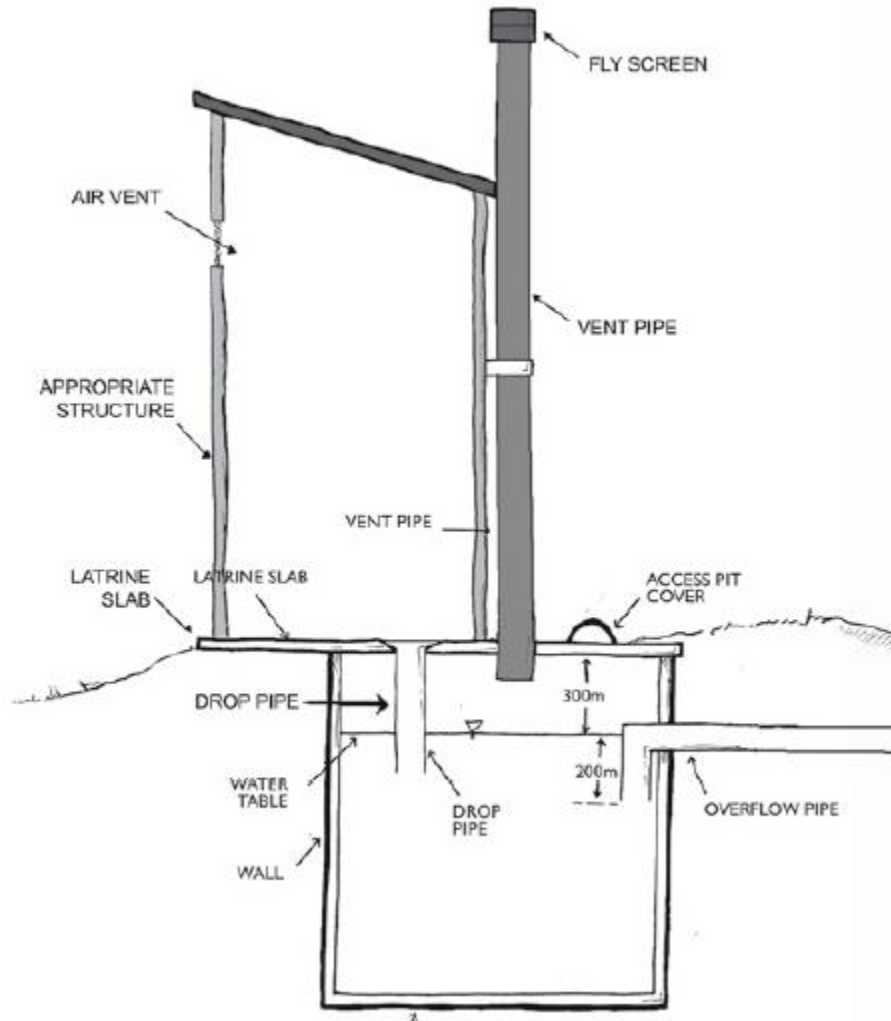


Sanitation Fact Sheet: Aqua Privy

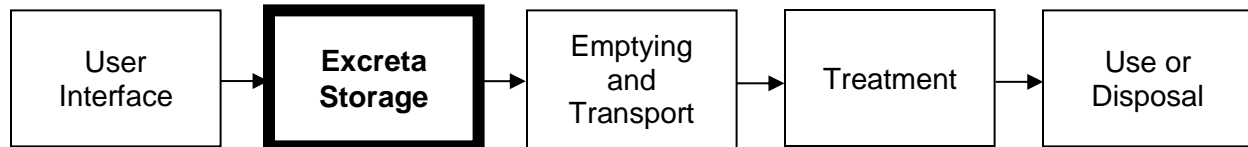


(Credit: Lifewater, 2010)



Sanitation Fact Sheet: Aqua Privy

Sanitation System



General Information

An aqua privy is watertight tank filled with water, and is a modification of the septic tank. It has a smaller volume than a septic tank, and excreta drops directly into the tank through a short pipe. An aqua privy has only one chamber, whereas septic tanks have two or more chambers. A dry latrine or one that uses water for flushing can be attached to the aqua privy. The water level in the chamber must be maintained above the bottom of the inlet or drop pipe. This creates a water seal that controls smells and flies. If a dry drop hole is used, anal cleansing water or greywater may need to be added to maintain the water seal, especially if there is any leakage through the tank walls. If a pour flush pan is used, less water is required for flushing than for a septic tank. In the tank, the solids settle to the bottom, creating a sludge, which must be periodically emptied. The effluent is released through the outlet pipe to a soak pit, infiltration trench or a sewer system.

User Interface

- Toilet can be located inside or next to home
- Can be used by washers and wipers for anal cleansing, wipers should use degradable wiping materials
- Water must be added to maintain water seal in the tank, especially if there is leakage
- Water seal controls smells and flies

Operation & Maintenance

- Empty sludge periodically (usually every 2–3 years), usually done with vacuum truck or other vehicle with motorized pump and storage tank
- Check tank regularly to make sure it is working correctly and watertight

Design Components

- Watertight tank with only one chamber, inlet and outlet pipes, access cover and vent pipe
- Soak pit or infiltration trench

References

Tilley, E., Ulrich, L., Lüthi, C., Reymond, P. and C. Zurbrügg (2014). Compendium of Sanitation Systems and Technologies, 2nd Revised Edition. Swiss Federal Institute of Aquatic Science and Technology (Eawag), Duebendorf, Switzerland. Retrieved from: www.sandec.ch/compendium

Reed, B. (2014). Septic Tank and Aqua Privy Design. WEDC, Loughborough University, UK. Retrieved from: <https://wedc-knowledge.lboro.ac.uk/details.html?id=21807>

Additional Resources

CAWST offers free and open content education and training resources on sanitation systems, latrine technologies, latrine construction and siting, and latrine project implementation. Available at: www.cawst.org/resources

Design Options

- Can buy prefabricated tanks or build a tank using local materials

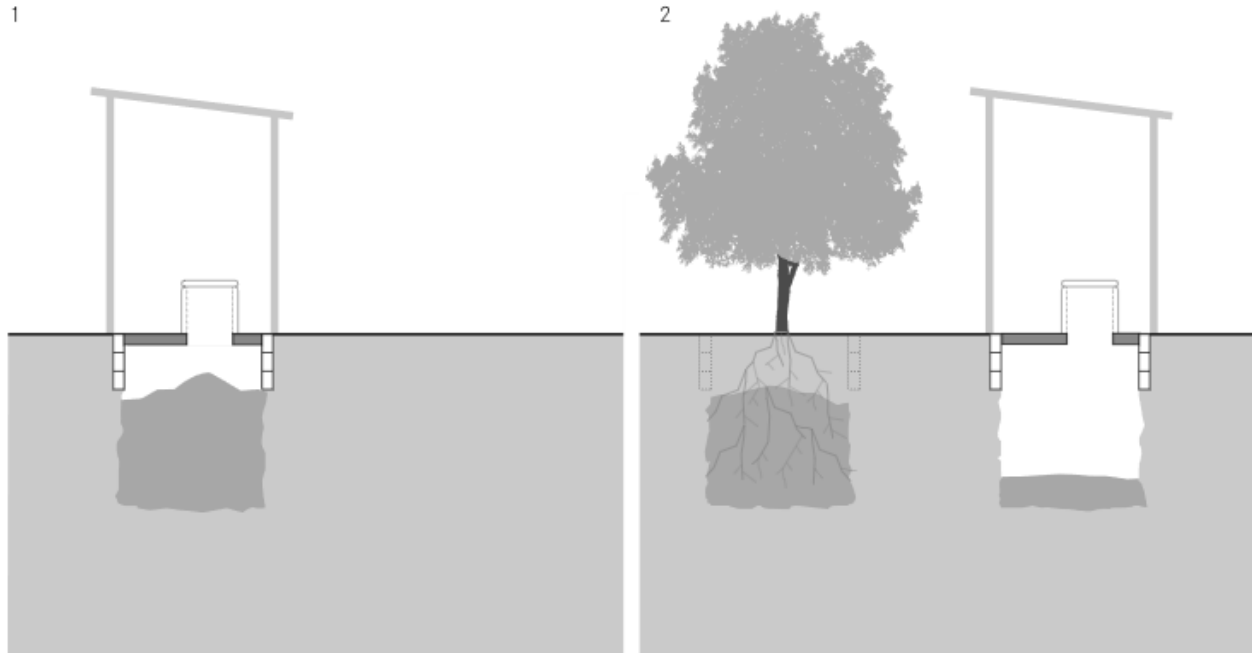
Siting

- Need access to reliable and sufficient water supply (less than a septic tank), not ideal for water scarce areas
- Need permeable soil to infiltrate the effluent, or a connection to a sewer
- Need enough space for the tank and infiltration area (less than a septic tank)
- Emptying service must be able to access the tank
- Not suited for areas with high groundwater or frequent flooding

Implementation

- Need tank emptying service and treatment and/or disposal of sludge
- Requires expert design and skilled construction

Sanitation Fact Sheet: Arborloo Latrine

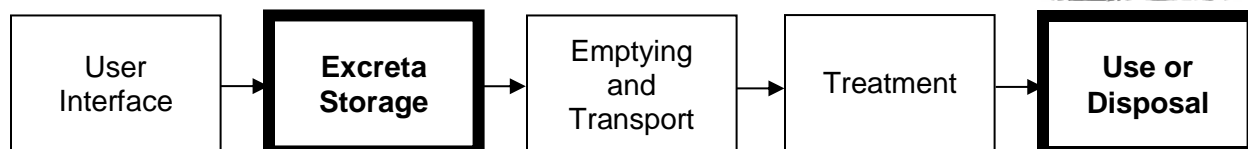


(Credit: Tilley et al., 2014)



Sanitation Fact Sheet: Arborloo Latrine

Sanitation System



General Information

The Arborloo latrine is a modification of the simple pit latrine. It uses a shallow pit that is filled with excreta and soil and/or ash, and then covered with soil. The superstructure and slab are portable, so that they can be moved to a new pit. After the pit is full, a fruit bearing or fuel wood tree is planted in the nutrient rich soil. Arborloo latrines can be used to reforest an area, provide a sustainable source of fresh fruit or fuel wood, and prevent people from falling into old pits.

User Interface

- Only used with a dry toilet that does not need water for flushing
- Can be used by washers and wipers for anal cleansing
- Cover material and lid control smells and flies

Operation & Maintenance

- Add cover material (e.g., sawdust, soil, ash, leaves) after defecation to help degrade excreta, reduce smells and control flies
- Cover a full pit with soil, plant a tree, and move the superstructure and slab to a new pit
- A pit typically fills up in six to twelve months

Design Components

- Shallow (1 metre deep) and unlined pit (any lining would prevent the tree from growing properly)
- Portable slab with a lid for drop hole
- Portable superstructure

Design Options

- Use light superstructure materials (e.g., bamboo, straw)

Siting

- Need a suitable location for a tree to grow
- Need space to continuously dig new pits
- Need permeable soil and enough space to infiltrate the liquid from the pit
- Not suited for soils that are difficult to dig
- Not suited for areas with high groundwater or frequent flooding

Implementation

- Using human excreta to grow trees must be acceptable to people

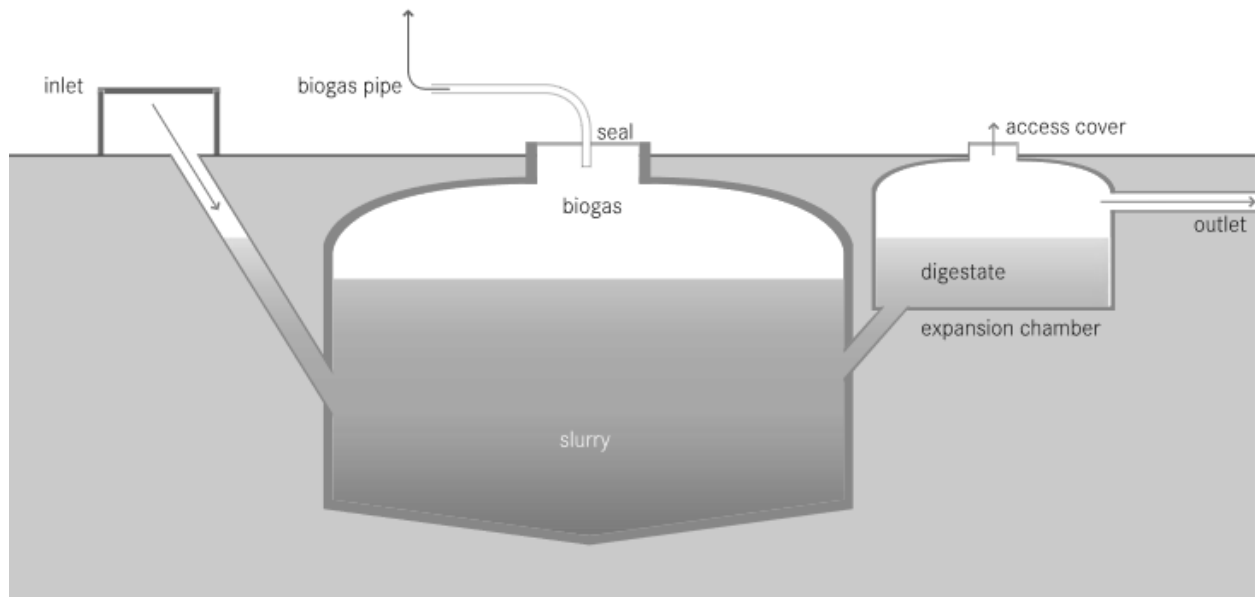
References

Tilley, E., Ulrich, L., Lüthi, C., Reymond, P. and C. Zurbrügg (2014). Compendium of Sanitation Systems and Technologies, 2nd Revised Edition. Swiss Federal Institute of Aquatic Science and Technology (Eawag), Duebendorf, Switzerland. Retrieved from: www.sandec.ch/compendium

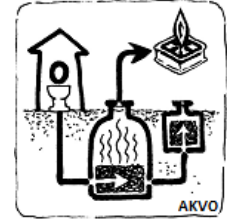
Additional Resources

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Sanitation Fact Sheet: Biogas Reactor



(Credit: Tilley et al., 2014)



Sanitation Fact Sheet: Biogas Reactor

Sanitation System



General Information

A biogas reactor (also called an anaerobic digester) converts excreta into (1) biogas that can be used for energy, and (2) a slurry that can be used as fertilizer. The reactor uses natural decomposition processes to create methane and carbon dioxide gas, which can be used in the home for cooking, lighting and electricity. The slurry is only partially treated and not safe to handle, so it should be treated further before used in agriculture. An average family cannot produce enough excreta to run a biogas reactor on their own. The highest levels of biogas are produced when animal excreta (e.g., cattle manure) and organic materials (e.g., food and market waste) are also added to the reactor.

User Interface

- Toilet can be located inside or next to the home
- Can only be connected to a toilet that uses water for flushing
- Wipers can only use degradable wiping materials for anal cleansing
- Water seal controls smells and flies

Operation & Maintenance

- Fill the reactor daily, add animal excreta and/or organic materials since there is limited biogas production with only human excreta
- Clean gas equipment regularly to prevent corrosion and leaks
- Empty the reactor every 5–10 years

Design Components

- Airtight chamber with inlets for different waste types, slurry outlet, and gas outlet

Design Options

- Numerous technical design options, including floating dome and fixed dome

- Can be connected directly to household or public toilets
- Can be built aboveground or belowground
- Can be adapted to float next to homes in floating villages or flood prone areas

Siting

- Need access to a reliable and sufficient water supply
- Need enough space to construct the reactor
- Build close to where the gas is to be used to minimize losses
- Less appropriate for colder climates (limited biogas generated below 15°C)

Implementation

- Handling and using treated human excreta must be acceptable to people
- Slurry is produced continuously, so storage, treatment, use and/or disposal is needed
- Can be shared by a group of households, operation and management should be agreed upon beforehand
- Requires expert design and skilled construction

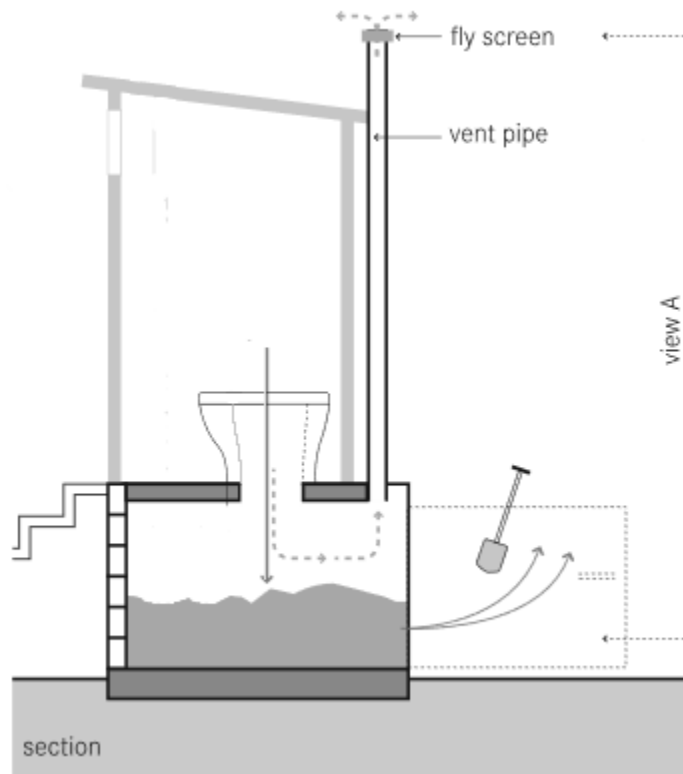
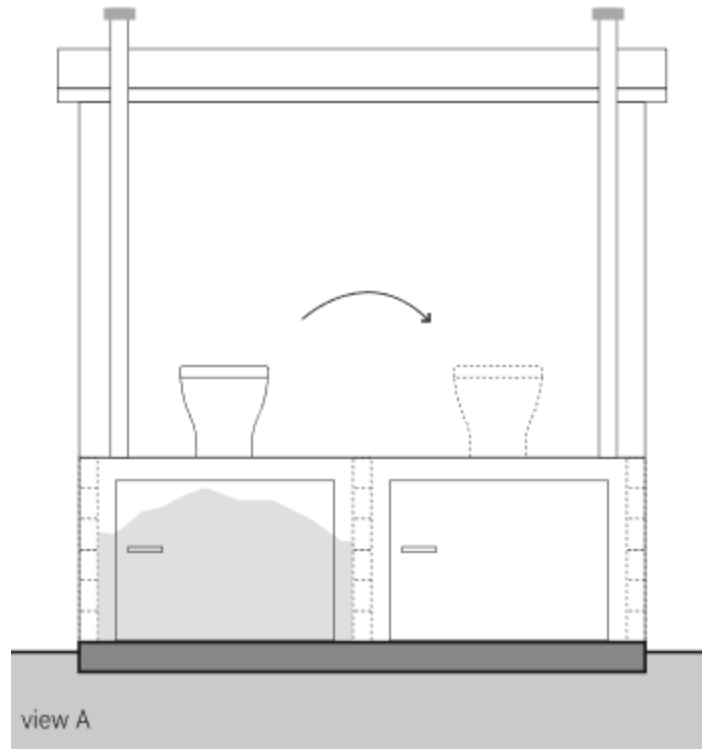
References

Tilley, E., Ulrich, L., Lüthi, C., Reymond, P. and C. Zurbrugg (2014). Compendium of Sanitation Systems and Technologies, 2nd Revised Edition. Swiss Federal Institute of Aquatic Science and Technology (Eawag), Duebendorf, Switzerland. Retrieved from: www.sandec.ch/compendium

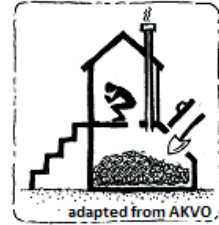
Additional Resources

CAWST offers free and open content education and training resources on sanitation systems, latrine technologies, latrine construction and siting, and latrine project implementation. Available at: www.cawst.org/resources

Sanitation Fact Sheet: Composting Latrine

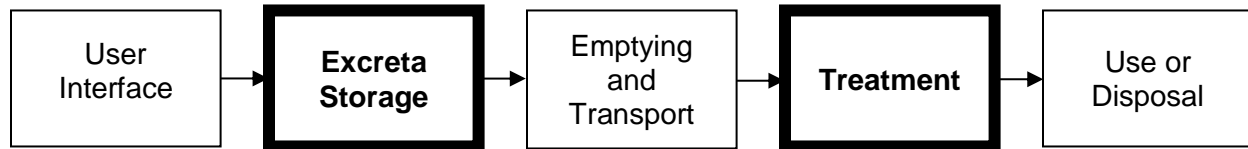


(Credit: Adapted from Tilley et al., 2014)



Sanitation Fact Sheet: Composting Latrine

Sanitation System



General Information

A two-chamber composting latrine collects and stores excreta for up to two years. During this time, microbes decompose the excreta, reduce the pathogens, and create compost – a soft, dark, earthy material. Because optimal composting conditions are difficult to achieve in latrine chambers, the compost usually requires secondary treatment before it is safe to use. The final compost product can be used in gardens or fields to improve soil structure and provide nutrients for plant growth.

User Interface

- Use only with a dry toilet that does not need water for flushing
- Cover material controls smells and flies

Operation & Maintenance

- Do not add water to the chamber, except for small amounts for anal cleansing
- Degradable wiping materials can be added (e.g., paper, leaves)
- Add one cup of organic cover material (e.g., sawdust, soil, ash, leaves) after defecation to help degrade excreta, reduce smells and control flies
- Use one chamber for up to two years while the other remains covered
- Compost excreta for 6–24 months depending on final use or disposal (see WHO, 2006)
- Chambers must be emptied manually, protective clothing should be worn
- Leachate must be infiltrated or treated

Design Components

- Two chambers with ventilation, drainage for leachate, and access covers for emptying

Design Options

- Can build chambers aboveground or on a slope for easier emptying
- Can build two shallow pits belowground (also called a Fossa Alterna latrine)

Siting

- Can use aboveground chambers for areas with high groundwater, with frequent flooding, where it is difficult to dig or environmentally sensitive

Implementation

- Handling and using composted human excreta must be acceptable to people
- Must have local use for the final compost
- In reality, correct composting conditions are difficult to achieve and maintain, and secondary treatment is usually required before safely using the compost product

References

Berger (2011). Technology Review of Composting Toilets. GIZ (Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH). Germany. Retrieved from: www.susana.org/en/resources/library/details/878

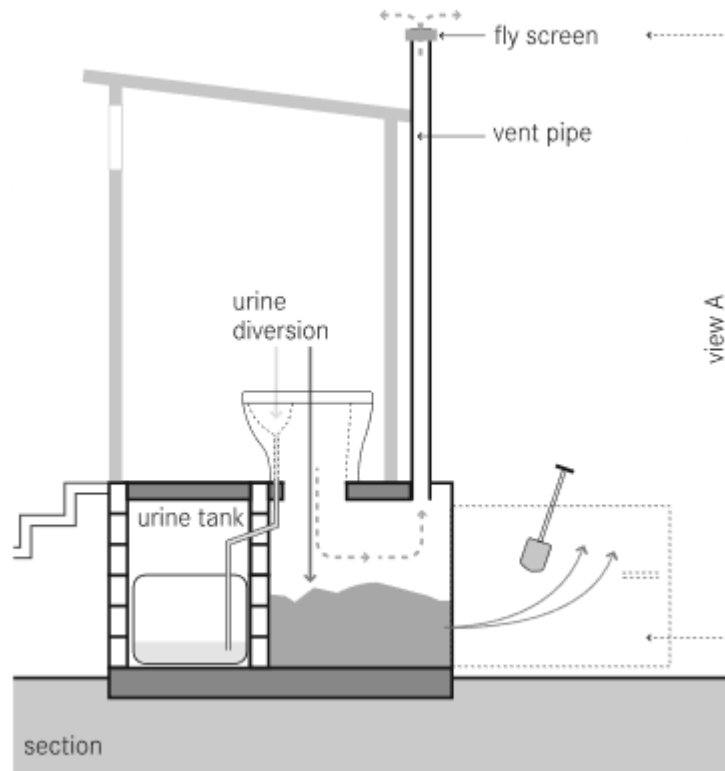
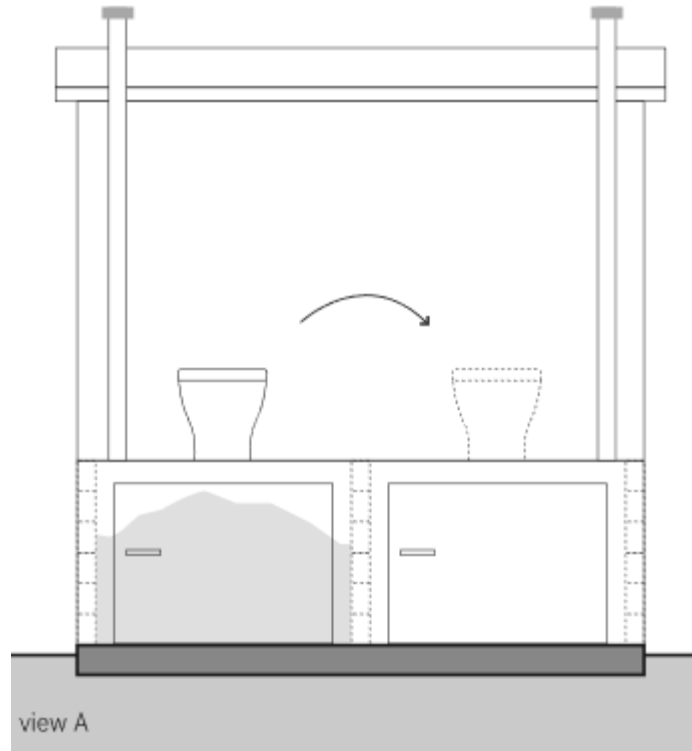
Tilley, E., Ulrich, L., Lüthi, C., Reymond, P. and C. Zurbrügg (2014). Compendium of Sanitation Systems and Technologies, 2nd Revised Edition. Swiss Federal Institute of Aquatic Science and Technology (Eawag), Dübendorf, Switzerland. Retrieved from: www.sandec.ch/compendium

World Health Organization (2006). WHO Guidelines for the Safe Use of Wastewater, Excreta and Greywater. WHO, Geneva, Switzerland. Retrieved from: www.who.int/water_sanitation_health/wastewater/gsuww/

Additional Resources

CAWST offers free and open content education and training resources on sanitation systems, latrine technologies, construction and siting, and project implementation. Available at: www.cawst.org/resources

Sanitation Fact Sheet: Dehydrating Latrine

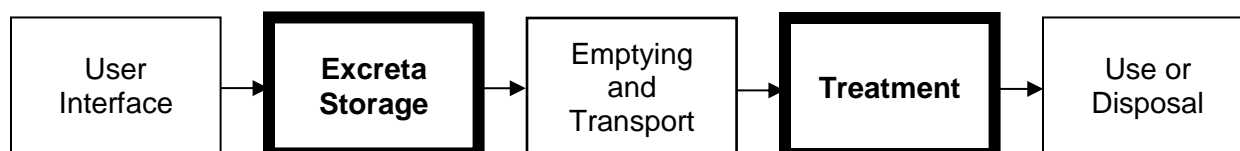


(Credit: Tilley et al., 2014)



Sanitation Fact Sheet: Dehydrating Latrine

Sanitation System



General Information

A dehydrating latrine (also called a dehydration vault or urine diversion dry toilet) collects and stores urine and feces separately. Two chambers are used to dry feces over time and turn it into a crumbly, powdery material. Dehydration reduces the volume and weight of feces, which reduces the emptying and transportation requirements. Pathogen levels are reduced, making the feces and urine safer to handle. Smells are decreased when feces are not mixed with urine or other liquids. Both urine and dried feces can be used in gardens and fields to provide nutrients for plant growth, or safely disposed of elsewhere.

User Interface

- Use only with a dry toilet that does not need water for flushing
- Need a urine diverting toilet (urinal optional)
- Cover material controls smells and flies

Operation & Maintenance

- Soft biodegradable wiping materials (e.g., paper, leaves) can be added to the chamber
- Anal cleansing water and non-biodegradable materials must be collected separately
- Add a small amount of cover material (e.g., ash, lime or dry soil) after defecation to help dry feces, reduce smells and control flies
- Use one chamber until it is full while the other remains covered
- Store feces for 6–24 months depending on final use or disposal (see WHO, 2006)
- Chambers must be emptied manually, protective clothing should be worn
- Store urine in a covered container for up to six months depending on final use or disposal (see WHO, 2006)

Design Components

- Two chambers with a capped vent pipe to remove humidity, drainage for leachate, and an access cover for emptying

Design Options

- Can build chambers aboveground or on a slope for easier emptying
- Paint the chamber doors black to increase the temperature in the chamber and the rate of dehydration

Siting

- Can use aboveground chambers for areas with high groundwater, with frequent flooding, where it is difficult to dig or environmentally sensitive

Implementation

- Handling and using treated human excreta must be acceptable to people
- Must have local use for the final products
- Secondary treatment is usually required before safely using dried feces in agriculture

References

Rieck, C., von Münch, E., Hoffmann, H. 2012. Technology Review of UDDT. GIZ GmbH. Germany. Retrieved from: <http://www.susana.org/en/resources/library/details/874>

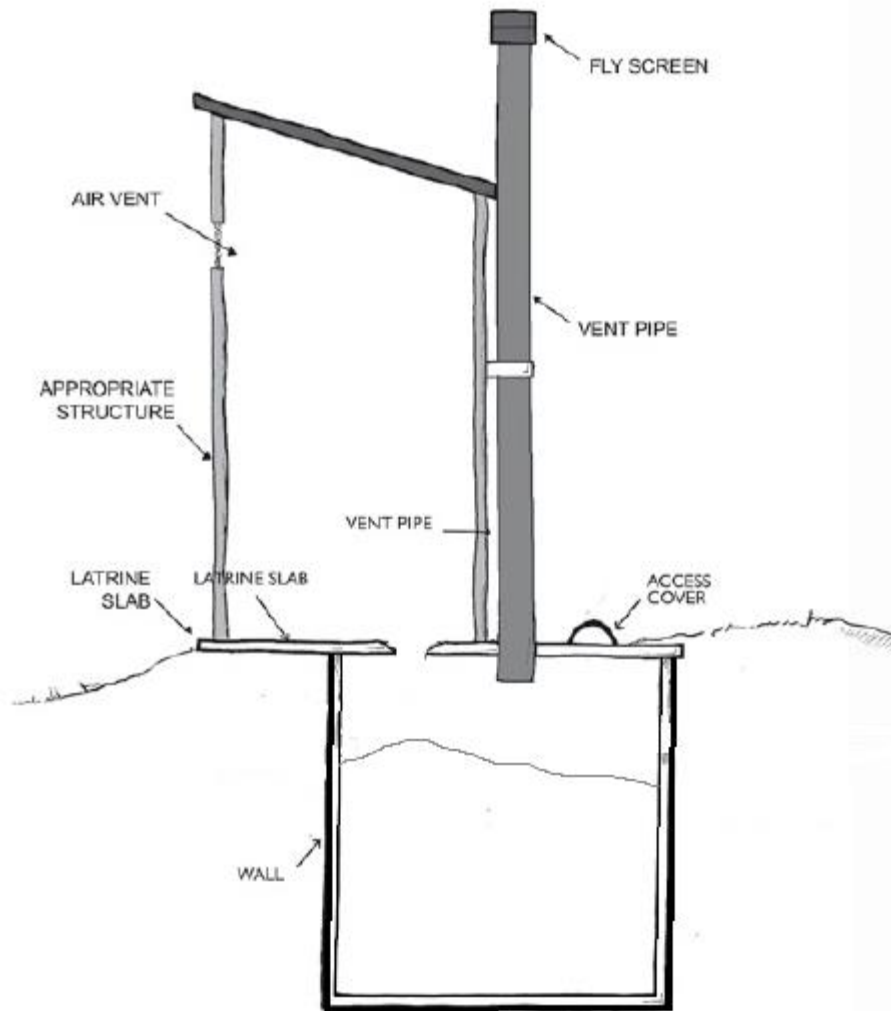
Tilley, E., Ulrich, L., Lüthi, C., Reymond, P. and C. Zurbrügg (2014). Compendium of Sanitation Systems and Technologies, 2nd Revised Edition. Swiss Federal Institute of Aquatic Science and Technology (Eawag), Duebendorf, Switzerland. Retrieved from: www.sandec.ch/compendium

World Health Organization (2006). WHO Guidelines for the Safe Use of Wastewater, Excreta and Greywater. WHO, Geneva, Switzerland. Retrieved from: www.who.int/water_sanitation_health/wastewater/gsuww/en/

Additional Resources

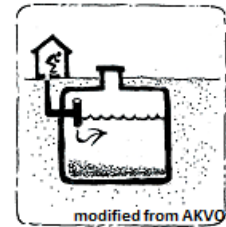
CAWST offers free and open content education and training resources on sanitation systems, latrine technologies, latrine construction and siting, and latrine project implementation. Available at: www.cawst.org/resources

Sanitation Fact Sheet: Holding Tank (Sealed Pit, Tank or Chamber)

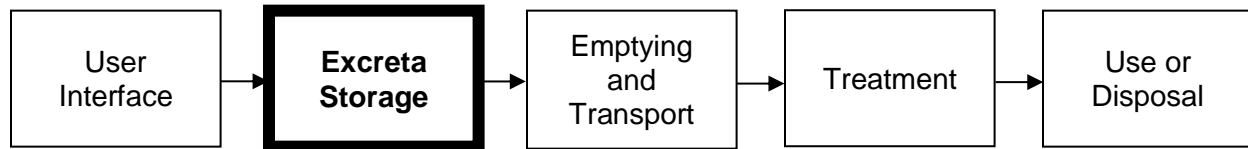


(Credit: Adapted from Lifewater, 2010)

Sanitation Fact Sheet: Holding Tank (Sealed Pit, Tank or Chamber)



Sanitation System



General Information

A permanent holding tank (also called cesspit, sealed pit, tank or chamber) can be used to store excreta. It is a watertight tank that is usually built belowground. Because there is no infiltration of liquid into the soil, a holding tank must be emptied more frequently than a septic tank or pit. It should be emptied by a trained service team. There must be safe treatment, use or disposal so that sludge is not dumped unsafely in the environment. Due to the cost of frequent emptying, holding tanks may not be suitable for family or communal latrines. They are only appropriate when there are no other feasible sanitation options, such as in certain challenging environments.

User Interface

- Usually connected to a water-flushed toilet
- Can be used by washers and wipers for anal cleansing, wipers should use degradable wiping materials
- A water seal controls smells and flies

Operation & Maintenance

- Empty as required (sometimes as often as weekly), usually by vacuum truck; frequency depends on size and number of users
- Check tank regularly to make sure it is working correctly and watertight

Design Components

- Watertight (also called impermeable) tank with inlet pipe and access cover, there is no outlet pipe, may have vent pipe

Design Options

- Numerous tank designs, depends on what is locally available
- Can buy prefabricated tanks or build a tank using local materials (such as concrete, cement blocks, bricks, concrete rings)

- Can design in a variety of shapes and sizes
- Urine may be collected separately if a urine diversion toilet or urinal is used

Siting

- Can be built aboveground or belowground
- Vacuum truck or emptying service must be able to access the tank
- May be suited for areas with high groundwater, with frequent flooding, where it is difficult to dig, or environmentally sensitive

Implementation

- Need frequent, affordable, reliable emptying service
- A safe sanitation system including sludge treatment and safe use or disposal is essential if this option is to have minimal negative impacts on public health and the environment
- Holding tanks are sometimes confused with septic tanks, education is needed so that users understand the difference between the technologies

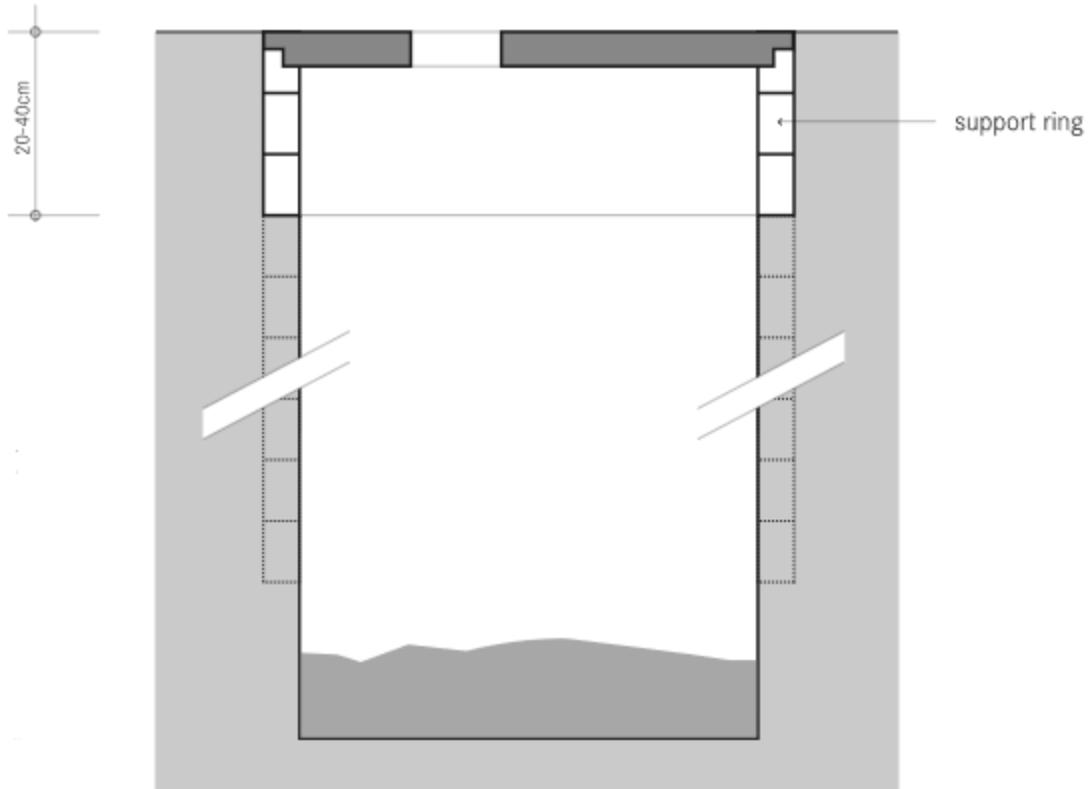
References

Harvey, P. (2007). Excreta Disposal in Emergencies: A Field Manual. Water, Engineering and Development Centre, Loughborough University, UK. Retrieved from: <http://wedc.ac.uk/publications/>

Additional Resources

CAWST offers free and open content education and training resources on sanitation systems, latrine technologies, latrine construction and siting, and latrine project implementation. Available at: www.cawst.org/resources

Sanitation Fact Sheet: Pit Latrine

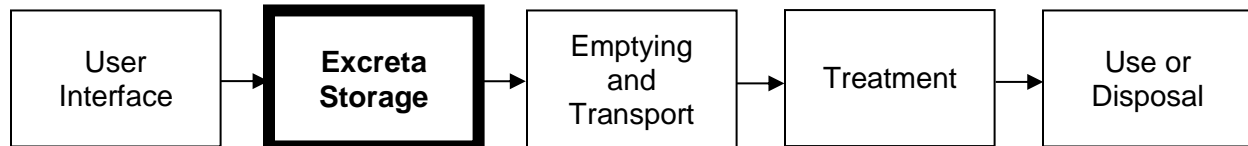


(Credit: Tilley et al., 2014)



Sanitation Fact Sheet: Pit Latrine

Sanitation System



General Information

The pit latrine is one of the most common, low cost sanitation options and used widely around the world. It is a pit dug into the ground, covered with a slab, and usually has some sort of structure (also called a superstructure) around it for privacy and weather protection. Fully or partially lining the pit prevents it from collapsing and provides support for the slab and superstructure. As the pit fills with excreta, liquid infiltrates through the pit wall into the surrounding soil. Microbes help to degrade and reduce the amount of excreta. However, sludge does build up over time and the pit must be periodically emptied or relocated.

User Interface

- Can be used with various types of toilets (including dry, pour flush and urine diverting)
- Can be used by washers and wipers for anal cleansing
- Using a lid or water seal can help control smells and flies

Operation & Maintenance

- No daily maintenance needed other than keeping the latrine clean
- A full pit can be a) emptied and reused or b) filled and covered, and the slab and superstructure moved to a new pit

Design Components

- Pit that is partially or fully lined (but still permeable)
- Slab
- Superstructure

Design Options

- Can dig a square, rectangular or circular pit
- If the pit is to be emptied, then it should be fully lined to ensure its stability and safety

References

Tilley, E., Ulrich, L., Lüthi, C., Reymond, P. and C. Zurbrügg (2014). Compendium of Sanitation Systems and Technologies, 2nd Revised Edition. Swiss Federal Institute of Aquatic Science and Technology (Eawag), Duebendorf, Switzerland. Retrieved from: www.sandec.ch/compendium

Reed, B. (2014). Simple Pit Latrines. WEDC, Loughborough University, UK. Retrieved from: <https://wedc-knowledge.lboro.ac.uk/details.html?id=21751>

Additional Resources

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- Can build two shallower pits (also called twin or double pits) and alternate their use – the excreta in the full pit degrades over time, making manual emptying easier and safer
- Twin pits connected to a pour flush toilet can also be dug at a distance away from the superstructure (called offset pits)
- Can build a raised pit in areas with high groundwater or frequent flooding

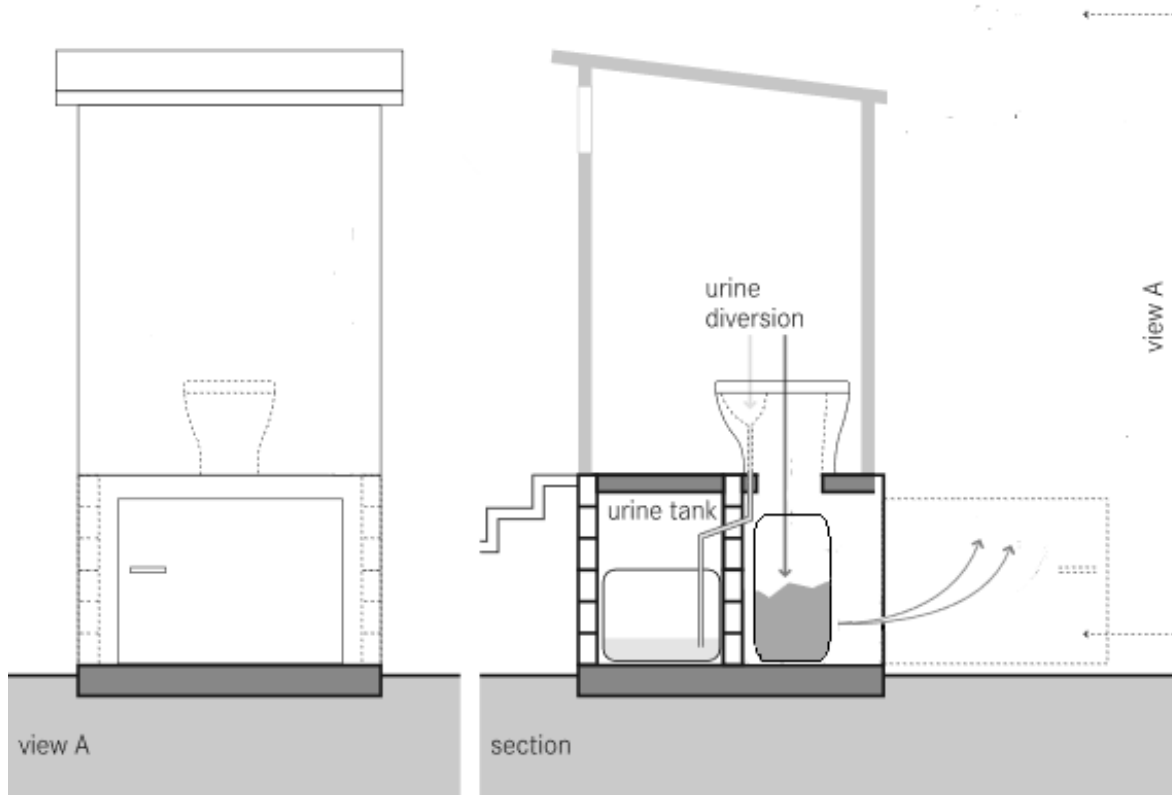
Siting

- Need permeable soil and enough space to infiltrate the liquid from the pit
- Not suited for soils that are difficult to dig
- Not suited for areas with high groundwater or frequent flooding

Implementation

- If the pit is to be reused, then sludge emptying, treatment, use and/or disposal services are needed

Sanitation Fact Sheet: Removable Container

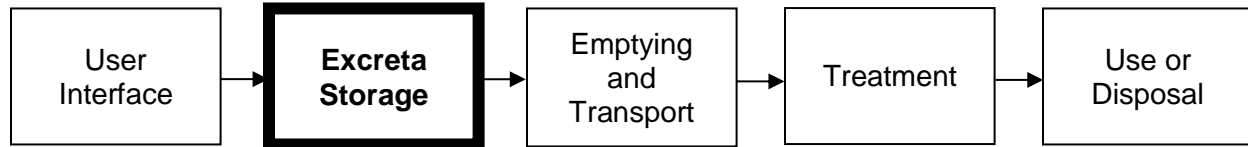


(Credit: Adapted from Tilley et al., 2014)



Sanitation Fact Sheet: Removable Container

Sanitation System



General Information

Removable containers can be used to collect and store excreta. Urine may be collected separately if a urine diversion toilet or urinal is used. The removable containers must be hygienically collected, emptied and cleaned frequently – ideally by a trained service team. As well, there must be safe treatment, use or disposal so that raw excreta is not dumped unsafely in the environment.

User Interface

- Usually used with dry toilets since pour flush toilets will quickly fill the container with liquid
- Can be used by washers and wipers for anal cleansing
- Excreta is visible as it fills the container, which can be unpleasant for the user
- May have a noticeable smell and flies depending on operation

Operation & Maintenance

- Excreta drops directly through the drop hole or through piping into the container
- Can add sawdust, soil or ash after defecation to reduce smells and flies
- Remove and replace container when full
- Clean container before reuse
- Check container and piping regularly to make sure they are working correctly

Design Components

- Watertight container with tight fitting lid
- Urine diverting pan/seat and piping optional

Design Options

- Numerous container designs and materials depending on what is locally available
- Size and weight of the container should be manageable to move when full (maximum 50 litres)
- Do not use metal containers to store urine since they corrode due to high pH

Siting

- Can be installed indoors or outdoors
- Collection and emptying service must be able to access the containers
- May be suited for areas with high groundwater, with frequent flooding, where it is difficult to dig, or environmentally sensitive

Implementation

- Need frequent, affordable and reliable collection service
- A safe sanitation system including excreta treatment and safe use or disposal is essential if this option is to have minimal negative impacts on public health and the environment

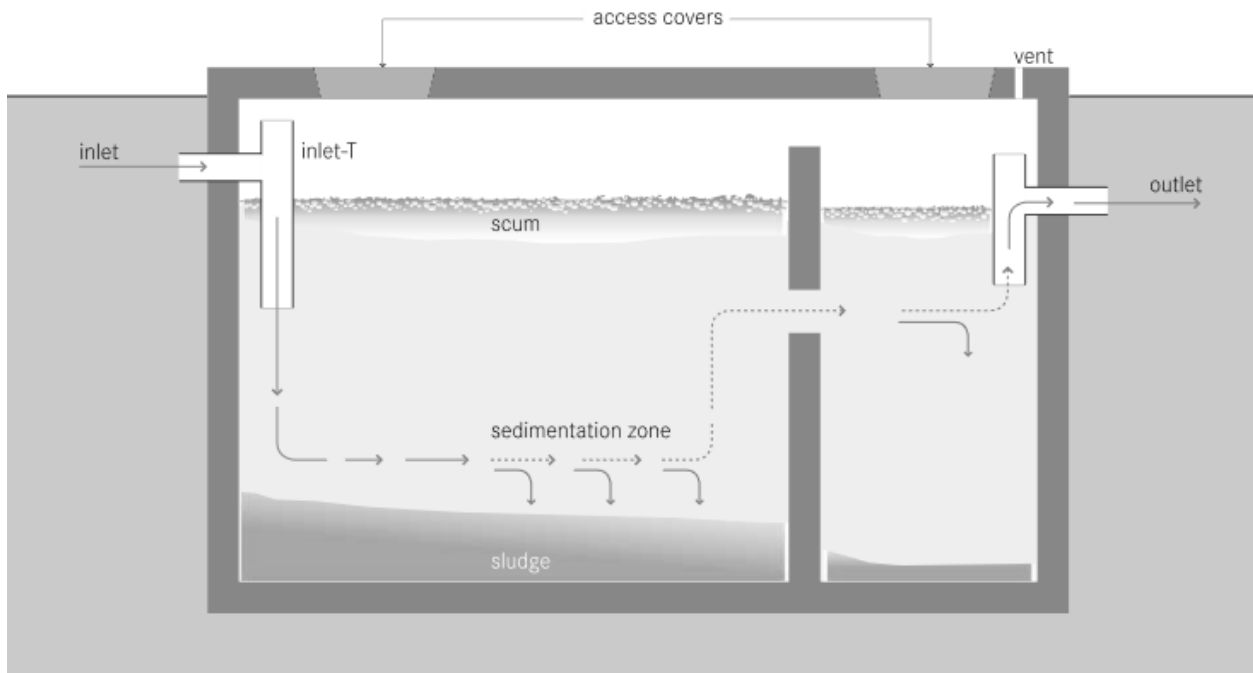
References

- Berger (2011). Technology Review of Composting Toilets. GIZ (Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH). Germany. Retrieved from: www.susana.org/en/resources/library/details/878
- Rieck, C., von Münch, E., and H. Hoffmann (2012). Technology Review of UDDT. GIZ (Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH). Germany. Retrieved from: www.susana.org/en/resources/library/details/874
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Additional Resources

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Sanitation Fact Sheet: Septic Tank

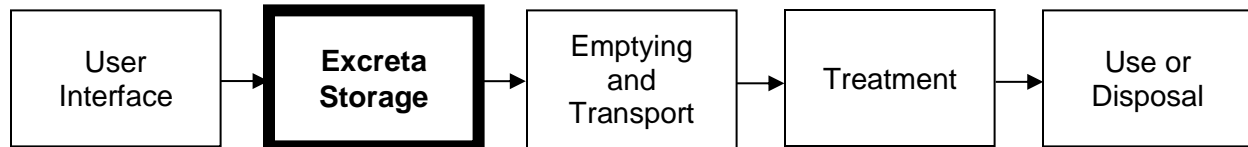


(Credit: Tilley et al., 2014)



Sanitation Fact Sheet: Septic Tank

Sanitation System



General Information

A septic tank is a watertight container connected to a water-flushed toilet. It has two or more compartments, where excreta, flush water, soft anal wiping materials and greywater are partially treated before being discharged. The excreta enters the first chamber, where sludge settles to the bottom. Oil and grease from greywater (called scum) floats to the top. The water from the middle flows into the second compartment through a gap in the wall (called a baffle) between the chambers. More sludge and scum are removed in the second chamber. The remaining effluent is released to a soak pit, infiltration trench or a sewer system. The sludge degrades over time, but does build up and must be periodically emptied.

User Interface

- Toilet can be located inside or next to house
- Must be connected to a toilet that uses water for flushing
- Can be used by washers and wipers for anal cleansing, wipers should use degradable wiping materials
- Water seal controls smells and flies

Operation & Maintenance

- Empty sludge periodically (usually every 2–5 years), usually done with vacuum truck
- Check tank regularly to make sure it is working correctly and watertight

Design Components

- Watertight tank with at least two chambers, inlet and outlet pipes, access covers and a vent pipe to release gases
- Soak pit or infiltration trench

Design Options

- Can buy prefabricated tanks or build a tank using local materials (such as concrete,

cement blocks, bricks)

- Can design in a variety of shapes and sizes
- Can build microseptic tanks for smaller volumes and spaces
- Can build more chambers for public buildings or multiple households

Siting

- Need access to reliable and sufficient water supply, not ideal for water scarce areas
- Need permeable soil to infiltrate the effluent, or a connection to a sewer
- Need enough space for the septic tank and infiltration area (minimum 5 m²)
- Vacuum truck must be able to access the septic tank
- Not suited for areas with high groundwater or frequent flooding

Implementation

- Need septic tank emptying service and treatment and/or disposal of sludge
- Requires expert design and skilled construction

References

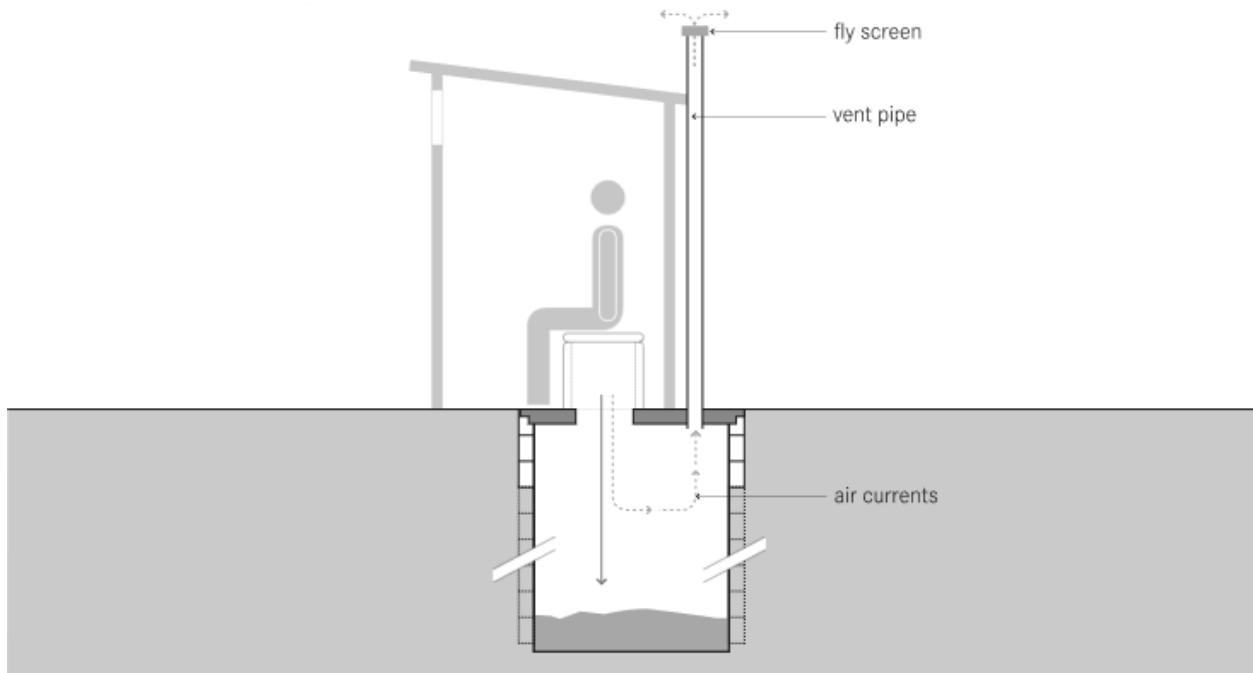
Tilley, E., Ulrich, L., Lüthi, C., Reymond, P. and C. Zurbrügg (2014). Compendium of Sanitation Systems and Technologies, 2nd Revised Edition. Swiss Federal Institute of Aquatic Science and Technology (Eawag), Duebendorf, Switzerland. Retrieved from: www.sandec.ch/compendium

Reed, B. (2014). Septic Tank and Aqua Privy Design. WEDC, Loughborough University, UK. Retrieved from: <https://wedc-knowledge.lboro.ac.uk/details.html?id=21807>

Additional Resources

CAWST offers free and open content education and training resources on sanitation systems, latrine technologies, latrine construction and siting, and latrine project implementation. Available at: www.cawst.org/resources

Sanitation Fact Sheet: Ventilated Improved Pit (VIP) Latrine

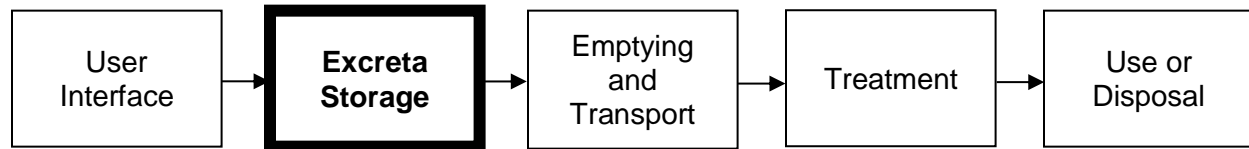


(Credit: Tilley et al., 2014)



Sanitation Fact Sheet: Ventilated Improved Pit (VIP) Latrine

Sanitation System



General Information

The ventilated improved pit (VIP) latrine is a modification of the pit latrine. In a VIP latrine, a ventilation (vent) pipe and open drop hole (no lid) are added to help air flow through the superstructure, which reduces smells. A mesh screen at the top of the vent pipe reduces flies in the latrine. The flies are attracted to the light at the top of the pipe but can't escape, and then die there. For more information on pit latrines, see CAWST Sanitation Fact Sheet: Pit Latrines.

User Interface

- Only used with a dry toilet that does not need water for flushing
- Can be used by washers and wipers for anal cleansing
- Design provides more smell and fly control than a pit latrine
- Superstructure needs to be kept dark, which can be scary for children

Operation & Maintenance

- Keep the door closed
- Do not put a lid over the drop hole
- Remove debris (e.g., dead flies, webs) from the vent screen for good airflow
- A full pit can be a) emptied and reused or b) filled and covered, and the slab and superstructure moved to a new pit

Design Components

- Pit that is partially or fully lined (but still permeable) and covered with a slab
- Superstructure with a dark interior and a door with a vent or gap above it
- Vent pipe with screen

References

Tilley, E., Ulrich, L., Lüthi, C., Reymond, P. and C. Zurbrügg (2014). Compendium of Sanitation Systems and Technologies, 2nd Revised Edition. Swiss Federal Institute of Aquatic Science and Technology (Eawag), Duebendorf, Switzerland. Retrieved from: www.sandec.ch/compendium

Reed, B. (2014). Ventilated Improved Pit (VIP) Latrines. WEDC, Loughborough University, UK. Retrieved from: <https://wedc-knowledge.lboro.ac.uk/details.html?id=21786>

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Design Options

- Can build two shallower pits (also called twin or double pits) and alternate their use – the excreta in the full pit degrades over time, making manual emptying easier and safer
- Paint the vent pipe black so it heats up in the sun to increase airflow

Siting

- Face the door into the wind
- Need permeable soil and enough space to infiltrate the liquid from the pit
- Not suited for soils that are difficult to dig
- Not suited for areas with high groundwater or frequent flooding

Implementation

- If the pit is to be reused, then sludge emptying, treatment use and/or disposal services are needed
- In reality, VIP latrines are often incorrectly built and used; latrine builders and users must understand how they work