Agitated, Aerated Bay In-Vessel Composting Systems (ICS)

Minimum Space and Energy Consumption with Maximum Odor Control and Compost Quality
Agitated Bay, In-Vessel Composting System (ICS)

The **POWER** of **TWO**.

BDP has been manufacturing in-vessel compost agitators and composting-related equipment since 1986 with over 100 compost agitators manufactured.

BDP has formed a strategic partnership with BacTee Systems who has a long history and expertise in aeration, ventilation and odor control system design.

Together offering turnkey design and manufacture of complete custom in-vessel composting systems (ICS) and biodrying systems for all markets and applications.

In order to be a long term successful operation, a compost facility needs to be designed with a holistic approach front to back.

**It must provide:**
- A cost effective organic waste/by product disposal solution in the front
- Space and energy efficiency with complete odor containment and treatment in the middle
- A consistent, premium, homogenous marketable compost product out the back year round

**Time and Space**

The combination of frequent agitation and forced aeration, inherent in the ICS technology, results in the fastest time to compost stability of any compost technology.

Time equates to space in composting, thus The ICS technology also requires the smallest foot print required to achieve a stable end product.
Key ICS Features and Advantages

**Agitated Bays**

The daily agitation process enhances the natural composting process in a number of ways a static compost process cannot:

- Ensures consistent porous, aerobic conditions allowing for the widest range of infeed materials
- Alleviates the need for thorough pre-mixing of infeed materials by repeatedly mixing the material such that the microbes have access to key C, N, etc… sources as well as homogenizing the end product
- Automatically does all material handling while the compost material is in the 20-30 day active compost phase removing the need for loaders and labor to manually do the same

**Odor Containment and Control**

**Odor issues resolved.** The unique combination of negatively aerated compost bays and a fully enclosed, negative pressure building maximizes the ability to capture noxious odors for a clean and healthful facility. These odors are discharged to an odor control system designed around a low-cost natural biofilter with optional chemical scrubbing.

**Heating, Ventilation and Aeration Integration/Optimization**

Aeration and Ventilation equipment is the largest utility demand in any enclosed compost facility. Integrating the design of these systems, via negative compost aeration, allows for energy optimization of both. Further, this integration allows for the option of a waste heat recovery system for cold climate areas.

**Forced Aeration**

Forced aeration of the compost material ensures aerobic conditions and proper temperatures are maintained as well as greatly enhancing moisture removal from the compost material. Each bay is divided into multiple aeration zones, each with a dedicated temperature sensor that interfaces with the facility control system. The bays can be configured to use either Negative or Positive aeration as best fits the application.
Facility Monitoring and Control System

Proper integration of all of the above ICS design features is critical for a successful composting operation. We provide a comprehensive Sequential Control and Data Acquisition (SCADA) system designed to monitor and control all portions of the facility equipment as well as to generate key process related reports.

Capacity and Applications

There is no theoretical limitation on the capacity of the technology. Bay quantity is increased or decreased to match capacity. As to applications, if the material cannot be composted in the ICS technology it cannot be composted. This technology is currently being used to compost:

- Food Waste
- Biosolids/WWTP Sludge
- Animal Manures and Bedding
- Solid Waste
- Wood Waste
- Green Waste

ICS Composting, MBT & Biodrying Systems

Installations Using BDP/BacTee Technology from 20 – 2000 tons per day

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