



CompoFlex™

The affordable composting system
for organic residue and municipal waste

Description

Organic waste can be viewed as either a hazard or an asset, which depends primarily on the treatment method selected. For solid waste, aerobic biological treatment is the most feasible option. Composting is not only a way of treating organic waste, but is also a vital step in the creation of a saleable product with agricultural benefits. Composting recycles nutrients back to the agricultural soil from which these nutrients ultimately originated.

The CompoFlex™ falls into the generic category of "in-vessel" composting. This process is optimised automatically by the ControLogic™ system that allows "hands-off" operation and instantaneous monitoring of the unit's performance, including spot checks of operating temperature, and moisture content. The ControLogic™ system automatically controls conditions within each CompoFlex™ treatment cell ("bay") to assure the compost goes through a thermophilic stage, i.e. reaches a temperature between 60 °C and 70 °C. A thermophilic process ensures that the final product - NutriPlenish® compost - is free of all weed seeds, nematodes, and any pathogens associated with organic waste materials. ControLogic™ does not apply external heat to the compost, but rather regulates moisture and air flow at each stage of the composting process to meet ideal physical conditions for the biomass. Composting is not a steady-state process, and ControLogic™ is unique in that it can automatically adjust conditions from start to finish in the process, thereby requiring an absolute minimum of human input.

The completely closed units use a negative-pressure aeration method that draws the air through the composting pile, rather than pushing air through. Exhaust air is then mainly recycled into the composting operation for the control of moisture, temperature, and oxygen content, and a partial stream is blown out through an active biofilter. By using negative pressure aeration, and blowing the excess air out through a biofilter, OSORNO can achieve complete odour control that other systems cannot provide.

CompoFlex™



Municipal solid waste (MSW) shown in the top picture was the feed material in a demonstration project of the CompoFlex™ technology in North Dakota.

The lower picture shows the comparison between NutriPlenish® compost (dark brown, no weeds) and low-tech compost. The low-tech is not a hygienic material, which does contain weed seeds, and, it has less value as soil amendment.

NutriPlenish® Premium Compost

Unique Features

- The ControlLogic™ system provides automated monitoring of the operation.
- The operating requirements are electronically determined, and power consumption of the blower depends on the actual load conditions.
- Low maintenance expenses.
- Superior treatment quality.
- Premium compost after nominally 12 days of treatment.

Applications

Organic waste with up to 60% water content can be composted with the CompoFlex™ treatment process.

Installation

The CompoFlex™ composting facility is custom-designed based on pre-engineered groups and modules. OSORNO is prepared to build a CompoFlex™ composting facility as a design-build project, as a design-build-own-operate project, or, in a close working relationship with the engineering firm and the general contractor selected by the client.

Lifetime

A CompoFlex™ composting facility has a lifetime expectancy of more than 20 years.

Maintenance

A maintenance or operation agreement with OSORNO is recommended.

Ordering Information

Please request our concept proposal for your application.

OSORNO

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