



NEW!

Big Dutchman®



CompoTower

Vertical enclosed high-quality composter
for poultry excrement, broiler manure and separated slurry
— simple and fast —

CompoTower

A complete and compact system that comes ready to be connected and saves space

CompoTower is an innovative composting system that consists of a vertical enclosed stainless steel tank and requires very little space. CompoTower is characterised by the following main features:

- easy handling;
- short residence times;
- easy and fast commissioning.

During the composting process, micro-organisms degrade organic material such as dry poultry excrement, broiler manure or separated slurry in an aerobic environment. The higher the dry matter (DM) content of the input material, the shorter the material's residence time in CompoTower. The final product is 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 give you comprehensive advice on CompoTower.

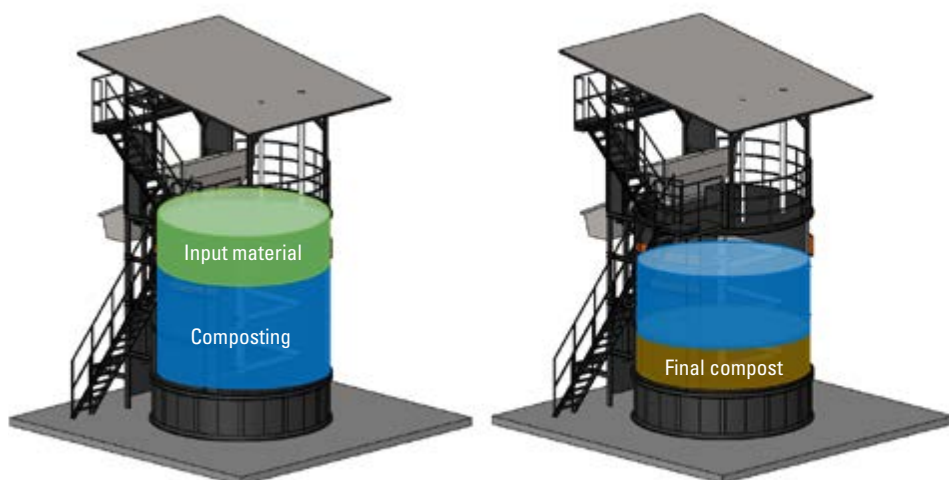


CompoTower with connected air scrubber

Advantages

- ✓ continuous composting process;
- ✓ short residence time in the tank;
- ✓ compact design with a high input capacity;
- ✓ very stable and robust construction;
- ✓ high-quality materials with a long service life;
- ✓ outdoor use with low space requirements (5 x 6 m bottom plate, without air scrubber);
- ✓ easy adjustment to the farm layout;
- ✓ insulated tank with stainless steel inner walls;
- ✓ stainless steel loading bucket;
- ✓ enclosed system that produces little odour and dust;
- ✓ optional connection of an air scrubber.

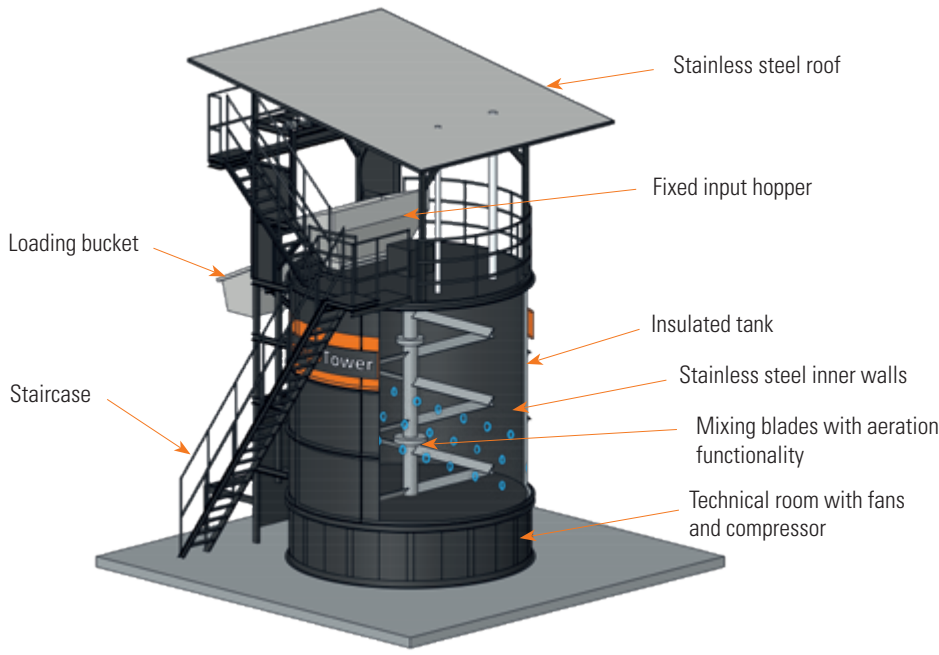
Continuous composting process



The residence time and the composted amount depend on the type and dry matter content of the input material. The drier the material, the faster it is composted. The following values can be reached (layer manure as an example):

DM content (%)	Process time in days	Capacity t/day
25	14–15	4
30	12	4.5–5
35	9	6.5
40	7	7.5
45	4–5	9

Structure and functional principle



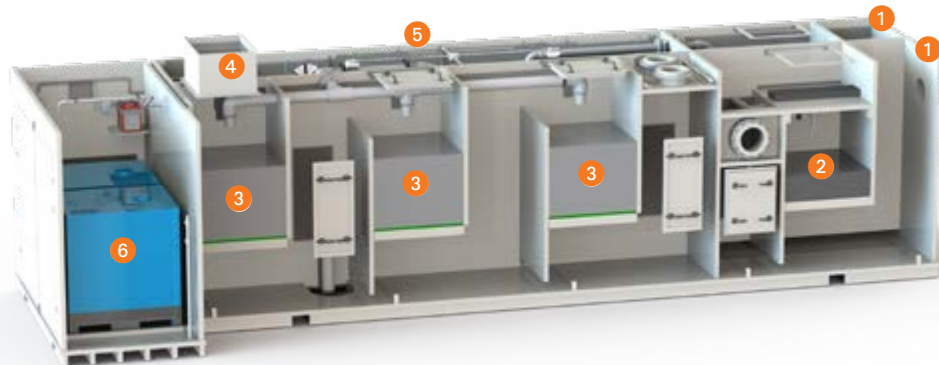
The loading bucket fills the input material into the fixed input hopper at the top of the CompoTower system. From here, the material drops into the tank and is chopped by the mixing blades as well as homogenised and aerated. Oxygen supply is guaranteed by a special aerated floor. A compressor continuously guides the fresh air, and thus the oxygen required for degradation, into the material. This starts the composting process. Sensors continuously measure the temperature in the compost. After a specific residence time that depends on the material to be composted and its dry matter content, the compost can be removed from the lower part of CompoTower using a stainless steel slide.

Use of a two-stage air scrubber for significant emission reductions

Since emissions (dust, ammonia, odour) are usually normal by-products of the composting process, the use of an air scrubber is recommended in certain locations. One scrubber can clean the exhaust air from two

CompoTower systems. The chemical air scrubber developed specifically for CompoTower comes ready to be connected, keeping installation requirements to an absolute minimum.

The scrubber 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.



Dimensions (L x W x H): 5.5 x 2.24 x 2.55 m

Advantages

- ✓ high separation rates: more than 99 % of ammonia and more than 90 % of dust;
- ✓ one scrubber for two CompoTower systems;
- ✓ complete system that is ready to be connected: low installation requirements and costs;
- ✓ fully automatic control of the scrubber;
- ✓ delivery in a 40-foot container;
- ✓ individual placement: connection through ducts of the correct size.

How the chemical air scrubber works

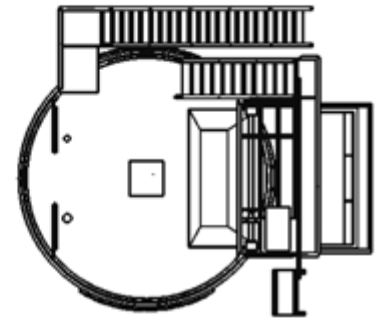
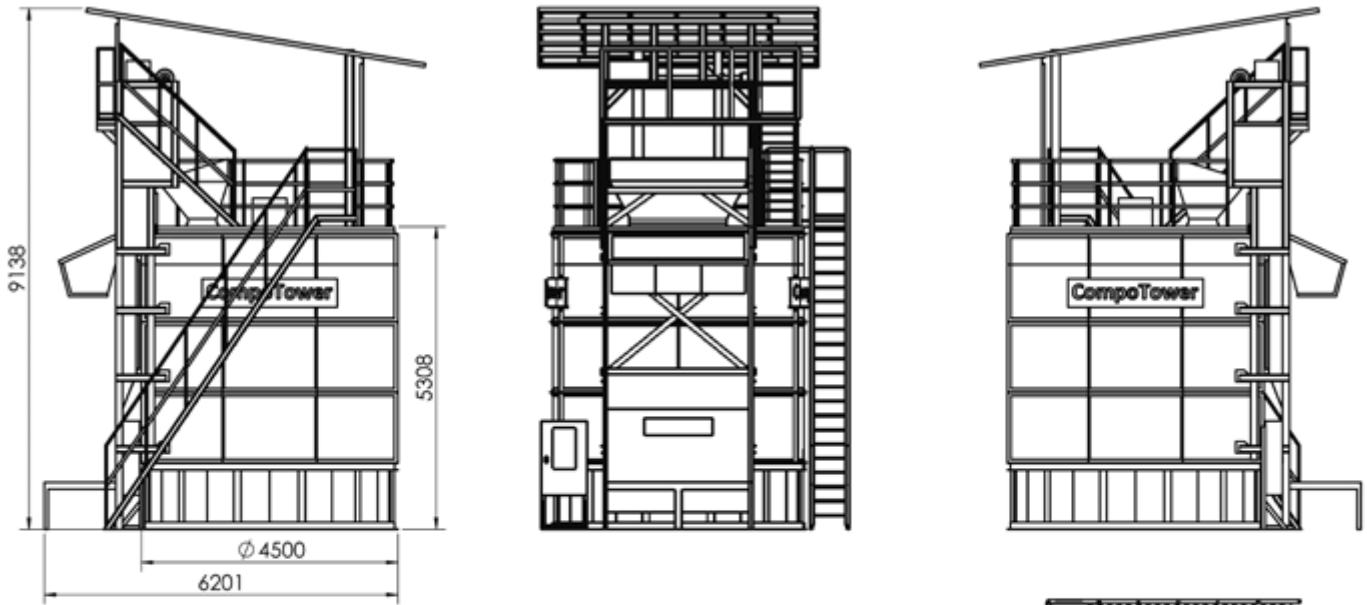
The exhaust air and some surrounding air are drawn into the scrubber (effect of dilution) through two ducts in the gable (for two CompoTower) ①. This air mixture then flows through a filter package consisting of hexagonal plastic cells ②. The filter package is sprayed with water from above for dust separation. The now pre-cleaned air flows through three more filter packages ③ to separate ammonia. Water containing sulfuric

acid is sprinkled onto these filter packages from above, binding mainly ammonia but also odorous substances. The process water recirculates until its contamination reaches a certain level. A sensor that measures the conductivity checks the nitrogen content in the process water. On reaching a specific concentration, some 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 ④ closes the scrubber at the top.

The entire control system is installed in the technical room ⑤. A room for the acid container ⑥ is also included upon delivery.

Technical data of CompoTower



Tank volume	m ³	66
Bucket volume	m ³	1.0
Total weight	t	20
Voltage	V	400 (3-phase, 50 Hz) 380 (3-phase, 60 Hz)
Energy consumption	kW/h	22.0 (50 Hz) / 19.4 (60 Hz)



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