

Design features of the Phoenix

Phoenix Composting
Toilet System 1997/Jan

The Phoenix is fabricated from rotationally molded solid and foamed **crosslinked and linear polyethylene**, assuring many years of service. The tank is durable, corrosion resistant, leakproof, and continuously insulated.

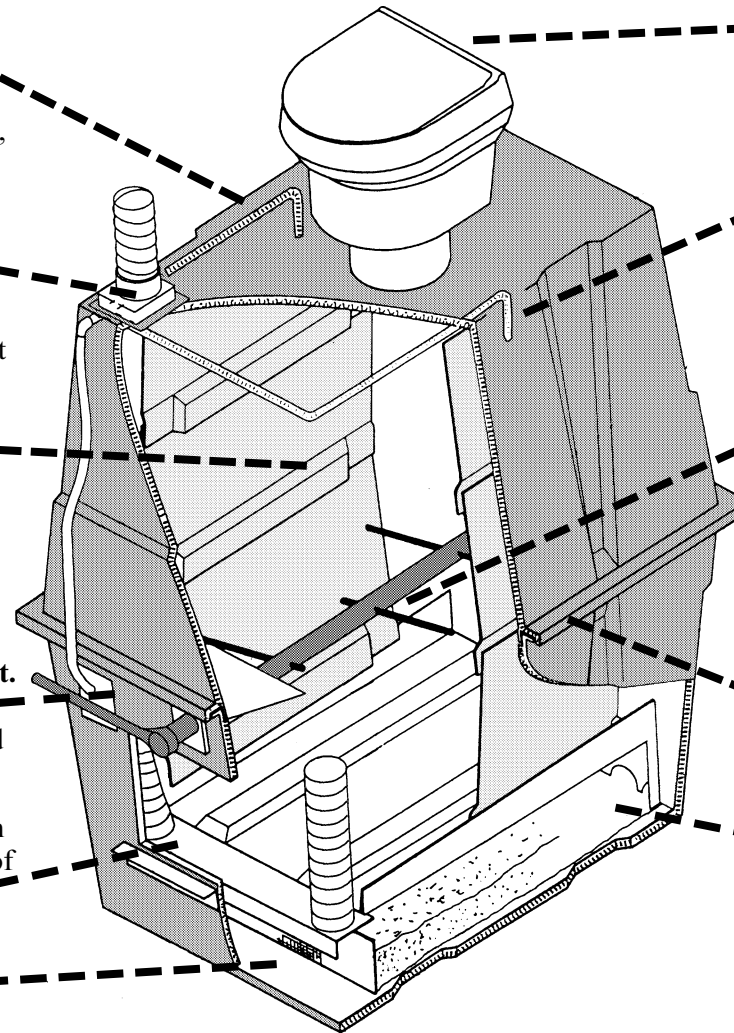
Ventilation is provided by an efficient, 4-watt, direct current fan. The fan housing is mounted directly to the tank for easy maintenance. A small power supply or a photovoltaic system provides the energy. Flexible 4-inch duct and 4-inch PVC pipe are installed easily.

Continuous air baffles along the tank sides provide **aeration** of the compost pile without interfering with compost movement. Their large surface area allows the insulated tank to be readily warmed with circulating air from a heater or active solar collector.

Air enters the Phoenix through a **screen inlet**. A **sealed path** for ventilation air, and a large contact area, increase ventilation efficiency and allow supplemental heating.

Finished compost is **removed easily** through the **lower access door** from the entire bottom of the Phoenix assuring maximum and uniform retention time.

Liquid is separated from the solids by a **screened baffle** and resprayed, or drained, from the Phoenix. The **drain connection** can be made from either side through an inch-and-a-half flexible hose.



One or two **toilets** connect to the Phoenix with 12-inch diameter pipe. The toilets are molded from **vandal resistant polyethylene and ABS plastic**.

The accumulated liquid and/or fresh water is automatically **resprayed** on top of the compost pile to **maintain moisture** and inoculate the pile with compost-friendly microorganisms. The excess liquid is drained to a leach field, or an evaporation or holding tank.

Rotating tines control the downward movement of the material in the compost pile. The big Phoenix Model 201 has three tine shafts, each above the other. The Model 200 (shown) has two shafts, and the Cabin model has one. (For clarity, only one tine shaft is shown in this illustration.)

A **leakproof joint** is accomplished with a gasket and **interlocking flange**. Assembly requires only a few bolts and no caulking.

A **permanent medium** provides **secondary liquid treatment** beneath the sloped bottom baffle. Air travels over the entire surface of the liquid to increase evaporation and aerobic conditions.