

## Appendix 3

### Technology review of urine diversion components

Worldwide listing of suppliers for urine diversion pedestals/seats  
(for UDDTs or for UD flush toilets)

**Imprint****Published by:**

Deutsche Gesellschaft für  
Internationale Zusammenarbeit (GIZ) GmbH  
Sustainable sanitation - ecosan program  
Postfach 5180, 65726 Eschborn, Germany  
T +49 61 96 79-4220  
F +49 61 96 79-80 4220  
E [ecosan@giz.de](mailto:ecosan@giz.de)  
I [www.gtz.de/ecosan](http://www.gtz.de/ecosan)

**Place and date of publication:**

Eschborn, April 2011

**Authors:**

Dr. Elisabeth von Muench, Dr.-Ing. Martina Winker

**Responsible editor:**

Dr. Elisabeth von Muench

**Acknowledgements:**

We thank all suppliers who have provided information about their products for this document. We are also grateful for the work of Patience Opoku during the most recent update of the tables in April 2011.

**Contact:**

Dr. Elisabeth von Muench, GIZ ([ecosan@giz.de](mailto:ecosan@giz.de))

**Design:**

Carola Israel (GIZ), based on main document of technology review

**Photos:**

See main document of technology review

**Important note:**





The tables of suppliers provided here are *not complete listings* but give only an indication of available products. If you spot errors or omissions, please contact us at [ecosan@giz.de](mailto:ecosan@giz.de). All information is provided to the best of our knowledge. In the brackets below each listing the date for provision of the information/last update of information is given. Please be aware that not all information is from 2011. An entry in this list does not imply a recommendation by GIZ. Costs are indicative only.

Additional photos are available in our photo collection on the internet (look for the sets on UDDTs, or use keywords "urine diversion", UDDT, pedestal):  
<http://www.flickr.com/photos/gzecosan/collections>

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**Table 1.** Suppliers of urine diversion pedestals for urine diversion dehydration toilets, for sitting toilets (in alphabetical order by country).






Manufacturer	Urine-diversion pedestal model name and photo <sup>1</sup>	Materials, indicative costs <sup>2</sup> and other information
<p><b>China:</b> Chaozhou Meilong Ceramics            Tel.: +86 768 6832 328            13435590752            Fax: +86-768-6832338            E: <a href="mailto:meilong888@vip.163.com">meilong888@vip.163.com</a>            I: <a href="http://www.meilongco.com">www.meilongco.com</a>            – <a href="mailto:meilongken@126.com">meilongken@126.com</a>  <a href="mailto:meilongken@hotmail.com">meilongken@hotmail.com</a></p> <p>(updated in 2011)</p>	<p>ML2037</p> 	<ul style="list-style-type: none"> <li>• Material: ceramics</li> <li>• Drop hole for faeces sealed by lid which opens after use</li> <li>• Semi-automatic ash adding device</li> <li>• Used in the Erdos Dong Sheng Project in Inner Mongolia, China</li> <li>• Indicative cost: EUR 135</li> <li>• Units sold: awaiting information</li> <li>• Country sold in: China</li> <li>• All goods are in white colour.</li> <li>• Seller supply cover seat, flushing fitting, dual button and screw</li> </ul>
<p><b>Ethiopia:</b> Ethio Fiber            P.O. Box 6550            Addis Ababa            Ethiopia            E: <a href="mailto:ethfibre@ethionet.com">ethfibre@ethionet.com</a></p> <p>Further contact:            Martin Oldenburg            E: <a href="mailto:info@otterwasser.de">info@otterwasser.de</a></p> <p>(updated in 2009)</p>	<p>Pedestal „boxes“</p> 	<ul style="list-style-type: none"> <li>• Material: glass fibre</li> <li>• Production was supported by a PPP scheme with GTZ</li> <li>• Indicative cost: EUR 150</li> <li>• Units sold: 20</li> <li>• Countries sold in: Ethiopia</li> </ul>
<p><b>Germany:</b> Berger Biotechnik GmbH            Contact:            Wolfgang Berger            E: <a href="mailto:info@berger-biotechnik.de">info@berger-biotechnik.de</a>            I: <a href="http://www.berger-biotechnik.com">www.berger-biotechnik.com</a>            Information on a new product TOA Sep can be found at the website            (updated in 2011)</p>	<p>SEP insert</p> 	<ul style="list-style-type: none"> <li>• Material: PE plastic</li> <li>• SEP urine separation insert fits with many of the commercial dry toilets as a supplement, but can also be integrated in self built units</li> <li>• Indicative cost: EUR 54 (relatively high costs as produced in Germany)</li> <li>• Units sold: 2,000</li> <li>• Countries sold in: Europe, USA, New Zealand, South America, Afrika (e.g. Burkina Faso, where they are also copied)</li> </ul>
<p>(as above)</p> <p>(updated in 2011)</p>	<p>TOA Sep</p> <p>No picture</p>	<ul style="list-style-type: none"> <li>• Material: toilet housing and seat ABS-plastic</li> <li>• Toilet housing with seat and cover, bucket with closing cover</li> <li>• Weight: approx. 5 kg</li> <li>• Indicative cost: EUR 220</li> <li>• Pieces sold: approx. 200</li> </ul>
<p><b>India:</b> Shital Ceramics Works            (state of Gujarat)            Contact:            Jayesh Sompura            E: <a href="mailto:shitalcera@yahoo.com">shitalcera@yahoo.com</a>            I: <a href="http://www.ruralsanitation.net">www.ruralsanitation.net</a></p> <p>(updated in 2009)</p>	<p>Eco San            European type</p> 	<ul style="list-style-type: none"> <li>• Material: ceramics</li> <li>• Indicative cost: EUR 30</li> <li>• Units sold: 50</li> <li>• Countries sold in: India</li> </ul>

<sup>1</sup> More photos are available in the GIZ-ecosan photo collection, see beginning of document for website link.

<sup>2</sup> Costs are current for March/April/May 2009, without freight, for single units bought by individuals. Costs tend to be lower when higher number of units are ordered, and are also lower for traders compared to individuals placing orders.





Manufacturer	Urine-diversion pedestal model name and photo <sup>1</sup>	Materials, indicative costs <sup>2</sup> and other information
<p><b>India:</b> EEDS NGO Energy, Environment and Development Society (EEDS) Contact: Ajit Saxena E: <a href="mailto:saxena.ajitkumar@gmail.com">saxena.ajitkumar@gmail.com</a> <a href="mailto:eedsnngo@gmail.com">eedsnngo@gmail.com</a> <a href="mailto:eed@rediffmail.com">eed@rediffmail.com</a></p> <p>(updated in 2011)</p>	<p>EEDS western type two hole pan EEDS western type three-hole pan</p> 	<ul style="list-style-type: none"> <li>Material: fibre based, lightweight concrete</li> <li>Provides anal washing facility for washers</li> <li>Indicative cost: (EUR 4.5 (INR 300) for 2-hole pan and EUR 15 (INR 1000) for 3-hole pan</li> <li>Units sold: none so far (received few enquiries from India and outside too but not yet supplied – up to May 2009, see further notes below this table)</li> <li>Countries sold in: none (so far), but India soon</li> </ul>
<p><b>Ivory Coast:</b> APAP (Atelier de Polyester et des Arts plastiques) Artisan: Tioye Be 04 BP 64 Abidjan 04 Tel: +225 0740 2614</p> <p>Further contact Bernard Comoe 16 bp 783, Abidjan 16 Tel: +255 5030747 + 255 1282148 E: <a href="mailto:bcomoe@yahoo.fr">bcomoe@yahoo.fr</a></p> <p>(updated in 2011)</p>		<ul style="list-style-type: none"> <li>Material: concrete</li> <li>Unit cost: EUR 23</li> <li>Units sold: not known</li> <li>Countries sold: Ivory Coast, Ghana</li> </ul>
<p><b>Mexico:</b> ANFORA Contact: Hans Kritzler E: <a href="mailto:cs0@anfora.com">cs0@anfora.com</a> I: <a href="http://www.anfora.com">www.anfora.com</a> <a href="http://www.fillooy.com.mx/anfora">www.fillooy.com.mx/anfora</a></p> <p>(updated since 2011)</p>	<p>Ecological bowl</p> 	<ul style="list-style-type: none"> <li>Material: vitrified ceramics</li> <li>Indicative cost: EUR 30 for a dry toilet.</li> <li>Yearly output in overall pieces is 20,000 ecological bowls.</li> <li>Countries sold: Mexico, Canada, USA; Latin America</li> </ul>
<p><b>Mexico:</b> IEPSA Contact: Arturo Solares E: <a href="mailto:ventas@iepsacv.com.mx">ventas@iepsacv.com.mx</a> <a href="mailto:direccion@iepsacv.com.mx">direccion@iepsacv.com.mx</a> I: <a href="http://www.iepsacv.com.mx">www.iepsacv.com.mx</a></p> <p>(updated in 2011)</p>		<ul style="list-style-type: none"> <li>Material: glass-fibre reinforced plastic</li> <li>Indicative cost: EUR 35</li> <li>Units sold: <b>waiting info.</b></li> <li>Countries sold: Mexico</li> </ul>
<p>(as above)</p> <p>(updated in 2011)</p>		<ul style="list-style-type: none"> <li>Material: glass fibre reinforced glass</li> <li>Indicative cost: EUR 35</li> <li>Units sold: <b>waiting info</b></li> <li>Countries sold: Mexico</li> </ul>
<p><b>Mexico:</b> CITA Contact: Cesar Añorve E: <a href="mailto:acua@terra.com.mx">acua@terra.com.mx</a></p>		<ul style="list-style-type: none"> <li>The fiberglass molds for casting the cement pedestals --as well as fiberglass pedestals --and a UD fiberglass insert for bench type toilets -- are also available in</li> </ul>

Manufacturer	Urine-diversion pedestal model name and photo <sup>1</sup>	Materials, indicative costs <sup>2</sup> and other information
<p>(e-mails need to be in Spanish)</p> <p>No reply yet</p> <p>I: <a href="http://www.laneta.apc.org">www.laneta.apc.org</a> (updated in 200x)</p>		<p>Mexico from CITA</p> <ul style="list-style-type: none"> <li>Awaiting clarification by Ron Sawyer (SARAR)</li> </ul>
<p><b>Peru:</b> Aguaecosan Contact: Juan Carlos Calisaya Tel: +51-990-320877 E: <a href="mailto:icalizaya@aguaecosan.peru.com">icalizaya@aguaecosan.peru.com</a> I: <a href="http://www.aguaecosanperu.com">www.aguaecosanperu.com</a></p> <p>(updated in 2011)</p>		<ul style="list-style-type: none"> <li>Material: ceramic</li> <li>Indicative cost: EUR 42</li> <li>Units sold: 321</li> <li>Countries sold: Peru</li> </ul>
<p>(as above)</p> <p>(updated in 2011)</p>		<ul style="list-style-type: none"> <li>Material: fiber glass</li> <li>Includes sink with 2" drain. Does not include seat.</li> <li>Indicative cost: EUR 25</li> <li>Units sold: 552</li> <li>Countries sold: Peru</li> </ul>
<p><b>Peru:</b> Rotaria del Peru SAC Company Contact: Ruth Mantilla E: <a href="mailto:adm@rotaria.net">adm@rotaria.net</a> or Heike Hoffman E: <a href="mailto:heike@rotaria.net">heike@rotaria.net</a> <a href="mailto:info.pe@rotaria.net">info.pe@rotaria.net</a> I: <a href="http://www.rotaria.net">www.rotaria.net</a></p> <p>(updated in 2011)</p>	<p>Rotaria- EcoSánitario</p>  	<ul style="list-style-type: none"> <li>Material: glass fibre</li> <li>Indicative costs: EUR 22-29 and EUR 10 (seat and lid and inner cover), plus packing/shipping in Latin America</li> <li>Urine separation insert for bench and pedestal application</li> <li>Units sold: 400</li> <li>Countries sold: Peru, Brazil</li> </ul>
<p>(as above)</p> <p>(updated in 2011)</p>	<p>Rotaria-EcoLet</p> 	<ul style="list-style-type: none"> <li>Material: glass fibre</li> <li>Indicative cost: EUR 58 (only white colour without shipping)</li> <li>Pedestal with removable urine separation insert and toilet seat.</li> <li>Countries sold: Peru, Brazil</li> </ul>

Manufacturer	Urine-diversion pedestal model name and photo <sup>1</sup>	Materials, indicative costs <sup>2</sup> and other information
<p><b>Philippines:</b> Center for Advanced Philippine Studies (CAPS) (<i>this is an NGO</i>)  Contact:  Dan Lapid  120A K-8th Street  East Kamias  Quezon City 1102  Tel: +63 2 4339042  Fax/Tel: +63 2 4345954  E: <a href="mailto:office@caps.ph">office@caps.ph</a>  <a href="mailto:dglapid@gmail.com">dglapid@gmail.com</a>  I: <a href="http://www.caps.ph">www.caps.ph</a></p> <p>(updated in 2011)</p>	<p>Seat type</p> 	<ul style="list-style-type: none"> <li>• Material: ceramics</li> <li>• A wash bowl or bidet (sold separately) may also be added to the installation.</li> <li>• Used in various ecosan projects in the Philippines, see SuSanA case studies on <a href="http://www.susana.org/index.php/lang-en/case-studies/asia">http://www.susana.org/index.php/lang-en/case-studies/asia</a></li> <li>• Indicative cost: EUR 21</li> <li>• Units sold: 3,000 (2005-2008).</li> <li>• Countries sold in: mostly in the Philippines and some units were sold or sent to Austria, Sri Lanka, Uganda, the Netherlands, India and Mexico.</li> </ul>
<p>(as above)</p> <p>(updated in 2011)</p>	<p>Bench type</p> 	<ul style="list-style-type: none"> <li>• Material: ceramics (mounted into a box or bench-like structure that houses the containers underneath)</li> <li>• Indicative cost: EUR 12.5</li> <li>• Units sold: 500 (2005-2008)</li> <li>• Countries sold in: as above</li> </ul>
<p><b>South Africa:</b> EnviroSan Sanitation Solutions  Contact:  Jacques Rust  Marketing and Sales  Manager  P.O. Box 1769, New  Germany, 3620  South Africa  Office: (+27) 31 700 1866  Fax: (+27) 31 700 1867  Mobile: (+27) 82 787 2112  E: <a href="mailto:jacquesru1@gmail.com">jacquesru1@gmail.com</a>  <a href="mailto:info@envirosan.co.za">info@envirosan.co.za</a>  I: <a href="http://www.envirosan.co.za">www.envirosan.co.za</a></p> <p>(updated in 2011)</p>	<p>UD pedestal</p>  <p>VIP 480 pedestal</p> 	<ul style="list-style-type: none"> <li>• Material: plastic</li> <li>• Fibre glass masters (was: EUR 353 – Richard Holden)</li> <li>• Supplier for large UDD toilet construction programme in Durban metropolitan area<sup>3</sup></li> <li>• Indicative cost: VIP 480 pedestal complete with all internal components including incorporated seat, lid and nylon hinge pin: EUR 35</li> <li>• UD baby seat / infant seat: EUR 9</li> <li>• UD additional flange and cover (only for double chamber units required): EUR 11</li> <li>• VIP 480/ UD flange: EUR 6</li> <li>• UD fly screen (with canopy for rain prevention): EUR 3</li> </ul> <p>All prices are based on quantities of 0-500 units.</p> <ul style="list-style-type: none"> <li>• Units sold: 250,000 VIP/UD units</li> <li>• Countries sold in: South Africa and exports to other african and international countries</li> </ul>
<p>(as above)</p> <p>(Updated in 2011)</p>	<p>VIP 200 pedestal</p> 	<ul style="list-style-type: none"> <li>• Material: plastic</li> <li>• Indicative cost: EUR 26</li> <li>• VIP pedestal with seat, lid, lockable flange and nylon hinge pin</li> <li>• Units sold: unknown.</li> <li>• Countries sold: South Africa and exports to other african and international countries</li> </ul>

<sup>3</sup> Further contacts: In Durban: Teddy Gounden, Chris Buckley, Jaques Rust. In Johannesburg: Richard Holden: [richarddholden@gmail.com](mailto:richarddholden@gmail.com)






Manufacturer	Urine-diversion pedestal model name and photo <sup>1</sup>	Materials, indicative costs <sup>2</sup> and other information
<p><b>Sweden:</b> Separett AB  Contact:  Mikael Billsund  Skinnebo  33010 Bredaryd  Tel: +46-371-71220  +46-705921744  Fax: +46 371-71260  E: <a href="mailto:info@separett.com">info@separett.com</a>  <a href="mailto:mikael@separett.com">mikael@separett.com</a>  I: <a href="http://www.separett.com">www.separett.com</a>  <a href="http://www.separett.eu">www.separett.eu</a></p> <p>(updated in 2011)</p>	<p>Separett Villa  9000-series</p> 	<ul style="list-style-type: none"> <li>• Material: Impact-resistant high-gloss polypropylene</li> <li>• Front urinal funnel with 2-m long urine tube attached</li> <li>• Child seat included</li> <li>• Electrical fan expelling odours and condensation from toilet: 220V-, 120V-, 12V-versions</li> <li>• Unit cost: EUR 720</li> <li>• Units sold: around 50,000 pieces of Villa 9000 series (since 2003); sold around 200,000 units of separating toilets from the cheapest to the most exclusive toilets (from 1994 to now)</li> <li>• Countries sold in: Europe (e.g.: Sweden, Finland, Norway, Denmark, France, Germany, UK, Switzerland, Czech Republic, Benelux, Ireland, Spain, Estonia, Poland), North America, Africa, Australasia, China, Russia etc.</li> </ul>
<p>(as above)</p> <p>(updated in 2009)</p>	<p>Simpler models:  Rescue seat, rescue 25, rescue camping, Privy 501, Privy 500 (Photo of Privy 500)</p> 	<p>Various models:</p> <ul style="list-style-type: none"> <li>• Rescue Seat: UD inset with integrated seat. Cost approx. 10-15 USD</li> <li>• Rescue 25: UD inset with integrated seat and foldable legs.</li> <li>• Privy 501: A UD inset with traditional toilet seat and lid attached</li> <li>• Privy 500: A UD inset with an attached insulated foam plastic seat, good for cold climates.</li> </ul>
<p>(as above)</p> <p>(updated in 2011)</p>	<p>TORP</p> 	<ul style="list-style-type: none"> <li>• Material: PE plastic</li> <li>• Indicative cost: EUR 415 for TORP in Germany</li> <li>• Units sold: 5,000 (since 2004)</li> <li>• Annual volume is around 2000 pieces per year + additional models</li> <li>• Measure: 45 cm wide, 54 cm deep, 53 cm high, sitting high 52 cm</li> <li>• Weight: ca. 12 kg including box</li> <li>• Additional packages: vent pipes, cannister for urine, biodegradable bags.</li> </ul>
<p><b>Sweden:</b> Wostman Ecology AB  Contact:  Sven Ingvar-Nilsson  E: <a href="mailto:sven@wostman.se">sven@wostman.se</a>  <a href="mailto:info@wostman.se">info@wostman.se</a>  I: <a href="http://www.wostman.se">www.wostman.se</a></p> <p>(updated in 2009)</p>	<p>EcoDry</p> 	<ul style="list-style-type: none"> <li>• Material: sanitary porcelain</li> <li>• Minimal rinsing flush for the urine section (0.1 L) – so urine is diluted with small amount of water</li> <li>• No water traps whatsoever</li> <li>• Urine hole is only 8 mm; the first urine hose is 3/4" and then there is a fitting for 2"</li> <li>• Indicative cost: EUR 346</li> <li>• Units sold: 8,000</li> <li>• Countries sold in: 20 (main countries are Denmark, Finland and Norway).</li> </ul>



Manufacturer	Urine-diversion pedestal model name and photo <sup>1</sup>	Materials, indicative costs <sup>2</sup> and other information
<p><b>Uganda:</b> Crestanks Ltd.  P.O. Box 11381  Kampala  Mobile: Plot No 86/96 6<sup>th</sup>  Street Industrial Area  Tel: 256-41-235470/348973  256-772-766574  Fax: 256-41-234184  E : <a href="mailto:janet@crestanks.co.ug">janet@crestanks.co.ug</a>  I: <a href="http://www.kentainers.com">www.kentainers.com</a></p> <p>(updated in 2009)</p>	<p>Wonderloo</p> 	<ul style="list-style-type: none"> <li>• Material: PET toilet seat</li> <li>• Bucket for faeces included (approx 10 Litres)</li> <li>• Also available in green and grey</li> <li>• Indicative cost: approx. EUR 45 (US\$ 120,000)</li> <li>• Units sold: data not disclosed</li> <li>• Countries sold in: Uganda, Kenya, Tanzania, Ethiopia, Rwanda, Southern Sudan and Burundi</li> </ul>
<p>(as above)</p> <p>(updated in 2009)</p>	<p>Eco-loo</p> 	<ul style="list-style-type: none"> <li>• Complete toilet (incl. plastic super structure, urine diverting slab and faeces chambers) with either toilet sitting type <i>Wonderloo</i> or urine diversion squatting slab/pan <i>LS-EKO</i></li> <li>• Indicative cost: EUR 480 (US\$ 1,250,000)</li> <li>• Units sold: data not disclosed by supplier</li> <li>• Countries as above</li> </ul>




**Table 2.** Suppliers of urine diversion flush toilets, sitting type (in alphabetical order by country).

Manufacturer	Water-flushed UD toilet model name and photo <sup>4</sup>	Materials, indicative costs <sup>5</sup> and other information
<p><b>China:</b> EnviroSystems (a sino-german company for ecosanitation, composting technique and flue gas desulphurication)            Contact:            Jian Zhang            Tel: +86 10 8205 56 67            E: <a href="mailto:office@envi8.com">office@envi8.com</a>            I: <a href="http://www.ecosan.cn">www.ecosan.cn</a></p> <p>(updated in 2009)</p>	<p>EnviroSystems</p> 	<ul style="list-style-type: none"> <li>• Material: sanitary porcelain</li> <li>• Separate bowls for urine and faeces</li> <li>• 0.2 L for urine flush, 6 L for faeces flush</li> <li>• Available as seated pedestal or squatting pan (see Table 6)</li> <li>• Installed in the Beijing Olympic Forest Park, China<sup>6</sup></li> <li>• Indicative cost: only provided on request</li> <li>• Units sold: not disclosed by supplier</li> <li>• Countries sold in: China</li> </ul>
<p><b>Germany:</b> Berger Biotechnik GmbH            Contact:            Wolfgang Berger            (distributor for Gustavsberg toilets in Germany and other countries)  <a href="mailto:info@berger-biotechnik.de">info@berger-biotechnik.de</a>  <a href="http://www.berger-biotechnik.de">www.berger-biotechnik.de</a></p> <p>(updated since 2011)</p>	<p>Gustavsberg            Nordic 396U</p> 	<ul style="list-style-type: none"> <li>• Material: sanitary porcelain</li> <li>• 2 separate bowls</li> <li>• 2 L small flush for urine, 4 L large flush of faeces</li> <li>• Wall mounted</li> <li>• Urine pipe made from stainless steel (external to toilet bowl), acts also as odour seal: designed very flat, so that pipe is filled by 0.2 L of flush water, which is 10% of the urine flush</li> <li>• Indicative cost: EUR 665 (including flashing tank and urine pipe made of high quality steel)</li> <li>• Units sold: Awaiting information</li> <li>• Countries sold in: Awaiting information (also used in Australia (eco-village) Currumbin and Ghana (Valley View University in Accra))</li> <li>• Not produced by Villeroy and Boch anymore. The bowls left are sold by Berger-Biotechnik. Approx 100 pieces are still available.</li> <li>• Spare parts are guaranteed for 10 years.</li> </ul>
<p><b>Germany:</b> Roediger Vacuum GmbH            Contact:            Hans-Christian Rüster            E:  <a href="mailto:christian.ruester@roevac.com">christian.ruester@roevac.com</a>  <a href="mailto:info@roevac.com">info@roevac.com</a>            I: <a href="http://www.roevac.com">www.roevac.com</a></p> <p>(updated since 2011)</p>	<p>Roediger NoMix</p> 	<ul style="list-style-type: none"> <li>• Material: sanitary porcelain</li> <li>• Urine collected undiluted by means of a valve opened by sitting on lid</li> <li>• 1-3 L urine flush (flushing amount can be adjusted during installation of toilet) and 6 L faeces flush</li> <li>• Indicative cost: EUR 780</li> <li>• Units sold: approx. 420 toilets sold between 2001 and 2009</li> <li>• Countries sold in: Germany, Austria, Switzerland, Poland, Ireland, Luxembourg, Tunisia, Netherlands, India and USA</li> </ul>

<sup>4</sup> More photos are available in the GIZ-ecosan photo collection, see beginning of document for website link.

<sup>5</sup> Costs are without freight, for single units bought by individuals. Costs tend to be lower when higher number of units are ordered, and are also lower for traders compared to individuals placing orders.

<sup>6</sup> For case study description on this project: <http://www.susana.org/index.php/lang-en/case-studies/asia>

Manufacturer	Water-flushed UD toilet model name and photo <sup>4</sup>	Materials, indicative costs <sup>5</sup> and other information
<p><b>Sweden:</b> BB Innovation &amp; Co AB  Contact: Bobby Bogdan Mrozowski  E: <a href="mailto:bobby@dubbletten.nu">bobby@dubbletten.nu</a>  <a href="mailto:info@dubbletten.nu">info@dubbletten.nu</a>  I: <a href="http://www.dubbletten.nu">www.dubbletten.nu</a></p> <p>(updated since 2011)</p>	<p>Nova Toaletta Dubbletten</p> 	<ul style="list-style-type: none"> <li>• Material: sanitary porcelain</li> <li>• Separate bowls for urine and faeces</li> <li>• 0.1 L for urine flush, 4 L for faeces flush</li> <li>• Child seat available (integrated in adult seat)</li> <li>• Indicative cost: EUR 523</li> <li>• First installation was in 1992; Swedish patent granted in 1994</li> <li>• Units sold: "thousands" – exact number not disclosed by supplier</li> <li>• Countries sold in: Sweden, Denmark, Finland, Poland, Italy, Switzerland, Mexico, Australia, Czech Republic, Japan, Germany.</li> </ul>
<p><b>Sweden:</b> Wostman Ecology AB  Contact: Sven Ingvar-Nilsson  E: <a href="mailto:sven@wostman.se">sven@wostman.se</a>  <a href="mailto:info@wostman.se">info@wostman.se</a>  I: <a href="http://www.wostman.se">www.wostman.se</a></p> <p>(updated in 2009)</p>	<p>EcoFlush</p> 	<p>EcoFlush model:</p> <ul style="list-style-type: none"> <li>• Material: sanitary porcelain</li> <li>• Flush volumes: Urine 0.1-0.3 L, faeces 2.5 L (faeces flushed by gravity).</li> <li>• Indicative cost: EUR 464</li> <li>• Units sold: 8,000</li> <li>• Countries sold in: 20 (main countries are Denmark, Finland and Norway)</li> </ul>
<p>(as above)</p> <p>(updated in 2009)</p>	<p>EcoVac<sup>7</sup></p> 	<p>EcoVac model:</p> <ul style="list-style-type: none"> <li>• Faeces are flushed</li> <li>• Flush volumes: Urine 0.1 L, faeces 0.7 L.</li> <li>• Indicative cost: EUR 1,580 (including vacuum unit and electronic box)</li> <li>• Units sold: 400</li> <li>• Countries sold in: same as above</li> </ul>

Additional notes:

1. About **Gustavsberg toilet** (by Wolfgang Berger 6 May 2009, Ecosanres discussion forum):  
The 1/2" urine pipe, which is about 50 cm long and is designed as a trap, needs to be cleaned by some water pressure to remove slimy residues, which may grow by urine-water mixture and may block the urine flush. To prevent blockage of the pipe system, I recommend to use a dilution of lemon acid or vinegar (no concentrate) to reduce crystalline deposit. We use it for the cleaning of dry toilets and dry urinals as well and it is easy to apply by a spray bottle. Its low pH acts as a disinfectant. In case there is some blockage, the urine pipe is easy to remove, because the installations are outside the bowl. To avoid blockage by tissue paper, we deliver a sieve, also made from stainless steel.

<sup>7</sup> Same model name is used for vacuum toilet without urine diversion.



Published by:

Deutsche Gesellschaft für  
Internationale Zusammenarbeit (GIZ) GmbH

Dag-Hammarskjöld-Weg 1-5  
65760 Eschborn / Germany

T +49 6196 79-0

F +49 6196 79-1115

W [info@giz.de](mailto:info@giz.de)

I [www.giz.de](http://www.giz.de)

partner of

**sustainable  
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