

Removal of micropollutants in the Immenstaad wastewater treatment plant

Specification of the plant:

Treatment capacity	[PE]	40,000
Load	[PE]	25,600
Inflow volumes:		
▪ Dry weather flow	[l/s]	<115
▪ Max. wet weather flow	[l/s]	360
▪ Annual wastewater volume	[m³/a]	2,444,200



Process technology:

Mechanical treatment	Bar screen, sand and grease trap, primary clarifier
Biological treatment	Bio-P, pre-denitrification, nitrification, secondary clarifier
Chemical treatment	Phosphate precipitation: simultaneous and post
Elimination of micropollutants	Granular activated carbon (GAC)
Filtration	Continuous backwashed GAC filter

Kläranlage Immenstaad
Lipbachweg 1
88090 Immenstaad am
Bodensee

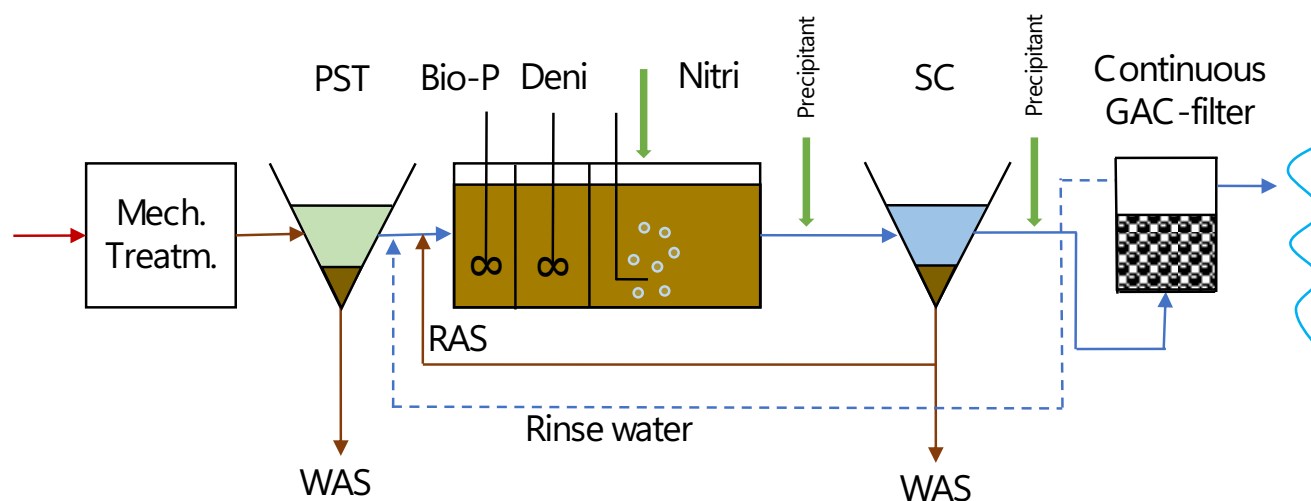


Fig. 1: Process diagram of the Immenstaad wastewater treatment plant

Design of the micropollutant removal

Year of commissioning of the advanced treatment stage	2023	
Activated carbon filter		
▪ Max. treatable volume	[l/s]	360
▪ Number of filter cells		2 x 3
▪ Surface area of the filter cell	[m ²]	30
▪ Volume of the filter cell	[m ³]	60
▪ Volume of the activated carbon bed	[m ³]	360
▪ Surface area of the activated carbon bed	[m ²]	180
▪ Max. filter velocity	[m/h]	5 – 7
▪ Min. empty bed contact time (EBCT)	[min]	13