PFAS Destruction and Remediation - GAC

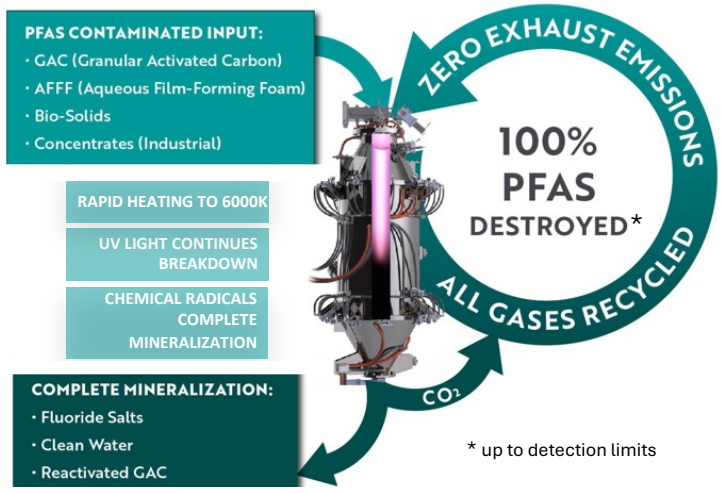
Closed Loop Microwave Plasma System

TAKING AIM AT SOLVING THE TOXIC "FOREVER CHEMICAL" PROBLEM

6K Pure uses the UniMelt advanced material process engine for the industry's first complete per- and polyfluoroalkyl (PFAS) destruction and remediation solution. Utilizing the 6000K UniMelt plasma, 6K Pure can destroy PFAS also known as the "forever chemical" that is found in drinking water, AFFF firefighting foam and wastewater from industrial manufacturing processes. The chemical's carbon-fluorine bond is one of the strongest, making them almost impossible to destroy – until now.

The ability to accept all three states of matter to destroy PFAS, including solid, liquid, or gas, allows the UniMelt platform to be applied across a variety of applications - water purification, wastewater treatment of biosolids, industrial manufacturing, AFFF and air emissions. In addition to destroying PFAS, the UniMelt has a unique capability to reactivate granular activated carbon (GAC) commonly used to absorb organic compounds like PFAS in drinking water treatment systems. The ability to reactivate GAC provides producers and water municipalities with an environmentally friendly and proven way to address PFAS, while also recirculating a high-value filter material back into the system - reducing the need to produce virgin GAC and further reducing their carbon footprint.

THERMAL PLASMA is hot enough to break down stable PFAS molecules in just SECONDS



* up to detection limits

Remediate 100% of PFAS chemicals back into non-hazardous, high-value products

- ✓ Complete destruction of long and short-chain carbon-fluorine molecules
- ✓ All PFAS media – solid, liquid and gas
- ✓ Ultra-fast with PFAS destruction in 2 seconds
- ✓ Low-cost operation
- ✓ Flexible and agile deployment (6K centralized, on-site or mobile)
- ✓ Inherently safe process running at atmospheric pressure with low thermal mass
- ✓ Zero emissions with our closed-loop process

Notable Attributes

Closed loop, continuous process

Scalable and highly modular

All material types
Solids, Liquids and Gases

Up to high concentrations

Reactivates spent carbon

Primary Markets Addressed

Water Filtration

Firefighting Foam

Manufacturing Waste

Complete PFAS Destruction & GAC Reactivation

with NO Environmental Exhaust

6K PURE

ANALYTICAL RESULTS FOR ONE PASS ONLY

Residuals addressed by closed loop process

Water Filtration with Granular Activated Carbon

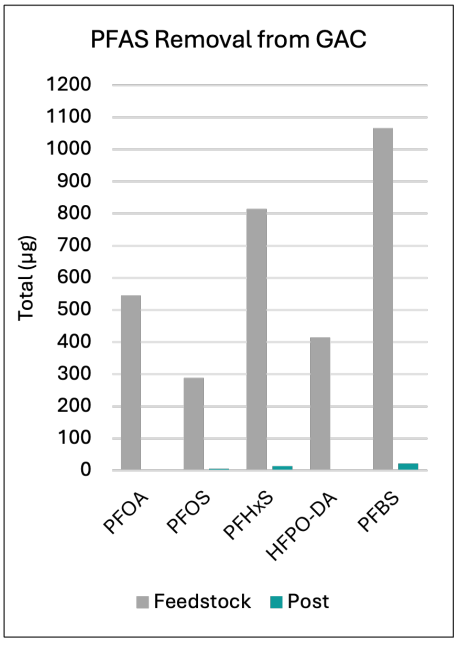
GAC samples from **Water Municipalities, Reactivated** with **Yields** obtained up to 95%

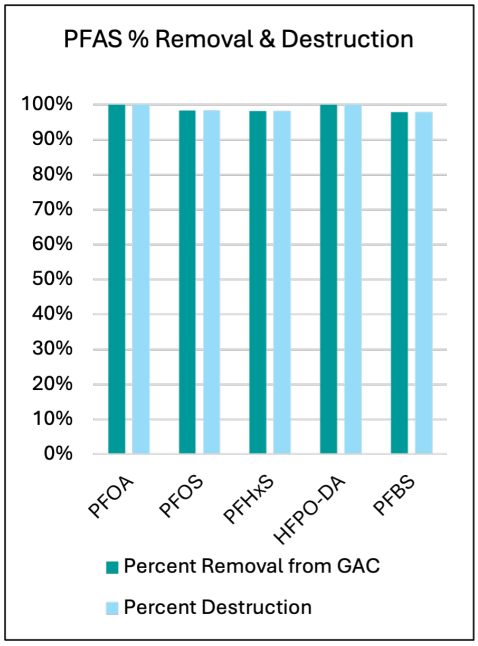
Iodine Number increased by >250, up to >800 mg/g for 35 kg/hr GAC in test system

Consistent Particle Size and **Ash Content** maintained at original specification

PFAS removed and destroyed including short and long chain, tested via EPA 1633 Method

GAC Reactivation: GAC Quality		
Metric	**Before**	**After**
Iodine Number (mg/g)	684	1043
Ash (%)	6.04	7.87
Mean particle size (mm)	1.05	1.16
Moisture (%)	Up to 50	<2

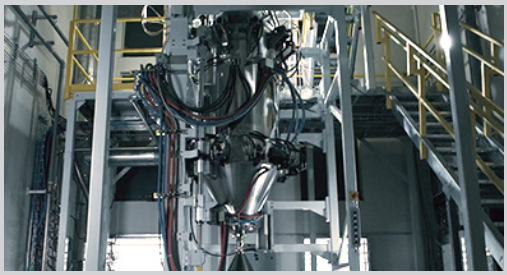




* 100% indicates all compounds were below detection limits after the test

Pace

Scaled UniMelt Manufacturing



System Specifications

- ✓ Small Footprint 20' x 20'
- ✓ Power Requirements of 480V
- ✓ No Moving Parts
- ✓ Ultra-Fast / Ultra-Clean - 2 Second Process
- ✓ Low/No Production Waste
- ✓ Continuous Process and Batch Integrity

Deployment Options

MOBILE UNITS

Scaled to Need

Demonstration & short duration projects

STATIONARY UNITS

High Capacity

Dedicated system(s) located at source

Rate of up to 2 tons per day

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