buying a compost toilet

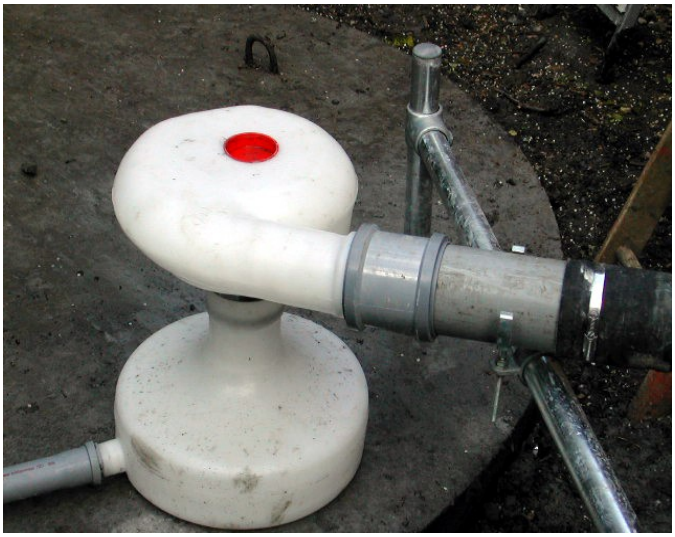
There are many different types of compost toilet that you can buy, and they come in many different sizes, shapes and styles, and with a range of different prices.

Distributors will change – search online for:

- Separett – looks like an conventional toilet.
- Air Head – small enough to be used in a camper van or boat.
- Rota-loo – several chambers on a turntable, includes a fan.
- Biolet – small toilets, some models electric, some not.
- Clivus multrum – one large chamber, vent with fan.
- Sun-mar – small, electricity used to evaporate liquids.
- Natsol – twin-vault loos with stainless steel urine separator.

Below is a description of a few types of proprietary compost toilet. We haven't included enormous / expensive ones intended for public buildings.

- Aquatron: www.aquatron.se, Swedish company. Works with a low-flush toilet, liquids and solids are separated by the momentum of the flush; waste falls into a composter, and liquids go to a UV unit which kills pathogens. Price is around £500 plus VAT for the separator which sits above the chamber. You can build your own chamber and attach the separator to it.



the Aquatron separator *photo: Elemental Solutions*

- Biolet: www.biolet.com, US company. Small, electric heater, mixer (electric or manual). Price: c. £800 and upwards for different models.

Basic Biolet toilet

- Clivus Multrum: www.clivus.com, Swedish. Probably the most famous compost toilet company; large single chamber; usually in cellar. The chamber has a sloping floor with a series of baffles, so that materials can take years to get to the bottom, where there is a hatch for emptying. Several different models and sizes. They work very well, but are a bit expensive for the domestic scale. Good for public facilities though. Price: around £5000 for a domestic installation.

Composting chamber of a Clivus Multrum
photo: Dept of Physics; University of Florida

- Compus II: twin-vault compost toilet manufactured in the UK by Natsol Ltd. - www.natsol.co.uk. Price: £3000 and upwards.

Compus II *photo: Natsol*

- Dowmus: Australian company, not sure if they're still being manufactured, but there are many in use. Large, single chamber model which takes kitchen waste and greywater as well. Solids are removed via a chute with a screw mechanism, and liquids go off to a leachfield.

Dowmus pedestal *photo: Elemental Solutions*

- Envirolet: www.envirolet.com, manufactured in the US; will ship to Britain. Similar to Biolet, electric and non-electric versions, small, plastic casing, relatively cheap. Price: from £1200

Basic Envirolet toilet

- Rota-loo: Australian company, www.rotaloo.com, has a rotating chamber with several different compartments which rotate when full, so that an empty one is under the seat, while the full ones are decomposing. Price (not installed): around £2000 for a family-sized system.

Different sized Rota-loos and compartments.

- Soltran: a module designed to house a compost toilet (usually a rota-loo), with a solar collector to speed up composting and evaporate urine. Australian design.

- Sun-mar: US company, www.sun-mar.com, heating element, hand crank for rotating a drum to mix and aerate the waste. They produce a range of different models, including the Ecolet toilet for boats. Price: c. £1000 for smaller models.

- Biobag: very simple and cheap system based on a basic seat and a bag. See https://biobagworld.com/products/special-products/biobag-toilet-system/

There are case studies of Biolet, Clivus and Dowmus in 'Lifting the Lid', available here - https://www.lowimpact.org/books/books_compost_toilets/

Maybe the small plastic toilets are a bit too flimsy, too small, and have too much that can go wrong. Compost toilets need to be sturdy and very reliable. A bad experience with something like toilets can put people (especially slightly squeamish people) off for life, and they'll never be persuaded to try compost loos again. Also, small proprietary toilets often have lots of fiddly things to do as regards moving chambers, or taking chambers out to empty them. This is a major drawback, as most people understandably want as little to do with uncomposted waste as possible. Toilets therefore should be as low-maintenance and reliable as possible.

Toilets with heating elements are not really composting, or even mouldering toilets anyway, as waste is dessicated not decomposed. It can then become re-hydrated when added to soil, which can result in smells and potential pathogens due to insufficient decomposition. And the heating elements tend to use a not insignificant amount of electricity (which is why using electricity for heating is almost always a bad idea).

Micro-flush toilets that use a very small amount of water won't hurt the composting process, as long as there is a drain at the bottom. But the process works without water, and you'll save more water if you don't have a flush – micro or not, so why bother? You can also buy vacuum toilets that suck excrement away to a holding tank; they can be found on aircraft. They don't use water, but they do use electricity to suck a vacuum. Again, why bother? The only reason could be that you just don't have room for a chamber under your toilet, or you have room, but no way of emptying it. A vacuum toilet could remove waste to anywhere you want it.

To reiterate, I think that designs have to be solid, reliable, with no chance of mishaps - so perhaps it's not a bad idea to dispense with ideas of complicated urine separation, electrical devices or vaccuums that can fail, or fiddly things to empty relatively regularly. It only takes one bad experience with something as unpleasant as faeces to put people off for life.