Extending the Life of Small Wastewater Plant in Switzerland

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Tsurumi's FHP decanting pumps provide a cost effective solution to limited tank capacity in small wastewater treatment plants. The pumps remove supernatant water to leave only pure sewage, reducing the overall volume of stored waste and extending the life of the plant. Iseltwald wastewater plant in Switzerland uses five FHP pumps for this very purpose.

Small wastewater treatment plants do not have the luxury of excess space. With limits on rotting tower size and even tighter limits on budgets, plants must maximise tank capacity to perform as economically as possible in the long term. Tsurumi's FHP pumps enable plants to maximise their working life through a cost effective and easy to install solution. The pumps discharge buoyant water from sludge tanks at a predetermined depth to ensure only pure sewage is stored.

"The FHP pump is unique in its operation," explains Carsten Bode, product manager at Tsurumi Europe. "By removing clear water from the middle of the tank, it drastically reduces the volume of waste to be stored and, in turn, extends the working life of the treatment plant. The FHP's versatility means it is suitable for any application that requires the removal of clear water from a settling but mixed wastewater solution. Our FHP pumps also have a reputation for reliability and longevity. We installed our first seven years ago and it's still going strong."

Iseltwald Plant

Designed to cater for a population of approximately 850, Iseltwald wastewater treatment plant in Brienz, Switzerland, consists of a 10m deep activated sludge tank and a tank for the aerobic treatment of primary sludge. A total of five Tsurumi FHP pumps are in use at the plant, four are situated in the activated sludge tank, which measures 6% solidity, and one in the aerobic treatment tank.

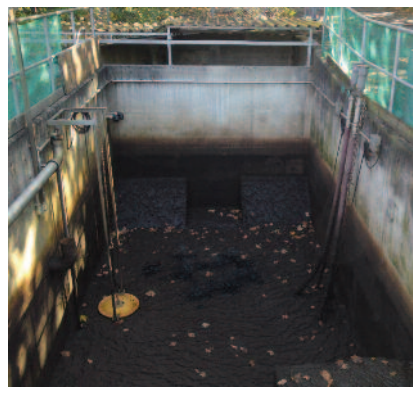
The pumps, supported by a guide rail, float on the surface of the tanks and pump out clear water from a preset depth of approximately 50cm. In this way, all that eventually remains in the tank is surface bubbles at the top and pure sewage at the bottom. An anti-sludge sensor controls the pump activity while monitoring the clarity of the discharged water to ensure no sediment is trapped in the pump.

"Due to the plant's small size, the budget for the pump installation was equally small," explains Mr Ernst Abegglen, technical manager at the Iseltwald plant. "But with Tsurumi we found the perfect solution. The FHP pumps proved to be the most economical and easy-to-install option. And, since being installed in 2003, they have run continuously without fault. Only now are we scheduled to maintain them and even this is only standard preventative maintenance, as is required after such a long period of continual use."

RL Pumpenanlagen GmbH, general distributor for Tsurumi in Switzerland, is set to carry out the maintenance work in March 2010.

Tsurumi has also provided two TRN aerators to the Iseltwald plant for the treatment of primary sludge. The aerators tackle the initial stage of wastewater treatment, separating waste from water. The aerators work in conjunction with the decanting pumps to provide a total and efficient pumping solution.

The FHP Pump



Tsurumi's FHP series decanting pump is specially designed for the discharge of supernatant water. It can be used in numerous applications including sewage treatment, wastewater treatment and even decanting river water from a pond.

The FHP pumps are designed to be supported by a guide rail and float on the water's surface to pump out clear water from a pre-determined depth. The pump continues to operate until a photosensor, fitted to monitor the consistency of the water, automatically switches it off. When not in use, a check ball within the pump closes the suction opening to prevent the inflow of sediment. The guide rail enables the pump to rise and fall with the water line, ensuring it remains in the optimum position and depth.

The pump is fitted with a special non-clogging impeller, to withstand any intake of waste. It also features Tsurumi's patented double mechanical seal, which significantly reduces day-to-day wear.