PFAS DESTRUCTION SOLUTIONS

ONSITE PFAS DESTRUCTION

WITH ELECTRO-OXIDATION

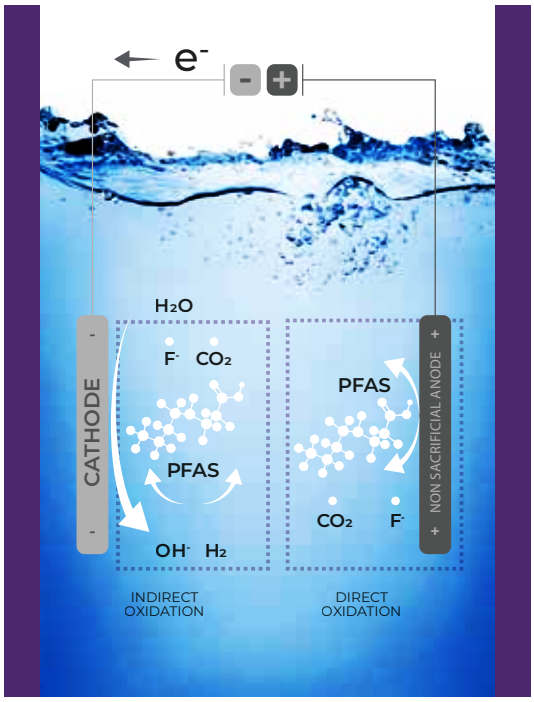
OVIVO®

Bringing water to life®

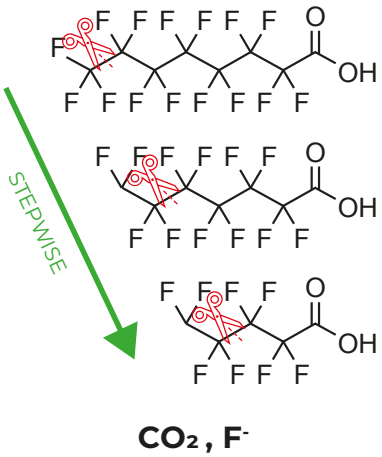
OBREAK™, OVIVO'S PATENTED ELECTRO-OXIDATION (EO) SYSTEM, FEATURING E2METRIX TECHNOLOGY, LEVERAGES MORE THAN A DECADE OF EXPERIENCE IN DEVELOPING, DESIGNING, FABRICATING, AND DELIVERING COMMERCIAL EO SOLUTIONS FOR A WIDE RANGE OF APPLICATIONS AND CONTAMINANTS.

All the features from our commercial EO reactors – industrial, robust design; optimal hydraulics from CFD modeling; ease of maintenance; automation; energy efficiency; remote operation on multiple platforms – have been incorporated into Obreak™ Electro-oxidation for Onsite PFAS Destruction.

In electrochemical oxidation (also known as electro-oxidation), an electrical current is passed through water being treated continuously in an EO reactor. Direct electron transfer at the anode surface, and oxidants generated in the water, lead to breaking these C-F bonds into carbon dioxide (CO_2) and fluoride (F^-), both of which are harmless at these low levels. When EO is integrated with concentration and polishing steps, this treatment solution can significantly reduce the treatment costs vs. current adsorption-only approaches. Moreover, EO can be easily operated at the site of capture, avoiding transportation and liability concerns.



STEPWISE DEGRADATION



CO_2 , F^-

Selected Destruction Performance

		% MASS REDUCTION	
WATER MATRIX	**MARKET**	**TOTAL PFAS**	**PFOA-PFOS**
RO Concentrate	Drinking Water, Municipal	87%	92%
Foamate	Drinking Water, Municipal	80%	85%
IX Resin Regeneration Solution	Drinking Water, Municipal	82%	> 99.9%
Contaminated groundwater	Site Remediation (AFFF)	76%	98%
Contaminated groundwater	Site Remediation (AFFF)	96%	99%
Raw Leachate	MSW Landfill	69%	99.2%
Foamate	MSW Landfill	98.9%	99.97%
	INTEGRATED SOLUTIONS	**> 99.9%**	**> 99.9%**

Integrated PFAS Destruction Solutions for Municipalities and Industries

The common treatment approaches for removing PFAS from water are separation using reverse osmosis or adsorption using a media (for exemple, granular activated carbon, ion exchange resin). But in all these cases, the PFAS is simply separated from the water, leaving the possibility of PFAS being re-released into the environment. Moreover, these processes are costly.

Utilities or industry must consider, where the PFAS will end up. The ultimate disposal and destruction of the captured PFAS must be considered and onsite PFAS destruction offers operators greater confidence with the lowest exposure.

Obreak™, Ovivo's EO System, is at the heart of a complete, cost-effective treatment train for water and effluents. The optimal integration of EO includes a concentration step upstream from destruction and a media filter polishing step downstream. Concentrating the PFAS (100x-10,000x) in the feed to EO will optimize the direct and indirect oxidation reactions, resulting in a substantially lower capital expenditure and energy consumption.

CONCENTRATION

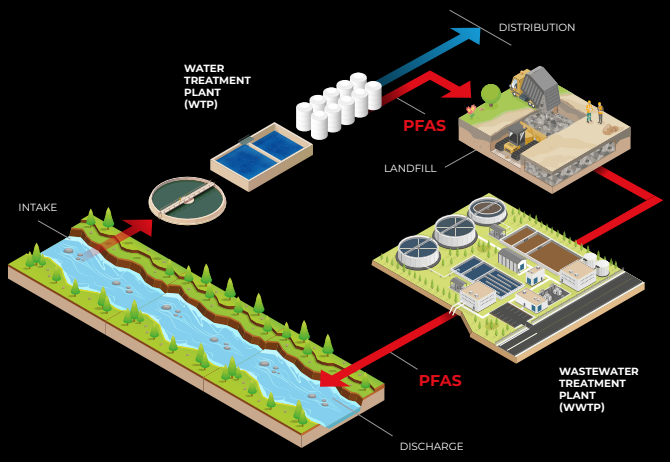
Olift™ FOAM FRACTIONATION

DESTRUCTION

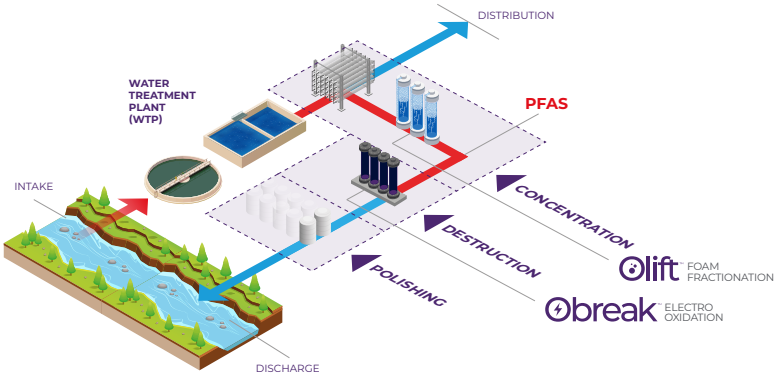
Obreak™ ELECTRO OXIDATION

POLISHING

CURRENT APPROACH



THE OVIVO SOLUTION



BREAK FREE FROM PFAS™

Ovivo, with its 150 years of experience in water treatment and its nearly 1,500 dedicated water professionals worldwide, is **the preferred partner** for those who value water as much as we do. Our 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™**.

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