

## Technical specifications

The aim of this project is tertiary treatment of treated municipal wastewater through combined method including filtration and ozonation. In order to optimize the amount of ozone injection, wastewater is transferred to micro drum filter. The filtration unit consists of two micro drum filter units located inside the reservoir. Filter is equipped with horizontal axis of rotation. Drum is hanged on two drive belts and is equipped with filtration cloth. Filtration cloth makes a barrier to the flowing water. The impurities are caught on the cloth and further washed into the sludge tank with backwash system. Filtration cloth is fixed on special plastic segments, which can be easily, with no need of tools, fixed on drum.

Backwash system is connected to the backwash pump which pumps already filtered water for cleaning the cloth. Sludge which consists of caught suspended solids as well as the backwash wastewater is led to outside by pump. Filter operation is based on sensing the water levels in front of filter and in its sludge tank. Device is equipped with all the functional components vital for filtration. Filter is able to remove only particles bigger than filtration cloth aperture. Micro drum filter effluent is entered to ozone contact tank for initial disinfection. The ozone produced in the ozone generation unit enters the ceramic filters placed on the bottom of the reservoir and spread as fine bubble in the wastewater. Ozone is a substance for the oxidation of organic matter and the destruction of microorganisms and viruses. The amount of ozone injection depends on the quality of the inlet and outlet sewage, the discharge into the reservoir and its contact time. Retention time in the ozone contact tank is considered 20 minutes. Ozone is a very odorous and highly toxic gas and its presence in the air, even at low concentrations, is not permitted for respiration. For this reason, in order to prevent the release of ozone gas dissolved in the environment around the ozone injection, ozone destructor unit is installed above the tank equipped with fan. The air inside the covered tank is transferred to the ozone destructor unit with a special catalyst and the ozone is removed from the air after the reaction with the catalyst. Disinfected wastewater is collected and transferred to water network. In order to prevent from contaminating, hypochlorite solution is injected to network pipe by hypochlorite dosing pump.