Wastewater treatment
Efficient and reliable solutions worldwide

Treatment of wastewater in aerated lagoons is an efficient and proven process known for its reliability and cost-effectiveness.

Ouargla, Algeria

In 2008, a newly constructed Wastewater Treatment Plant designed as an aerated lagoon system with OXYSTAR Aerators was started up in Ouargla, Algeria.

Being located in the Sahara, the region depends on clean drinking water. After recurring problems with wastewater contaminating the local ground water and transforming former agricultural areas into marshes and swamps, an extensive project to improve the local infrastructure was launched. The water- and wastewater part of the project comprised the construction of a new sewer system and the first Wastewater treatment Plant.

The City of Ouargla itself has approximately 140,000 inhabitants and bustling trade and craft businesses. The WwTP is designed to treat the wastewater of the complete region of Ouargla and was thus constructed for a total of 270,000 inhabitants taking future growth into account.
Technical details

The plant consists of a mechanical pre-treatment with screens and grit removal, a two stage aerated lagoon system, polishing ponds and sludge drying beds. The first stage with a total volume of 568,000 m³ consists of 4 aerated lagoons equipped with a total of 48 OXYSTAR Aerators OS 25.0 (nominal power: 18.5 kW) installed on flotations. The lagoons are charged in parallel. Each lagoon has a length of 265 m, a width of 100 m and a water depth of 3.5 m. The volume of each lagoon is 85,200 m³.

The second stage with a total volume of 227,200 m³ consists of 2 aerated lagoons equipped with a total of 14 OXYSTAR Aerators OS 25.0 (nominal power: 18.5 kW) installed on flotations. The lagoons are charged in parallel, too. Each lagoon has a length of 295 m, a width of 150 m and a water depth of 2.8 m. The volume of each lagoon is 113,600 m³.

Advantages

The advantages of aerated lagoon systems are plenty, the most important being:
- sturdy and reliable treatment of wastewater
- low investment costs
- no huge concrete constructions, no complicated process control systems
- sturdy system able to compensate peak loads

The aerated lagoon is one of the most economically and ecologically efficient near-to-nature processes meeting the demands of today’s treatment requirements.

The OXYSTAR Aerators contribute to these achievements considerably by:
- combining outstanding oxygenation and mixing capabilities
- sturdy and intelligent design
- no sealings or bearings in the immersed part
- no gears
- no need for lubrication or oiling
- virtually maintenance free
- resistant high quality materials