

Press Information

Use Water Better

Gray water recycling with PONTOS® puts money back in one's wallet and makes ecological sense too

Schiltach, November 2007. Using valuable and expensive potable water more than once has already been the standard in industry for a long time. Now with *AquaCycle*, developed and produced by Pontos® (www.pontos-aquacycle.de), a subsidiary of Hansgrohe AG, there are compact water recycling systems available for public and private properties as well. The line of products includes systems with reprocessing capacities of between 600 and 30,000 liters of water a day. This flexibility allows AquaCycle systems to be tailored to the needs of various projects and for different consumption habits: in single and multi-family homes as well as in rooming houses and dormitories, hotels, and commercial enterprises.

The principle: Use water twice

In truth, it is difficult to accept that the best quality drinking water is used to flush the toilet, clean the house, water the garden, or is pumped into the washing machine. Even so, in private households in Germany, an average of 70 liters per person per day – accumulating as the same amount of wastewater – has to be disposed of with no small amount of technical effort and expense. This is all the more disturbing in view of high water and wastewater prices that have risen significantly in the last few years, which is why the intelligent use of water as a resource is also sensible from an economic point of view.

The idea behind water recycling is simple in concept: After a shower, the purified and reprocessed water is used to flush the toilet, do the laundry, or water the garden. In this vein, *AquaCycle* systems purify shower and bathing water according to a patented process in a purely mechanical and biological manner without added chemicals. The treated water generated this way is hygienically clean and can be used for any purpose that doesn't require drinking-water quality.

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The quality of the water meets the requirements of the EU directive for bathing water, and even laundry can be washed without any loss in quality. Dealing thriftily with water as a resource is not the only result of this. Utilities costs are also reduced thanks to the decreased consumption of potable water and the smaller amount of wastewater. According to average consumption statistics, the water used in showers, wash basins, and bathtubs is roughly equal to the water needed for flushing the toilet, watering the garden, cleaning the house, and doing laundry. Using a cistern module, AquaCycle systems also open up the possibility of using rainwater.

The basic precondition for processing so-called gray water, defined in European standard 12056-1 as slightly dirtied wastewater free of fecal material, is a separate pipe system for carrying wastewater. Planning should thus include a separate pipe network for wastewater from toilets and kitchen sinks. In the case of new construction, the extra costs for this additional installation in the building hardly make a difference: For single-family houses in Germany, these are between €400 and €600 on average. In existing buildings, however, separate installation is only recommended along with a complete renovation.

The process: biological and automatic

All *AquaCycle* models purify shower and bathing water fully automatically and in a purely mechanical and biological manner without added chemicals – depending on the version from the extensive Pontos product line, between 600 and 30,000 liters per day, designed according to the actual requirements of the project in question.

Industrial water is processed in four phases according to the multi-patented process developed by Pontos. The four phases in the process are:

1. A filter unit filters out larger particles such as bits of textile, hair, etc. The filter is electronically controlled and reversed, with remaining particles going into the sewer system.
2. Bio-cultures break down the dirt components in the water in the pre- and main recycling chambers. The water is pumped along in three-hour intervals.

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3. Sediments are moved automatically into the sewer system.
4. Before the water gets to the treated water storage tank, it flows along a UV lamp and is sterilized. Afterwards it is odorless and can be stored for the long-term until it is used again.

Should the level in the treated water storage tank fall below a certain amount, potable water is automatically fed in from the network so that the toilet can always be flushed, for example.

Wide range of products

The standard version of the *AquaCycle* is designed for single-family homes or duplexes and consists of three pre-assembled modules. These can be expanded in larger properties in almost any way desired. Today the range of products includes systems with a reprocessing capacity of between 600 and 18,000 liters a day. For large projects whose requirements are not covered by the product range offered, Pontos develops special custom-tailored solutions in collaboration with technical planners and architects.

Installation is simple: Depending on the construction situation on site, the roughly cabinet-sized standard system can be up and running after two hours. After the system is switched on, an automatic program controls the startup phase, which lasts for 14 days. After this, normal operation begins and *AquaCycle* reaches its full purification capacity.

Operating the system is just as easy as installation. A display with menu prompts provides all of the important information, even on any potential disruptions or problems. When inspections are needed, status inquiries are possible regarding all of the important aspects of the system, for example the fill level or valve positions. Another plus: *AquaCycle's* low operating costs. Additionally, hardy plastic containers, pumps, pipes, and UV lamps guarantee long product life.

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Qualified for Financial Assistance

In many places, the ecological approach to water recycling is already paying off with construction financing. Efforts to save water when using resources may receive financial assistance, such as from the German Kreditanstalt für Wiederaufbau and state credit institutes, in the form of building capital at favorable terms. In many other municipalities as well, this type of intelligent water use results in a double benefit. Hamburg and numerous other smaller communities in Germany provide financial assistance for the installation of an *AquaCycle* system, for instance.

Pontos GmbH, (www.pontos-aquacycle.de) headquartered in Offenburg and the youngest of the Hansgrohe AG subsidiaries, specializes in recycling high-quality, precious potable water. With the AquaCycle systems it develops and produces, it makes compact water recycling equipment available to the public and private sectors. The line of products includes systems with reprocessing capacities of between 600 and 30,000 liters of water a day. This allows AquaCycle systems to be tailored to the needs of various projects and for different consumption habits: in single and multi-family homes as well as in boarding homes and dormitories, hotels, and commercial enterprises. AquaCycle received the 2005 Prize for Innovation in Architecture and Engineering and the 2006 Innovation Prize of the Year. At the German Industry Innovation Award program, Pontos GmbH was singled out for special recognition for having developed the AquaCycle water recycling technology.

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Pontos AquaCycle

With reprocessing capacities of between 600 and 30,000 liters of water a day, AquaCycle systems can be put to use so as to meet the needs of a large range of projects – from the single-family house up to large hotels.



AquaCycle 900
Recycling capacity 600 Liters/Day
[AquaCycle_01.tif](#)



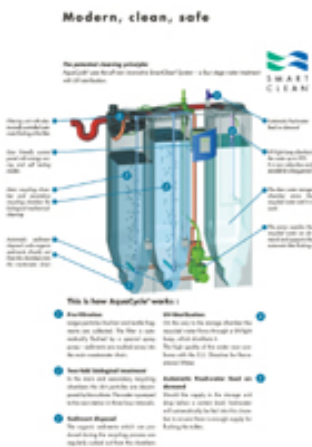
AquaCycle 3300
Recycling capacity 3000 Liters/Day
[AquaCycle_02.tif](#)



AquaCycle 5000
Recycling capacity 4000 Liters/Day
[AquaCycle_03.tif](#)



AquaCycle 12500
Recycling capacity 10000 Liters/Day
[AquaCycle_04.tif](#)



Functioning of PONTOS® AquaCycle®
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