

The totally odour-free grit chamber – innovations from Nordic Water

Rzeszow in Poland is the first community ever to have installed a combination of Zickert Bottom Sludge Scraper, Zickert Cover and Meva OCS Odour Control System carbon filter in its waste water plant. This is also the first Zickert Cover outdoors installation in the world.

The challenge

Rzeszow is a fast growing community with increasing demands on its waste water treatment capabilities. The previously existing installation with conventional traverse scrapers caused operational disturbances, especially in wintertime. Also, the scrapers failed to efficiently recover sufficient quantities of sand, and were thus long due to be replaced.



The solution



After having studied other installations in Poland, the management appointed MD Enterprises Polska S.C. and Nordic Water Products to install Zickert Dual Action Bottom Sludge Scraper. The Zickert scraper provides more reliable operation and longer life than the traditional scraper, and also collects sand much more efficiently. MD Enterprise then advised the management to try an installation of the new Zickert Cover to close the basins hermetically, together with Meva OCS odour control filter on two of the four basins. This solution was said to be able to remove 99.9% of hydrogen sulphides and mercaptanes.

The result

Already after a few months' operation it was clear that the results were very good;

- The sand is much cleaner than with the conventional scrapers.
- The air emitted is totally odour-free – the control instrument did not detect any traces of hydrogen sulphides or mercaptanes.

Consequently the two basins with the new installation were able to recover more sand. This larger quantity was also much cleaner, laying grounds for considerable savings in sand dewatering and sand washing. Apart from positive effects for the plant's neighbours, the gains were of such importance that the management decided entrust the supply of the same identical solution for the remaining two basins to Nordic Water and MD Enterprise, together with an order for 2 siphons (self-aspirating sludge systems) to be installed in the community's post-sedimentation basins.



Some facts

Rzeszow waste water plant:

- 180 000 inhabitants
- capacity 10,000 – 11,500m³/day/grit chamber
- grit chamber, conventional scrapers: 2.5m³/month/grit chamber
- grit chamber, Zickert scrapers: 3.5m³/month/grit chamber

Installation:

- 2 pcs Z-2001 Zickert Bottom Sludge Scrapers, 20 x 0.5m/each
- 1 pcs Z-6000 Cover, hermetical basin closure, 21 x 6m
- 1pcs MEVA OCS600, 0.6 x 1.4m, 150 kg carbon, air flow approx. 290m³/h

Zickert by Nordic Water are the market leading sludge scrapers in Poland with more than 250 installations around the country.