| Technology | Tertiary treatment of municipal wastewater with Gravity Disk Filters (GDF) followed by UV disinfection |
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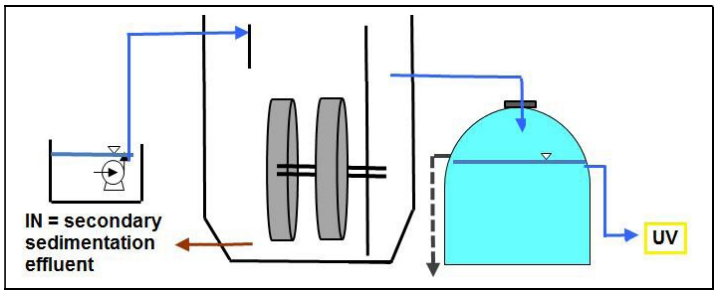
| **Research organisation** | The Water Research Institute (IRSA) is part of the Italian National Research Council (CNR). IRSA was established in 1968 as a scientific institution aimed at providing the National Parliament, the Governmental Administrations, as well as water-management agencies and national industries with the know-how necessary for rational utilization and protection of Italian water resources. |
| **Description** | Tertiary treatment is carried out on secondary effluent from conventional activated sludge with Gravity Disk Filters (GDF) based on cloth filtration.<br>Scheme for pilot plant with GDF followed by UV treatment is shown below:<br>  <br>Type of material used for filter is Polyester with mesh size of 20 µm. The effluent from GDF is passed through a UV channel for further disinfection. The produced effluents comply with local regulations on reuse in agriculture. |
| **Benefits** | • Reduction in concentration of TSS and COD<br>• The produced effluents comply with European regulations on reuse in agriculture.<br>• Low energy requirement |
| **Financial viability** | A detailed evaluation of financial viability needs to be performed. This can be considered a low-cost technology for tertiary treatment, considering the limited operating cost of gravity filtration. Periodic cleaning of cloth filter is required (backwashing). Cost of UV disinfection can be optimized by adopting on-demand operation (in line with irrigation). |
| **Potential users** | Waste water treatment technology providers |
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