Feed & Forget' system
- ✓ Significant Power Savings
- ✓ No Odour
- ✓ No Pests
- ✓ No Pathogens
- ✓ Enhanced Safety
- ✓ Cost Efficiency
- ✓ No separate shredding required
- ✓ Clean Surroundings



EB Fully Automatic Models

Model	Waste Capacity per Day (kgs)	Dimensions (LxWxH feet)	Power Rating (kW)
RaiEco-EB-25	25	4.5 x 2.6 x 3.5	3.2
RaiEco-EB-50	50	5 x 3 x 4	4
RaiEco-EB-75	75	7 x 3 x 4.5	4.7
RaiEco-EB-100	100	7.3 x 3 x 4.5	6.5
RaiEco-EB-150	150	8 x 3.2 x 5	8.3
RaiEco-EB-250	250	9.5 x 3.3 x 5	11
RaiEco-EB-500	500	12 x 3.5 x 6	17
RaiEco-EB-750	750	14.5 x 4 x 6.5	24
RaiEco-EB-1000	1000	15 x 4.2 x 6.7	31
RaiEco-EB-1500	1500	17.5 x 4.8 x 7	36
RaiEco-EB-2000	2000	18.5 x 5 x 7.4	50

Note: All models available in Full or Partial Stainless Steel. Dimensions maybe customized as per requirement

The RaiEco Advantage

	RaiEco EB Fully Auto	Other Automatic OWC	Semi-Automatic OWC	Pit/Vermi Composting
Size/Area	Compact	Medium	Large Area for Curing	Very Large area for Pits
In-Built Shredder	Yes, with 4140 Alloy blades	✗	✗	✗
Manpower	One Unskilled Worker required part time	One Worker Required for Shredding	Multiple Skilled Workers Required	Multiple Skilled Workers Required
Power Consumption	Medium	Very High	Low	No
Odour	Odour removed into Sewage line	Odorous due to longer process time	Highly odorous	Highly Odorous
Investment	Medium	High	Medium	Low
Process Time	24 hours	4-7 days	20-25 days	90-180 days
Sawdust	Not required	Maybe required	Essential	Essential
Maintenance	Negligible Maintenance	High Maintenance due to frequent Shaft damage	High maintenance due to frequent chopper damage	Regular turning required

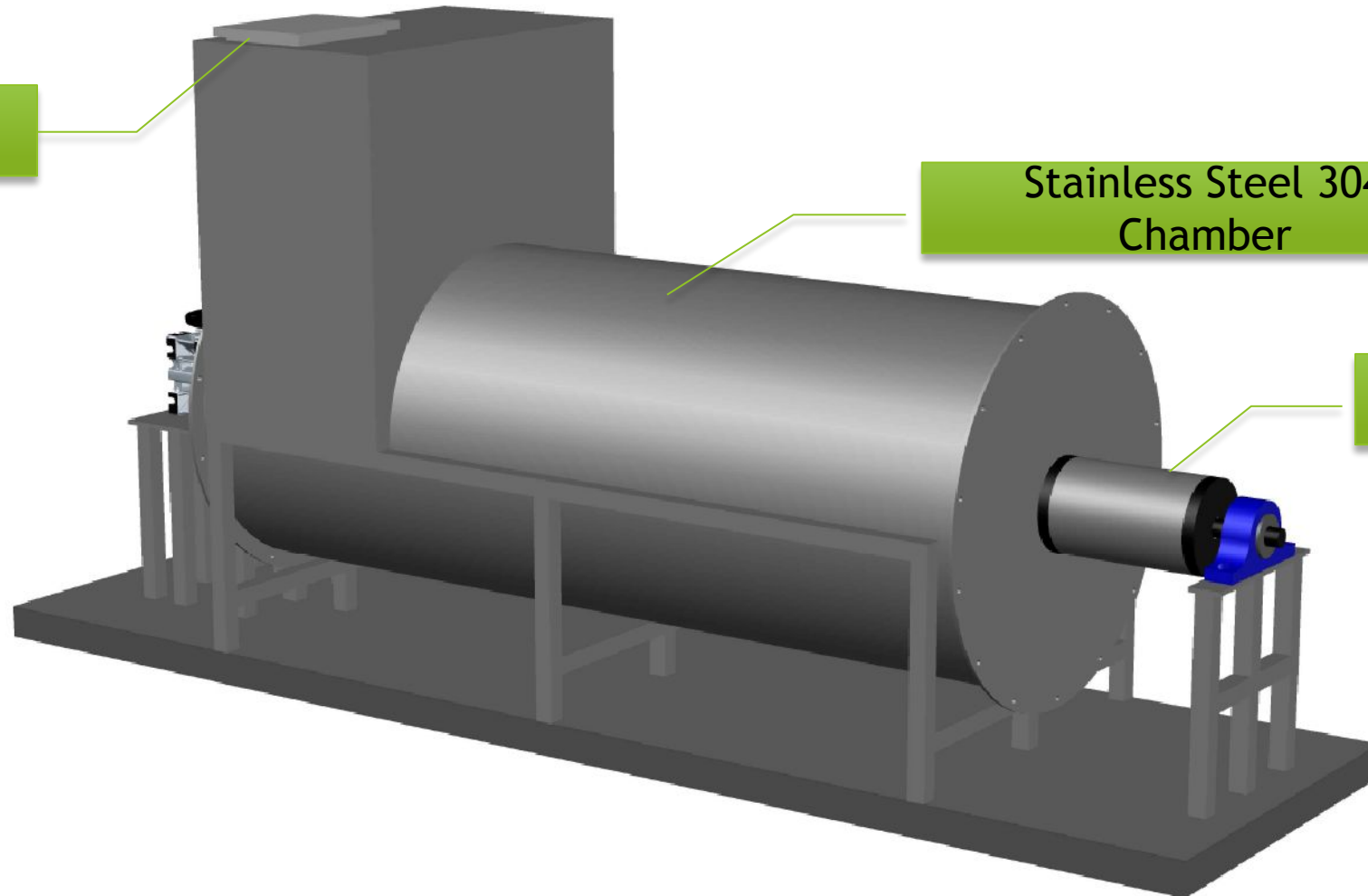
Option 2: RaiEco IVNC

India's Most Advanced In Vessel Natural Composter

Inbuilt Shredder

Stainless Steel 304
Chamber

Compost Outlet



RaiEco IVNC

Highlights and USPs

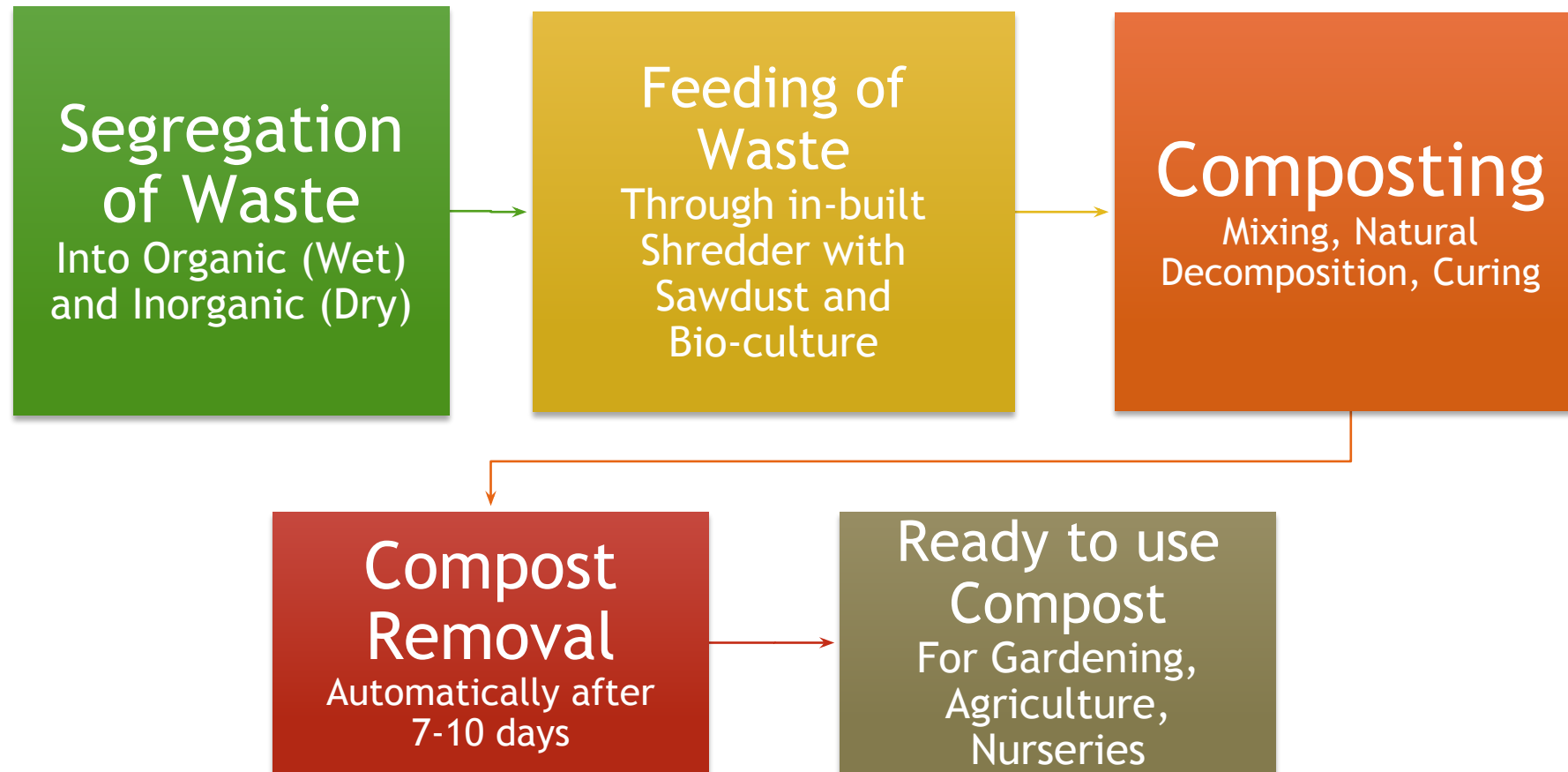
- ❖ **‘Feed & Forget’** Conversion solution
- ❖ Waste to Compost in 7-10 days
- ❖ **Inbuilt Shredder with 4140 alloy blades**
- ❖ All wet contact points in **100% Stainless Steel 304 Grade**
- ❖ Fully Automatic Process, No full-time Labour required
- ❖ **Dual Inlet:** Primary through Shredder, Secondary direct inlet for liquids and operation
- ❖ **PLC Based Touch Screen HMI Interface in Select Models**
- ❖ **Unique Coupling Design** to ensure No Damage to Shaft or Paddles
- ❖ **No Heating Required, Completely Natural composting** with the help of Bio-culture
- ❖ Curing within the vessel. No separate Racks required
- ❖ Volume Reduction of 70-80%
- ❖ **Optional Temperature Sensors**
- ❖ **High Quality Nutrition Rich Compost Produced**
- ❖ **Lowest Power Consumption per Kg of Waste processed**

RaiEco IVNC Models

Model	Waste Capacity per Day (kgs)	Dimensions (LxWxH feet)
RaiEco-EB-IVNC50	50	9 x 3 x 5
RaiEco-EB-IVNC100	100	14.5 x 3.3 x 5.2
RaiEco-EB-IVNC200	200	16 x 4.2 x 6.5
RaiEco-EB-IVNC300	300	19 x 5 x 6.5
RaiEco-EB-IVNC500	500	21 x 5.2 x 7
RaiEco-EB-IVNC750	750	26 x 6 x 8.2
RaiEco-EB-IVNC1000	1000	30 x 6 x 8.6
RaiEco-EB-IVNC1250	1250	42 x 6 x 8.6
RaiEco-EB-IVNC1500	1500	50 x 6 x 8.6

Note: Dimensions may vary due to continuous improvements and upgradations

RaiEco IVNC Process



What can be Treated

Can be Processed

- ✓ Vegetable & fruit peels
- ✓ Meat, Poultry & Fish waste
- ✓ Leftover food
- ✓ Bakery items
- ✓ Egg shells
- ✓ Compostable plastic items
- ✓ Flowers & Household plants
- ✓ Fast food
- ✓ Agricultural waste
- ✓ Leaves & Garden Waste
- ✓ Cattle and Horse Manure

Cannot be Processed

- ❑ Plastic products
- ❑ Glass products
- ❑ Metals
- ❑ Electronics
- ❑ Hard substances
- ❑ Medical & chemical waste
- ❑ Hard bones
- ❑ Coconut Shells & Branches
- ❑ Paper products

Soil Supplement Quality

Quality:

- ▶ Fine, Easy to mix compost soil supplement
- ▶ Dark Brown in Colour
- ▶ Crumbly, loose, humus like
- ▶ Earthy smell, Almost odourless
- ▶ No visibly recognizable material

Uses:

The Compost generated by RaiEco is a rich soil supplement with high water retention capacity. It should be mixed with soil in 1:10 ratio for direct use as follows:

- ▶ In house Gardening as Soil Amendment
- ▶ Sold to Local Gardens and Nurseries for further enhancement
- ▶ Sold to Neighbouring Farms
- ▶ Sold to large Fertilizer manufacturers
- ▶ Supplied to neighbouring buildings

Applications

RaiEco is ideal for any Institution/Establishment generating over 20 kgs. wet waste per day including:

- ▶ Residential apartment & complexes
- ▶ Hotels & Resorts
- ▶ Restaurants & Cafeterias
- ▶ Municipal markets
- ▶ Malls & Commercial complexes
- ▶ Hospitals
- ▶ Schools and Colleges
- ▶ Local bodies & Gram Panchayats
- ▶ Farms and Farm Houses
- ▶ Sport clubs & Gymkhanas
- ▶ Temples and other Religious institutions



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