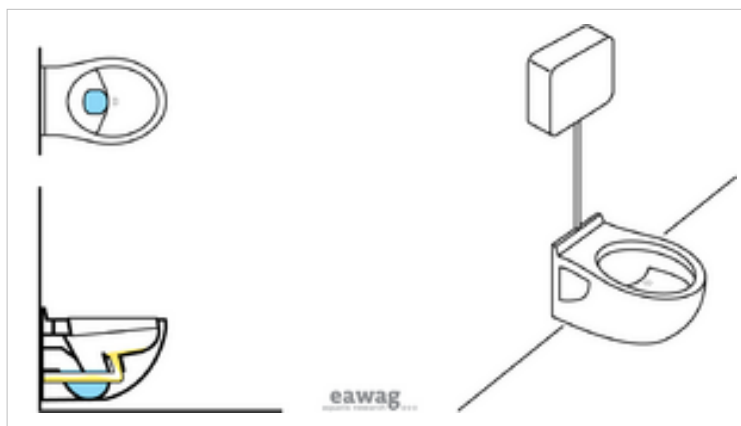


Urine_Diverting_Flush_Toilet

Applicable to systems:	Languages / langues / idiomas
8	  

Inputs: Urine , Faeces , Flushwater , Dry cleansing material ,
Anal cleansing water

Outputs: Urine , Brownwater



The Urine Diverting Flush Toilet (UDFT) is similar in appearance to a Cistern Flush Toilet except for the diversion in the bowl. The toilet bowl has two sections so that the urine can be separated from the faeces.

When the user sits on the toilet, urine is collected in a drain in the front (where there is no water) and faeces are collected in the back (where there is water). The urine is collected without water, but a small amount of water is used to rinse the urine-collection bowl after the user stands up. The urine flows into a storage tank for further use or processing, while the faeces are flushed with water to be treated. The system requires dual plumbing (i.e. plumbing for the urine and for the brownwater).



Advantages	Disadvantages/limitations
<ul style="list-style-type: none"> - Requires less water than a traditional Flush Toilet. - No real problems with odours if used correctly. - Looks like, and can be used almost like, a Cistern Flush Toilet 	<ul style="list-style-type: none"> - Limited availability; can not be built or repaired locally. - High capital and low to moderate operating costs (depending on parts and maintenance). - Labour-intensive maintenance. - The toilet is not intuitive; requires education and acceptance to be used correctly. - Is prone to clogging and misuse. - Requires a constant source of water. - Men usually require a separate Urinal for optimum collection of urine.

Adequacy

The toilet should be installed carefully with an understanding of how and where clogs may occur so that they can be easily removed. A UDFT is adequate when there is a limited supply of water for flushing, a treatment technology for the brownwater (i.e. faeces, dry cleansing material and flushing water) and a use for the collected urine. To improve diversion efficiency, Urinals for men are recommended. UDFTs are suitable for public and private applications although significant education and awareness is required in public settings to ensure proper use and to minimize clogging. This technology requires dual plumbing (separate for urine and brownwater), which is more complicated than plumbing for Cistern Flush Toilets.

Health Aspects/Acceptance

Information cards and/or diagrams are essential for ensuring proper use and for promoting acceptance; if users understand why the urine is being separated they will be more willing to use the UDFT properly. Proper plumbing will ensure that there are no odours.

Maintenance

As with any toilet, proper cleaning is important to keep the bowl(s) clean and prevent organic residues and stains from forming. Because urine is collected separately, calcium- and magnesium-based minerals can precipitate out and build up in the fittings and pipes. Washing the bowl with a mild acid and/or hot water can prevent the build-up of mineral deposits; stronger (>24 % acetic) acid or a caustic soda solution (2 parts water to 1 part soda) can be used for removing blockages however, some manual removal may be required periodically. To limit scaling, all connections (pipes) to storage tanks should be kept as short as possible; whenever they exist, pipes should be installed with at least a 1 % slope and sharp (90°) angles should be avoided. Larger diameter pipes (75mm for low maintenance and 50mm for higher maintenance) should be used.

Acknowledgements

The material on this page was adapted from: Tilley, E. et al. (2008). Compendium of Sanitation Systems and Technologies ^[2], published by Sandec ^[3], the Department of Water and Sanitation in Developing Countries of Eawag ^[4], the Swiss Federal Institute of Aquatic Science and Technology, Dübendorf, Switzerland. The publication is available in English, French, and will be made available in Spanish. Available in the IRC Digital Library ^[5]

References and external links

- GTZ (1999). Technical data sheets for ecosan components: Urine diversion Toilets. GTZ, Germany. Available: <http://www.gtz.de> (Provides a thorough comparison of the Flush Toilets with Urine diversion currently on the market. Information includes contact information and pricing as well as a description of the installation and maintenance requirements.)
- Kvarnström, E., et al. (2006). Urine Diversion – One step towards sustainable sanitation. Report 2006–1. Ecosan Res: Ecosan Publication Series, Stockholm. Available: <http://www.ecosanres.org>

References

- [1] http://www.eawag.ch/organisation/abteilungen/sandec/publikationen/compendium_e/index_EN
 [2] http://www.eawag.ch/organisation/abteilungen/sandec/publikationen/publications_sesp/downloads_sesp/compendium_high.pdf
 [3] http://www.eawag.ch/organisation/abteilungen/sandec/index_EN
 [4] http://www.eawag.ch/index_EN
 [5] <http://www.irc.nl/docsearch/title/163208>



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