

## Technology Options from a Full-Service Domestic Supplier

Calgon Carbon offers multiple technologies for remediation applications including:

- Activated carbon adsorption systems for reduction or removal of organic chemicals in liquid and vapor phase
- UV/oxidation systems for destruction of various organic chemicals in water treatment applications
- Ion exchange systems for perchlorate remediation in groundwater

Our value extends beyond technology options. We are unique in our ability to provide:

- Domestic manufacturing of activated carbon
- Domestic fabrication of equipment
- Regional reactivation
- Field services

## Activated Carbon Products

Description	Product Name
Virgin, granular, liquid phase	Filtrisorb® 300, Filtrisorb® 400, Carbsorb® 30, Carbsorb® 40
Virgin, granular, vapor phase	BPL® 4x6, BPL® 4x10
Virgin, pelletized, vapor phase	AP4-60
Reactivated, granular, liquid phase	DSR-A, DSR-C
Reactivated, granular, vapor phase	VPR
Catalytic, water regenerable, liquid or vapor phase	Centaur®
Premium, granular, liquid phase for enhanced trace capacity	Filtrisorb® 600

Calgon Carbon manufactures and supplies more than 100 grades of activated carbon for numerous and liquid phase applications. If you have a unique or difficult problem, please contact your local Calgon Carbon representative.

## Standard Adsorption Systems

Calgon Carbon has a variety of standard system designs for cost-effective carbon utilization in both liquid and vapor applications. Our design and fabrication capabilities also allow for the design of custom systems for specific project requirements. Our

equipment facilities meet ASME-code requirements for pressure vessels, and have complete fabrication, lining and painting capabilities.

## Liquid Phase Adsorption Systems

Equipment Item	Max. Flow (gpm)	Carbon (lbs.)	Max. Pressure (psig)
Model 10 <sup>2</sup>	1,400 <sup>1</sup>	40,000	75 or 125
Dual Express <sup>2</sup>	1,200 <sup>1</sup>	40,000	75
Dual Module <sup>2</sup>	800 <sup>1</sup>	40,000	75
Model 8 <sup>2</sup>	800 <sup>1</sup>	20,000	75
Mobile Adsorber	250	13,000	50 or 65
SS Cyclesorb®	60	2,000	15
M2000	60	2,000	75
Protect TW18	25	500	60
Protect TW36	50	1,000	60
Protect TW72	70	2,000	60
Protect LM18	25	500	75
Protect LM36	50	1,000	75
Protect LM72	70	2,000	75
Flowsorb®	10	165	5

<sup>1</sup> Parallel operation maximum flow

<sup>2</sup> Two-adsorber system with two-stage piping

## Vapor Phase Adsorption Systems

Equipment Item	Max. Flow (cfm)	Carbon (lbs.)
Vapor-PAC® 10	10,000	12,500
HFVS3000	3,000	3,000
HFVS2000	2,000	2,000
HFVS1000	1,000	1,000
Vapor-PAC® (polyethylene)	1,000	1,800
Vapor-Pac® (stainless steel)	1,000	1,800
HFVS500	500	500
Ventsorb®PE (polyethylene)	200	180
Ventsorb® (coated steel)	100	180



## UV/Oxidation Systems

Rayox® UV/oxidation systems destroy dissolved organic contaminants in groundwater, process water, and industrial wastewater applications. A combination of ultraviolet light and hydrogen peroxide are used to reduce contaminants to non-detect levels. Rayox® can be used in conjunction with carbon systems to enhance treatment capabilities in a wide range of applications.

## Ion Exchange Systems for Perchlorate Remediation

Calgon Carbon's CalSolutions™ technology uses ion exchange resins in fixed bed equipment systems to remove perchlorate from contaminated groundwater. The resins can be used on a single use basis, as well as a regenerable/re-usable basis, for cost-effective groundwater cleanup. Calgon Carbon has several modular system options that are available.

## Comprehensive Support Services

### Features

### Benefits

Complete team of support staff including sales support, application engineers, R&D, and customer service	Provides cost-effective, technically sound solutions.
Equipment offered on a sales or service basis	Customer has the option for capital or operating cost.
Bulk carbon delivery/spent carbon return	Minimize on-site handling.
On-site service for spent carbon exchange including vacuum exchange	Minimize labor requirements with clean, efficient exchanges.
Replacement service for small package carbon systems	No on-site carbon handling.
Fully-stocked equipment inventory at strategic locations in the U.S.	Rapid mobilization and delivery.
Multiple locations of reactivation centers	Convenient, cost-effective reactivation with RCRA permitting.

## Safety Message

Wet activated carbon preferentially removes oxygen from air. In closed or partially closed containers and vessels, oxygen depletion may reach hazardous levels. If workers are to enter a vessel containing carbon, appropriate sampling and work procedures for potentially low oxygen spaces should be followed, including all applicable Federal and State requirements.



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