

## REDOX WASTEWATER-TREATMENT-SYSTEMS WWL

The Redox engineers have developed for many years, reliable and efficient wastewater-treatment-systems. Depending on the industry and application, mechanical, physical, physico-chemical or biological treatment-systems are applied. Often systems are applied separately but any combination is possible due to the modular design. The Redox flotation system is designed on present and future discharge demands and can be extended without



investing in new additional treatment-systems. Suspended solids, grease and oil are very efficiently removed by dissolved air-flotation (DAF) while sediments like sand, etc. are removed by a spiral conveyor over the total flotation tank length. This ensures a trouble free operation with hardly any maintenance. The floated materials are collected at the surface of the flotation system, where they are dewatered to a maximum by a scraper-/ thickener-system. This system is a unique development, resulting in exceptionally high dry solids contents. The combination of screening and DAF results in BOD/COD-reductions up to 50% depending on the application.

In many cases however chemical additions are required to obtain higher reductions of the pollutants. Coagulation and flocculation is realized in a so called "pipe reactor" where under strict controlled conditions chemicals are dosed for coagulation (destabilization of f.e. emulsions) and flocculation (conglomeration of destabilized particles).

Chemical treatment in combination with dissolved air flotation results in BOD/COD reductions of 80% and more depending on the application.

Standard systems are available in a range of 5 m<sup>3</sup>/hr. to 300 m<sup>3</sup>/hr. The treatment of larger capacities are realized by combining or expanding systems.

If higher reductions of BOD/COD and Nitrogen are required, or if chemical sludge is not re-usable or accepted, Redox has developed a series of continuous and discontinuous biological treatment-sys-

tems. A significant innovative feature is the flotation of biological sludge, resulting in dry solid contents of the separated sludge of 8-12% with effluent suspended solids of less than 10 mg/l.

Consequently further dewatering costs by presses, centrifuges, etc. will be minimized.

Redox BV is represented all over the world, ensuring local service before, during and after the installation of its watertreatment-systems.