

ONSITE PFAS DESTRUCTION

WITH ELECTRO-OXIDATION



E2METRIX.
AN OVIVO COMPANY

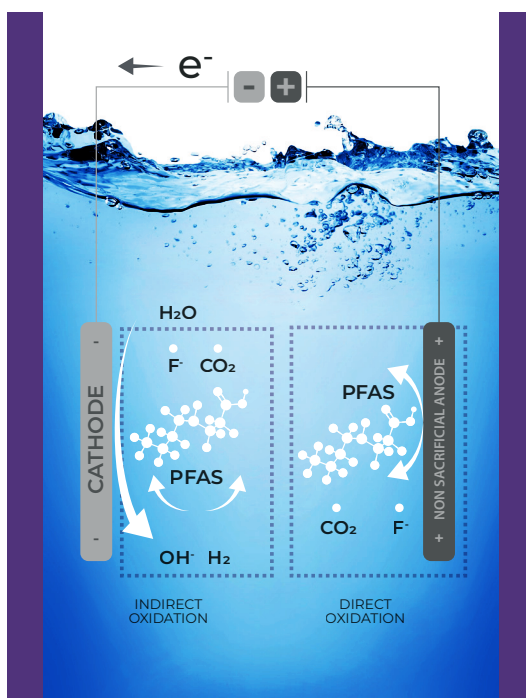


BREAK FREE FROM PFAS™

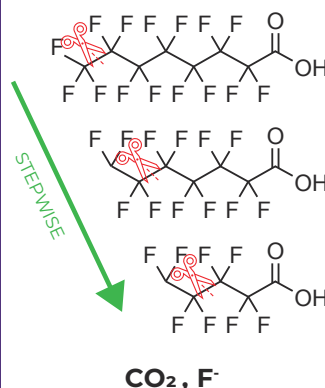
OBREAK™, THE PATENTED ELECTRO-OXIDATION (EO) SYSTEM BY E2METRIX, AN OVIVO COMPANY, INCORPORATES OVER A DECADE OF EXPERTISE IN DEVELOPING, DESIGNING, FABRICATING, AND DELIVERING COMMERCIAL EO SOLUTIONS FOR DIVERSE APPLICATIONS AND CONTAMINANTS

The features of our commercial EO reactors—industrial-grade robust design, optimized hydraulics based on CFD modeling, ease of maintenance, automation, energy efficiency, and remote operation across multiple platforms—have been integrated into Obreak™ EO for onsite PFAS destruction.

In the EO process, a continuous electrical current is passed through non-sacrificial electrodes submerged in process water within an Obreak™ reactor. This EO process involves direct oxidation via electron transfer at the anode surface and indirect oxidation via the generation of oxidants within the water, leading to the stepwise breakdown of the carbon-fluorine (C-F) bonds, which PFAS are characterized by, into their mineral forms of carbon dioxide (CO₂) and fluoride ions (F⁻). Both of these destruction products are harmless at low concentrations. When Obreak™ is combined with concentration and polishing steps into an integrated treatment approach, it can significantly reduce liabilities and long-term disposal costs compared to current adsorption-only methods. Furthermore, Obreak™ can be conveniently and safely operated at the site where the PFAS-contaminated liquid is located, thereby eliminating transportation and liability concerns.



STEPWISE DEGRADATION



Selected Destruction Performance

WATER MATRIX	MARKET	LOCATION	% MASS REDUCTION	
			TOTAL PFAS	PFOA-PFOS
RO Concentrate	Drinking Water	US Southeast	86.92%	92.16%
Foamate (RO Concentrate)	Drinking Water	US Southeast	79.99%	84.73%
Foamate (RO Concentrate)	Drinking Water	US South	96.32%	98.61%
IX Resin Regeneration Solution	Drinking Water	US Southeast	82.25%	99.95%
AFFF Impacted Groundwater	Site Remediation	Eastern Canada	75.92%	98.29%
AFFF Impacted Groundwater	Site Remediation	Eastern Canada	95.58%	98.52%
Foamate (AFFF Impacted Groundwater)	Industrial	US Northeast	99.76%	99.97%
Raw Leachate	Landfill	US Midwest	62.18%	99.17%
Raw Leachate	Landfill	US Northeast	63.74%	91.99%
Foamate (Leachate)	Landfill	US Northeast	95.67%	99.70%
Foamate (Leachate)	Industrial	US Midwest	88.96%	96.29%
Foamate (Leachate)	Landfill	US Northeast	96.00%	98.94%
INTEGRATED SOLUTIONS			> 99.9%	> 99.9%

Integrated PFAS Destruction Solutions for Municipalities and Industries

Common methods for removing PFAS from water include separation techniques such as reverse osmosis (RO) or adsorption using media like granular activated carbon or ion exchange resin. However, these approaches merely separate PFAS from water into RO concentrate or PFAS contaminated media, posing a risk of reintroducing PFAS back into the environment as these waste streams are managed. Moreover, these methods can be costly. It is crucial for municipalities and industries to consider the ultimate disposal of the separated PFAS. Onsite PFAS destruction using



Obreak™ provides greater assurance with minimal risk exposure. Obreak™, integrated within E2METRIX's treatment approach, offers a cost-effective solution for treating water and effluents. The integration of Obreak™ includes PFAS removal and concentration processes such as Olift™ Foam Fractionation before destruction and an optional media filter polishing step for the Olift™ treated water if discharge criteria require. By concentrating the PFAS (100x-10,000x) in the Foamate feed to Obreak™, oxidation reactions are enhanced, leading to reduced capital expenditure and energy consumption.

Olift™ FOAM FRACTIONATION

Obreak™ ELECTRO OXIDATION



REMOVAL & CONCENTRATION



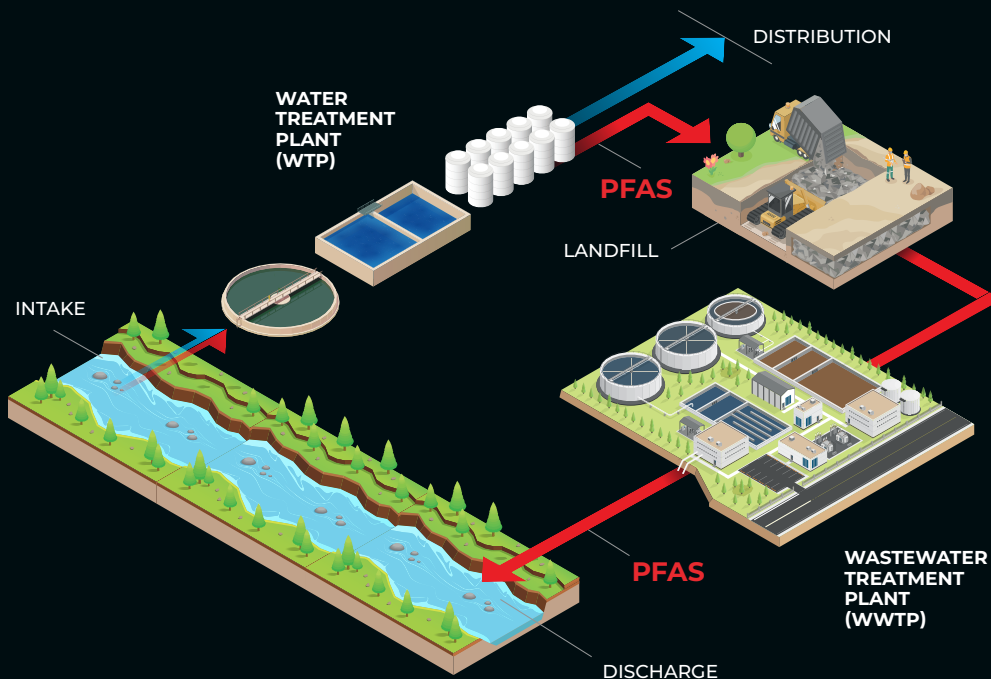
DESTRUCTION



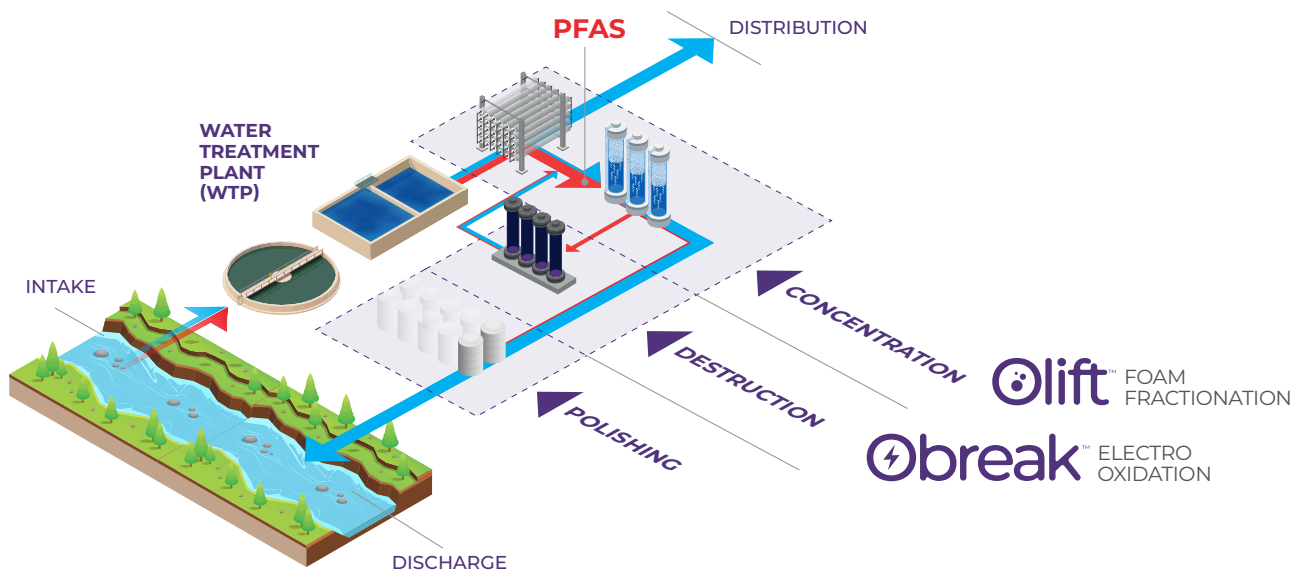
POLISHING



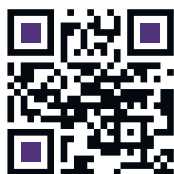
CURRENT APPROACH



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

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