

Removal of micropollutants in the Untere Hardt wastewater treatment plant

Specification of the plant:

Treatment capacity	[PE]	110,000
Load	[PE]	52,657
Inflow volumes:		
▪ Dry weather flow	[l/s]	40 - 120
▪ Max. wet weather flow	[l/s]	530
▪ Annual wastewater volume	[m³/a]	6,318,801



Process technology:

Mechanical treatment	Fine screen, sand and grease trap, primary clarifier
Biological treatment	Pre-denitrification with selector, nitrification
Chemical treatment	Phosphate precipitation: simultaneous and post
Elimination of micropollutants	Separate PAC-stage (Ulm process)
Filter	Cloth filter



AZV Untere Hardt
Julius-Becker-Straße 67
69181 Leimen

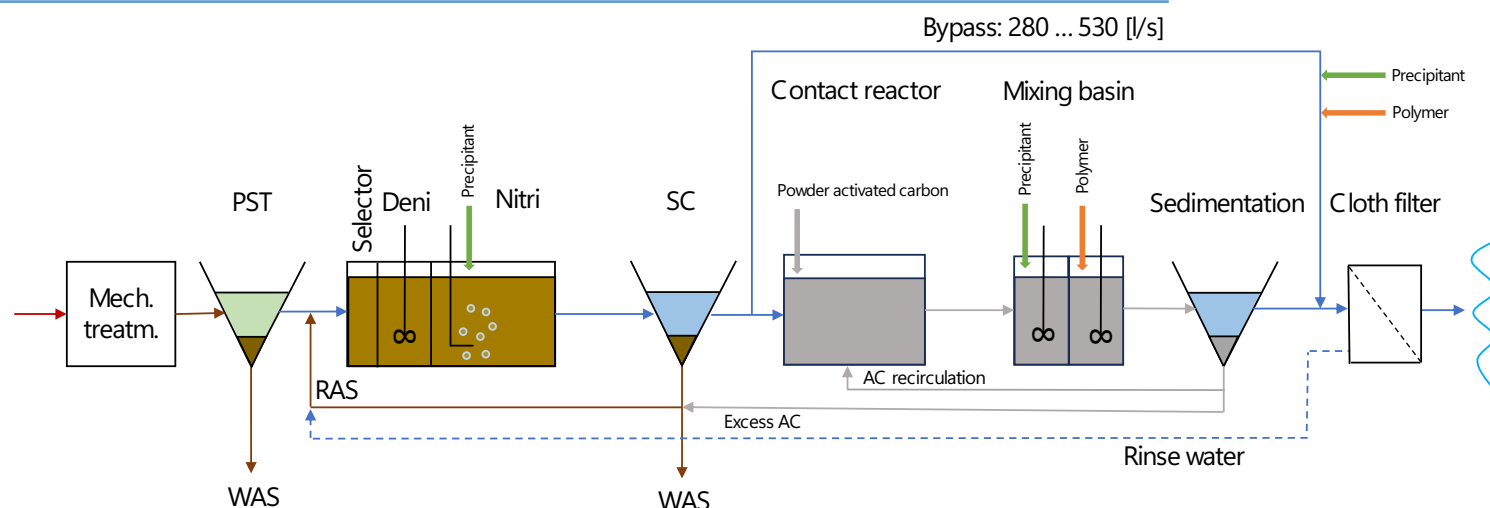


Fig. 1: Process diagram of the Untere Hardt wastewater treatment plant

Design of micropollutant removal:

AC = activated carbon
RI = rated inflow

Year of commissioning of the advanced treatment stage				2022
Maximal treatable volumeflow [L/s]				280
Contact reactor			Sedimentation tank	
▪ Number of basins	1	▪ Total volume	[m³]	2,150
▪ Volume of basin	[m³] 650	▪ Total surface area	[m²]	512
▪ Total volume	[m³] 650	▪ Min. retention time for RI	[h]	≥ 2
▪ Min. retention time for RI	[h] ≥ 0.5	▪ Max. surface load for RI	[m/h]	0.55
▪ Typical PAC-dose	[mg/l] 6 - 8			
Filter				
▪ Configuration	Cloth filter	▪ Max. filter velocity	[m/h]	8
▪ Material	Optifilter PES-14	▪ Max. inflow filter	[l/s]	530
▪ Total filter area	[m²] 90			