



**JÄGER**  
Umwelt-Technik

**CASE STUDY**

# **TUBE DIFFUSER INSTALLATION**

**WWTP TRAISMAUER**



# CHALLENGE



## REDUCTION OF THE PRESSURE LOSS WHILE MAINTAINING HIGH EFFICIENCY

The aeration system of the wastewater treatment plant Traismauer was constructed approx. 25 years ago. In summer 2020, the aeration elements in selectors 1 and 2 were renewed. The existing strip diffusers need to be replaced as a result of an irreversible increase of the pressure loss of the same. Even with the cleaning measures recommended by the manufacturer, the pressure loss could not be sustainably reduced.

Type of WWTP	Biological treatment plant for municipal wastewater with high industrial content
Capacity	280.000 PE
Operation	Activated Sludge Process (ASP)
Treatment	COD and N removal
Installation	Selector 1: 93 tube diffusers TD65-1000-Sil and 12 tube diffusers TD65-750-Sil Selector 2: 228 tube diffusers TD65-750-Sil





## PROBLEM SOLVED THANKS TO OUR JETFLEX TD65 TUBE DIFFUSER

Due to this problem, the existing strip diffusers were replaced by Jäger Umwelt-Technik's tube diffusers TD65 with silicone membrane. In order to prove that the Jäger tube diffusers provide the required oxygen demand, the performance of the Jäger diffusers was verified in a standardized oxygen transfer test. Noteworthy of this activated sludge stage is the water depth of 7.73 m.

An SOR of 281 kgO<sub>2</sub>/h at an air volume of 2,808 Nm<sup>3</sup>/h is to be guaranteed, which was in line with the performance requirement of the previously installed diffusers. The measurement showed that the required oxygen demand could be achieved with 26% less air

volume. In fact, the oxygen input was exceeded by 2%, resulting in a specific standard oxygen efficiency (SSOTE) of 6.2%/m, which is 28% above the guaranteed value.

Remarkable is also the achieved oxygen yield of 4.46 kgO<sub>2</sub>/kWh, at an air application of approx. 7.5Nm<sup>3</sup>/h/mDiff, which is attributed to the high oxygen transfer efficiency of the TD65 at a comparably low pressure drop of about 45 mbar.



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