NEW!

Big Dutchman®

CompoLiner

Composting dry poultry excrement, broiler manure or separated pig slurry – fast and fully automatically

CompoLiner

A complete system that comes ready to be connected

CompoLiner is an innovative composting system newly developed by Big Dutchman with the following benefits:

- easy handling;
- guided, fully automatic process control;
- easy adaptability to the amount of material to be composted;
- quick and easy installation.

During the composting process, micro-organisms degrade organic material such as dry poultry excrement, broiler manure or separated slurry in an aerobic environment. The dry matter content should be at least 30 percent. The final product is compost: a valuable, organic fertiliser that has good plant availability and that can be used for general soil improvement in horticulture and agriculture. It can also be pelletised. Let our experts advise you on how to best meet your individual needs.

CompoLiner – view of the filling side and the maintenance position of the lane turner

How CompoLiner works

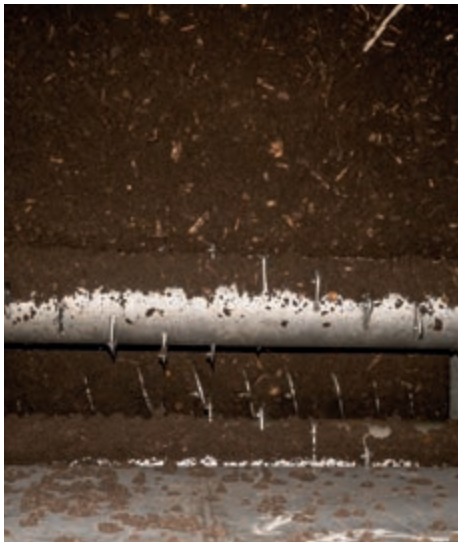
An automatic conveying system or a wheel loader transports the input material to the filling side. The lane turner ensures that the input material is milled, homogenised and conveyed to the discharging auger. The lane turner can move freely along the entire system length. A specially developed aerated floor is responsible for the directed supply of oxygen. A compressor continuously guides the fresh air and thus the oxygen required for degradation into the material. Temperature and oxygen content in the compost are permanently measured by a sensor. The composting process therefore automatically takes place under ideal oxygen and temperature conditions. After a specific storage period that depends on the composted material, an auger discharges the compost at the other end of the container.

Filling side and parking position of the lane turner

View from below of the lane turner in its parking position – easy maintenance

A compressor forces fresh air into the material to be composted

A lane turner mills and homogenises the material



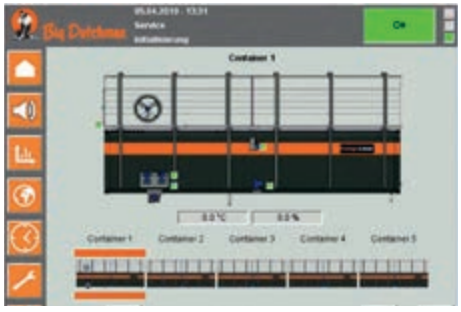
A cross conveying auger removes the finished compost

Control cabinet for fully automatic control

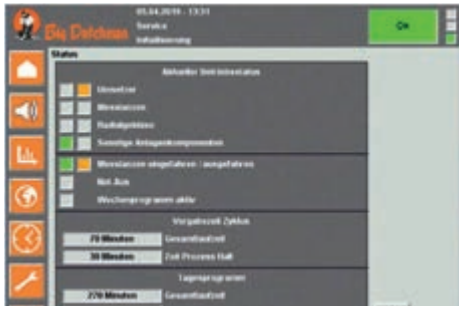
Control

The composting process in CompoLiner is of course fully automatic. An important factor is the directed supply of atmospheric oxygen, which the microorganisms need to degrade the organic material. In combination with the actions of the lane turner, the decomposing material is turned into compost. Sensors continuously determine the temperature and the oxygen concentration in the decomposing material. This ensures that conditions are always perfect for a continuous composting process.

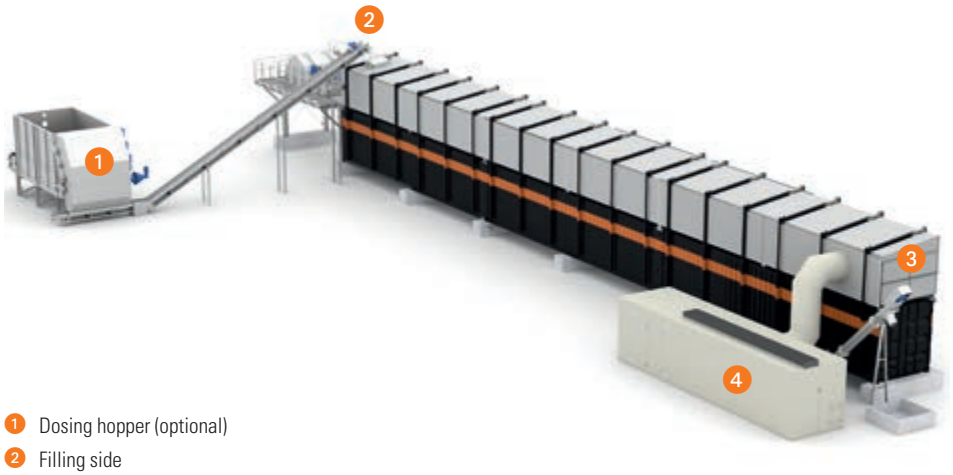
Lane turner with current position of the milling drum



Display of the individual CompoLiner modules



Display of important system status information



1. Dosing hopper (optional)
2. Filling side
3. Discharge of the compost by conveying auger
4. Exhaust air cleaner (optional)

Features

- ✔ modular design: the basic version consists of two 40-foot containers that also serve as end sets;
- ✔ up to six additional 40-foot containers can be installed between the end sets for a total capacity between 80 and 360 m³ and approx. 50,000 up to 200,000 layers;
- ✔ a control cabinet in the rear end set controls the system;
- ✔ good resistance to corrosion because the entire system's interior is lined with stainless steel;
- ✔ emissions are extracted centrally, use of an exhaust air cleaner is recommended.

Use of an exhaust air cleaner for significant emission reductions

Since emissions (dust, ammonia, odour) are normal by-products of the composting process, the use of an exhaust air cleaner is recommended in certain locations. The chemical exhaust air cleaner developed specifically for CompoLiner is ready to be connected, keeping installation requirements to an absolute minimum. The cleaner is supplied in a 40-foot high-cube container or mounted on a truck. All required technology is already installed in this container; even the acid container can be stored there.

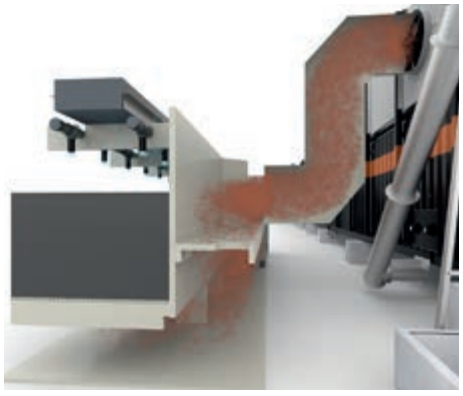
View of the CompoLiner exhaust air cleaner as a complete system ready to be connected

Advantages of the exhaust air cleaner

- ✔ high cleaning performance: more than 90 % of ammonia and more than 70 % of dust;
- ✔ complete system that is ready to be connected: low installation requirements and costs;
- ✔ fully automatic process control;
- ✔ delivery in a 40-foot container;
- ✔ individual placement: connection through a duct of the correct size.

How the chemical exhaust air cleaner works

A fan on the discharge side of CompoLiner forces the exhaust air through a duct and into the centre of the cleaner. Here, the exhaust air flows through a distribution chamber and evenly along the entire cleaner, and then from the bottom to the top through a large filter package consisting of honeycombs made of plastic. Water containing sulfuric acid is sprinkled onto this filter package from above. This binds dust, ammonia and odourous substances. The process water recirculates until it reaches a certain level of pollution. A sensor that measures the conductivity checks the nitrogen content in the process water. From a specific concentration, part of the process water is drained into a waste water tank and replaced by fresh water. The pH value of the process water is also checked and controlled automatically. A droplet separator closes the cleaner at the top and stops aerosols from leaving the cleaner.



View into the distribution chamber that ensures even distribution of the exhaust air

View of the CompoLiner exhaust air cleaner, including technical room and acid store

Big Dutchman

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