



Environment and energy

Colsen International b.v.

Newsletter
2012 - #1

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Phosphate recovery by ANPHOS® at the WWTP Land van Cuijk (NL)

Ever since the 'Energy factory' concept was launched more and more WWTP's consider options to recover nutrients and to save energy via treatment of selected process streams. Water is no longer treated as a 'waste stream' but considered a raw material. Phosphate represents a promising candidate for nutrient recovery from waste water. At the WWTP Land van Cuijk (Haps, NL) a so called [ANPHOS®](#) installation is realized in a collaborative effort with the Water Board 'Aa en Maas'. The system is successful in operation since February 2011 in the liquid fraction line of digested sludge and producing struvite.



[More information](#)

Ammonia stripper pilot for digestate treatment AMFER® in operation



[More information](#)

A system has been developed which facilitates removal and ammonia recovery from manure digestate. The digestate is heated and aerated batch wise in a process tank. The air which has become rich in ammonia is removed from the reactor, led through a condenser and further treated in an acid washer. In this washer the ammonia containing air is brought into contact with an acid washing liquid. During passage through the washer the ammonia is captured and an ammonium sulphate solution is formed. The residual air is low in ammonia and subsequently reintroduced into the process in order to recover the thermal energy. The ammonium sulphate solution thus formed is marketed as fertiliser under the name [AMFER®](#).

This project is funded by the European Fund for Regional Development within the framework of OP-Zuid (Operational Program for Zuid-Nederland).

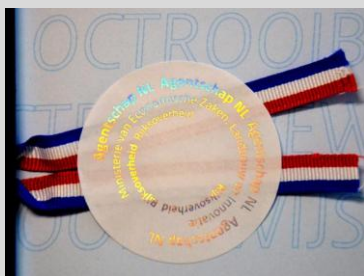
RO-recycle® : a new approach in water re-use

In order to alleviate the growing fresh water demands options are investigated to re-use wastewater streams. Colsen b.v. has developed a unique water reuse concept the so-called [RO-recycle®](#). This concept combines reverse osmosis technology with an intelligent operation control. This opens opportunities for re-use of (waste) water in a reliable, economically attractive and sustainable manner. The effluent quality of the system can be tuned to the intended use (e.g. boiler feed water). In 2011 the concept was successfully implemented in an industrial WWTP's in Holland and Italy. In 2012 Colsen in collaboration with Alewijnse Industrie (NL) executes a pilot project to test the technology in South-Africa in the vegetable and fruit processing industry.



RO-unit : [more information](#)

Patent granted for DIGESTMIX®



The Dutch Patent Office has granted a patent for Colsen's unique [DIGESTMIX®](#) system. This system is successfully employed for mixing and heating of digestate in digestion installations. The principle is based on intensive mixing, the prevention and removal of floating layers, as well as a more stable temperature control. The system is characterised by minimal energy consumption and minimal maintenance costs. During maintenance the reactor remains fully operational and biogas production is not disrupted.

For more detailed information : see our product sheet [DIGESTMIX®](#)

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