

REGENERATION OF THE WASTE WATERS GENERATED IN AN ONION PROCESSING FACTORY WITH AN MBR (VALENCIA)

(KEYWORDS: vegetables processing effluents, high organic load, membrane bioreactor MBR, reuse of treated waste waters)



Eurocebollas is a company located in Alzira (Valencia) that produces processed onions for different purposes for other food industries, bars and restaurants. As a consequence of the process operations carried out wastewaters with a very high organic load are generated along with a high concentration of fats, oils and grease and suspended solids.

Being surrounded by crop fields of its property the company wants a wastewater treatment system that can produce with total guarantee treated water with a quality for irrigation.

The MBR process is the most reliable and efficient process to meet the company's objectives and needs due to the higher treatment capacity of MBR processes and provide an effluent without bacteria. Thus, the company implemented a waste water treatment plant following an MBR process as a guarantee of the microbiologic quality of the treated water. Also, the lower footprint need by MBR plants were an important factor for the company.

After the pre-treatment units needed, a degreasing step and a homogenisation a membrane bioreactor was implemented. The ultrafiltration unit was equipped with 2 MBRable Cassettes with 2 layers with 1008 m² of membranes of 0,02 microns pore size per cassette (total membrane surface area installed 2016 m²). The small pore size of the ultrafiltration membranes allows for an excellent psychical-chemical and microbiologic quality of the final effluent that is pumped to a tank and then used for irrigation of the surrounding fields.



Year: 2016

Sector: Vegetables processing

Flow: 300 m³/d

BOD₅ influent : 9000 mg/l

BOD₅ effluent : <25 mg/l

