

BERGER BIOTECHNIK GmbH

Sustainable Systems and Products for on
site Biological Waste Treatment, Ecological
Sanitation and Water Saving

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Act ecologically:

The TORP Urine Separation Toilet

The biological dry toilet with urine separation for allotment
garden and holiday houses, boats and mobile homes



- minimum space required by offering the same comfort as by the WC
- needs no chemicals, water or additives
- produces hygienic conditions by separate collection of solid and liquid substances
- offers larger capacity by interchangeable bins
- smell is avoided by drying faeces combined with small fan operation
- fan can be powered by 230V as well as 12V
- simple to handle, to clean and to maintain

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The TORP Urine Separation Toilet

The TORP separation toilet needs no water, chemicals or additives. There is a separating part integrated into the seat opening, which diverts the urine outdoors into a canister. The solids are collected in a bucket within the toilet housing. The TORP urine separating toilet is equipped with a fan and provides a safe trap by negative pressure.

1. Function

Separation of urine and solids (excrements with tissue paper) combined with a constant air flow creates an intensive drying process of the solids, so smell and volume of the material decreases. There is no need for additives except for covering the surface to avoid access.

The solid matter quantity is only 1/5 to 1/10 of the daily urine quantity, so the emptying frequency for solid matter is considerably reduced by separation. Human urine is germ-free, provided that human kidneys are well. It is rich in plant nutrients such as nitrogen and phosphorus. The urine collected in a canister or a tank can be added to the garden compost as additive (e.g. with leaves compost) or can be used as a liquid fertilizer (e.g. on lawns, dilution with water 1:10, 1 L urine water/m²). Near-surface grown agricultural crops should not be fertilized with urine for hygienic reasons. Compost from toilet contents is to be used generally only for ornamental plants.

2. Range of applications

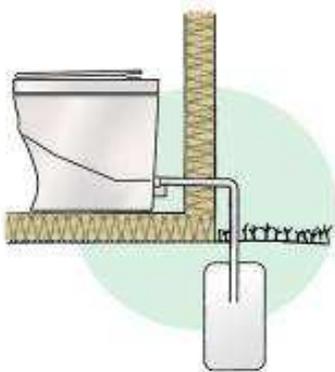
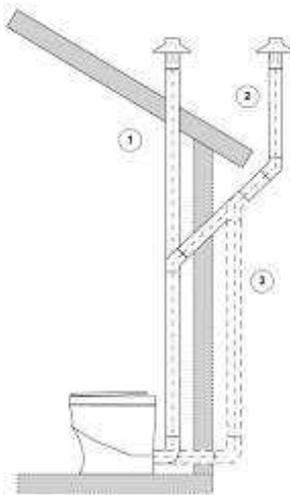
The TORP separation toilet has particularly compact dimensions, so it is suitable for allotment garden and holiday houses as well as in any other scope of application. The only condition is a facility for composting or disposal of the urine and the solids.

3. Structural conditions

The exhaust pipe of the TORP separation toilet can be directed outside through the back or side wall or straight through the roof (see ventilation alternatives 1 - 3). For pipe turnarounds 2 x 45°-bows should be preferred to one 90°-bow for supporting ventilation draught in case there is no electricity supply. The urine pipe needs a constant 2% slope without any trap between.

4. Maintenance and operation

The TORP separation toilet is equipped with two 20 l collecting bins for solids. If one bin is filled, the upper part of the toilet housing is removed and the bin should be locked with a cover before taking out the bin. While the second bin is in use, the first bin can be stored until emptying into a composter. If there is no possibility for composting the contents may be disposed to the domestic refuse after arrangement with the local administration. In order to keep the bins clean, 10 biodegradable bags made from corn are part the shipment. They will rot within 6 months and can be ordered additionally at any time.



Measurements:	45cm wide, 54cm deep (add. 10cm for pipe installation), 53cm high, seat level of 52 cm
Supply:	12V/2,3W, a transformer for 230V is part of the shipment
Ventilation pipes:	75 mm outside diameter, connection with sleeve
Urine pipe connection:	32 mm diameter/ 1 1/4 " "
Material:	frost-proof white or granite-coloured polyethylene plastic, toilet seat made of white polypropylene plastic
Guarantee:	3 years guarantee against fabrication faults

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