

ONSITE PFAS REMOVAL

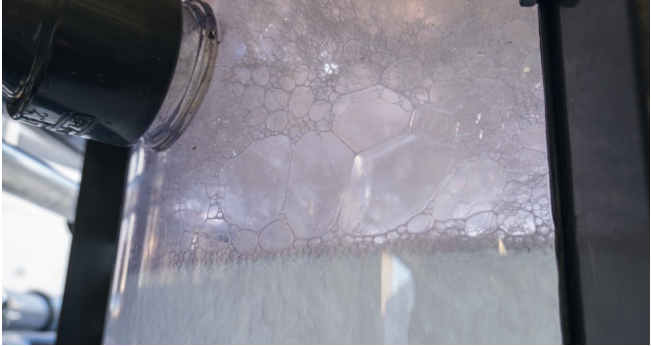
WITH FOAM FRACTIONATION



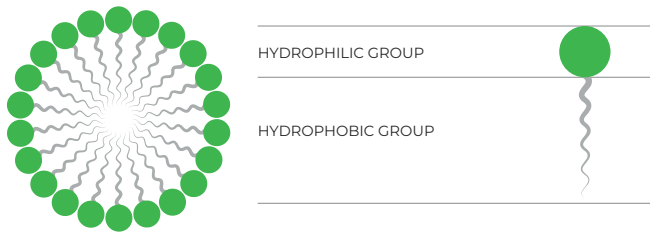
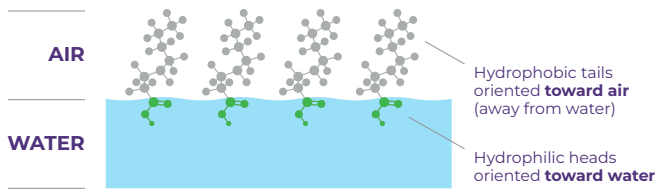
E2METRIX.
AN OVIVO COMPANY

The Continuous Foam Fractionation Olift™ System uses a patented process for cost-effective onsite removal and concentration of PFAS from contaminated waters, including reverse osmosis concentrates, wastewaters, groundwaters, and landfill leachates.

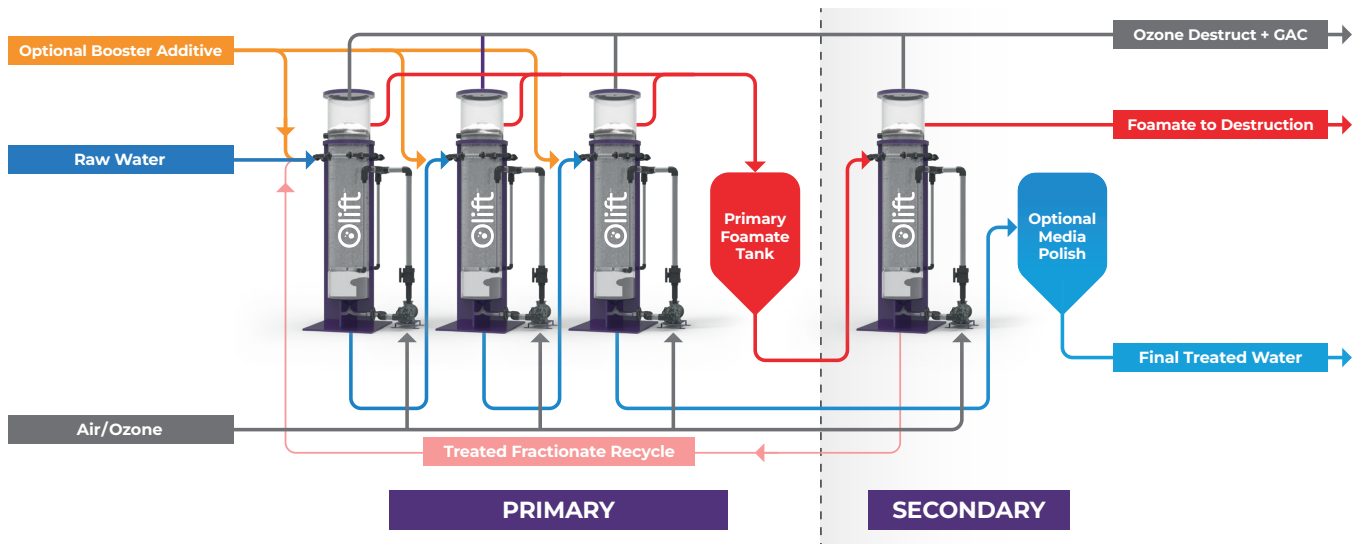
Olift™ employs both ozone and air to create smaller bubbles (micro-bubbles) that have a higher surface area and electrostatic charge compared to systems using only air, improving PFAS removal and concentration factors. Ozone and/or air bubbles are introduced into a PFAS-contaminated water stream inside an Olift column, specifically designed and optimized for PFAS removal. Each PFAS molecule has a hydrophilic head and a hydrophobic tail, causing alignment and concentration at the gas-water interface on the bubble surface.



These small bubbles, containing PFAS, rise to the water surface and form a concentrated foam at the top of the column, leaving behind relatively PFAS-free treated water (retentate) with up to 99% targeted PFAS removal. The foam is then separated, collapsed and concentrated, allowing for a more economic destruction. The foam enriched with PFAS typically constitutes between 1% and 10% of the treated influent, which reduces the size and energy requirements for Obreak™, E2METRIX's Electro-Oxidation (EO) process designed for onsite PFAS destruction. The retentate can be set to discharge or a media polishing step.



The Olift™ Process



Integrated PFAS Destruction Solutions for Municipalities and Industries

Common treatments for removing PFAS from water include separation (reverse osmosis) and adsorption (granular-activated carbon or ion exchange resin). However, these approaches merely capture PFAS from water into reverse osmosis concentrate or into PFAS contaminated media, resulting in PFAS waste streams that must be dealt with separately. These approaches are proving to be expensive and come with additional risks, including potential release of captured PFAS back into the environment.

Municipalities and industries must



FOAM FRACTIONATION

ELECTRO-OXIDATION

plan for the final disposal of captured PFAS. Onsite destruction offers greater confidence by minimizing exposure and risk. E2METRIX's Olift™ Continuous Foam Fractionation process can be integrated into most flow sheets for PFAS removal and concentration. When combined with Obreak™ Electro-Oxidation, it provides complete onsite removal, concentration, and destruction. Our engineers and field technicians are ready to help develop optimal treatment approaches to eliminate PFAS from waste streams and water supplies while reducing solid waste liabilities.



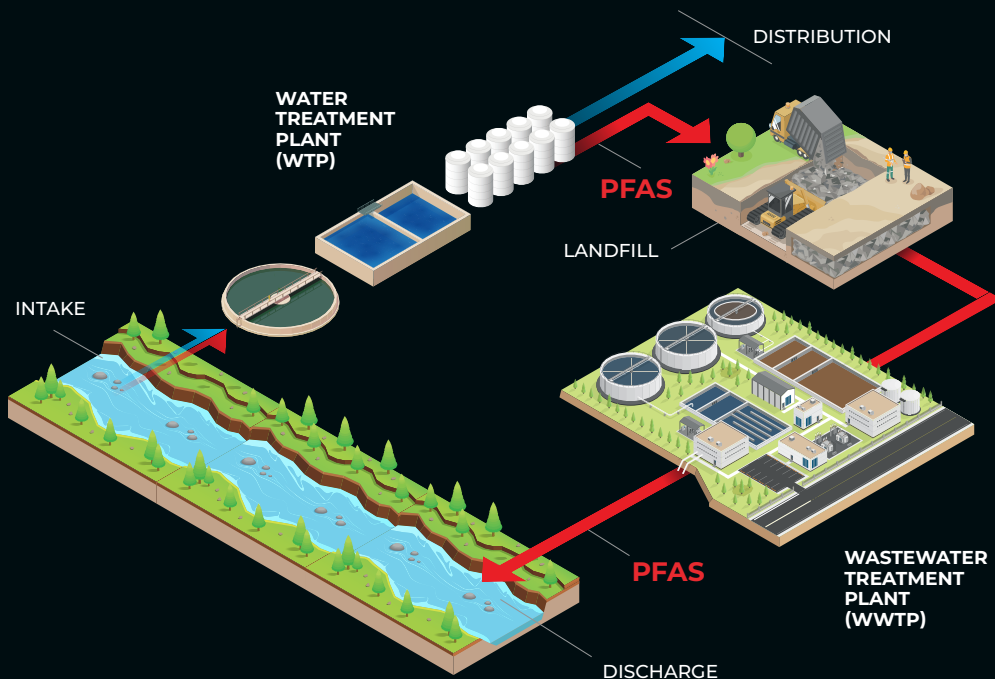
The Olift™ Continuous Foam Fractionation process is unique amongst air-only foam fractionation methods:

- Ozone, selectively utilized, creates smaller micro-bubbles with more surface area than air bubbles enhancing PFAS removal efficiencies.
- Ozone oxidizes co-contaminants, reducing competition for downstream treatment like polishing and destruction.
- The process operates continuously rather than in batches for uninterrupted and steady state operations.
- Fully automated with remote operation and monitoring.
- Effective for removing PFAS from various water sources including reverse osmosis concentrates, landfill leachates, industrial wastewater, military wastes, groundwater, and drinking water.

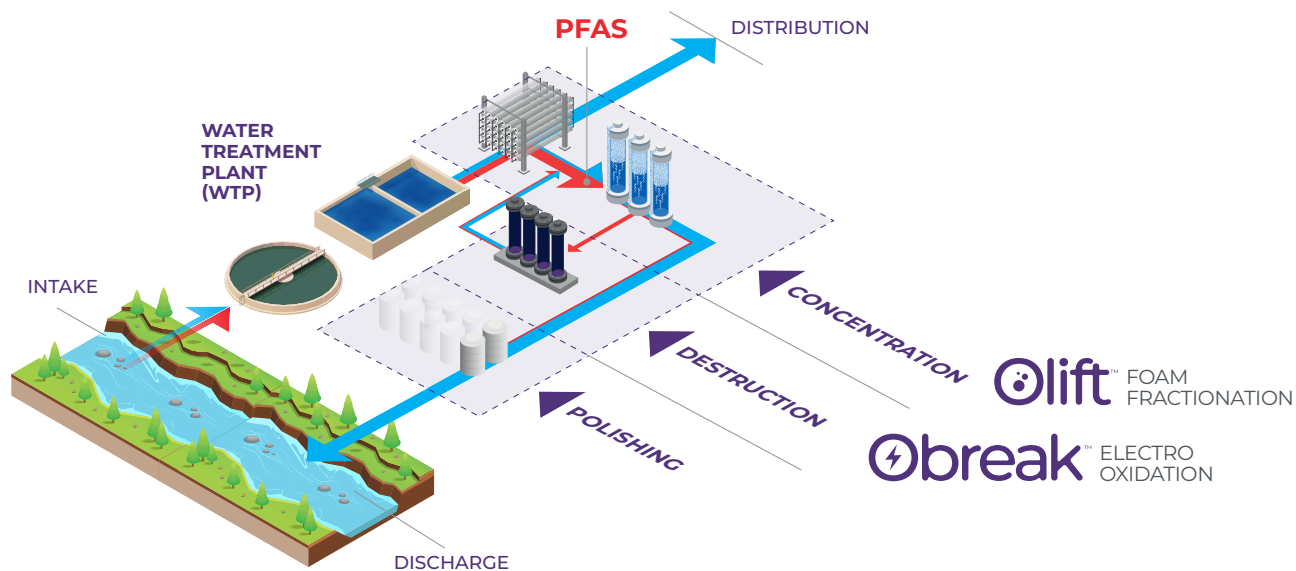
Comparison of Air Vs. Ozone in Continuous Foam Fractionation

	INFLUENT	EFFLUENT			
PFAS Compounds	Leachate Average (µg/L)	Air/Air/Air Trial 1 (µg/L)	Air/O ₃ /O ₃ Trial 2 (µg/L)	O ₃ /O ₃ /O ₃ Trial 3 (µg/L)	Air/O ₃ /O ₃ FINAL (µg/L)
PFBS	1.45	1.7	1.9	1	1.3
PFPeS	0.37	< 0.1	< 0.1	< 0.1	0.13
PFHxS	1.93	< 0.1	< 0.1	< 0.1	0.023
PFOS	0.86	0.0002	0.0002	< 0.1	< 0.0001
PFBA	1.85	1.3	1.2	0.51	0.005
PFPeA	0.70	0.99	0.92	0.21	0.001
PFHxA	1.75	1.4	1.7	0.54	0.5
PFOA	1.53	< 0.1	< 0.1	0.01	0.004
6:2 FTS	0.69	0.005	0.005	0.005	0.005
Σ PFAS	12.19	5.52	5.87	3.81	2.27
ESTIMATED WASTE PRODUCED	–	≈ 7%	≈ 3%	≈ 1%	1%

CURRENT APPROACH



THE E2METRIX SOLUTION



**BREAK
FREE
FROM
PFAS™**



E2METRIX.com
pfas@ovivowater.com

Ovivo, with 150 years of experience in water treatment and nearly 1,500 dedicated water professionals worldwide, is **the preferred partner** for those who value water as much as we do. E2METRIX's PFAS Solutions portfolio is leveraging expertise and innovation from across the company and through valued partnerships to allow our customers to affordably and effectively **BREAK FREE FROM PFAS™**.



Bringing water to life

E2METRIX™
AN OVIVO COMPANY