

Removal of micropollutants in the Eriskirch wastewater treatment plant

Specifications of the plant

Treatment capacity	[PE]	50,000
Load	[PE]	58,000
Inflow volumes:		
▪ Dry weather flow	[l/s]	140
▪ Max. wet weather flow	[l/s]	365
▪ Annual wastewater volume	[m³/a]	3,554,164



Process technology:

Mechanical treatment	Fine screen, sand and grease trap, primary clarifier
Biological treatment	Pre-denitrification, nitrification, 4 lanes, secondary clarifier
Chemical treatment	Phosphate precipitation: simultaneous and post
Elimination of micropollutants	Ozonation
Filtration	Multi-layer sand filter

Abwasserverband
Unteres Schussental

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Kläranlage Eriskirch
Gmünd 2
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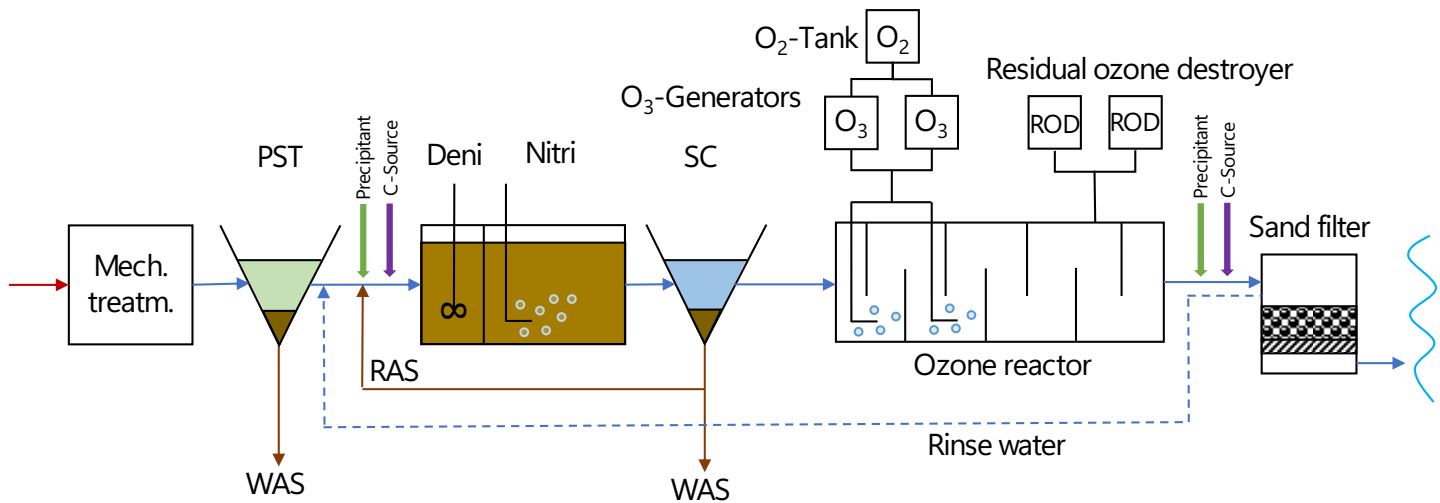


Fig 1: Process diagram of the Eriskirch wastewater treatment plant

Design of the ozone stage:

Year of commissioning of the advanced treatment stage				2019
Max. treatable volumetric flow rate	[L/s]	365	Max. ozone production	[kg O ₃ /h] 6
Contact reactor		Filter		
▪ Volume	[m³]	450	▪ Configuration	Multi-layer sand filter
▪ Retention time at Q _{DW}	[min]	90	▪ Filter media	anthracite (90 cm); quartz sand (70 cm)
▪ Retention time at Q _{max}	[min]	20	▪ Number of filter cells	7
▪ Water depth	[m]	5	▪ Total filter area	[m²] 154
▪ Typical ozone dose	[mg/l]	1.5	▪ Max. filter velocity	[m/h] 10.9
▪ Injection system	Diffusers		▪ Max. filter influent	[l/s] 365