

## FiltaCarb™ vapour phase activated carbon filtration systems



FiltaCarb™ FC350 system built for Sydney Water Corporation – Douglas Park storage tank

## About FiltaCarb™ carbon filter technology

FiltaCarb™ vapour phase activated carbon systems provide an efficient and economical means to reduce V.O.C. (Volatile Organic Compound) concentrations, corrosive gases including Hydrogen Sulphide ( $H_2S$ ) and toxic vapours to control odours. They provide immediate adsorption upon contact with the gases. All of the systems have a specified contact time to ensure they meet optimum performance throughout the life of the media. The filter vessels are filled with a specific granular activated carbon, which is suitable for a variety of odour abatement applications.

The FiltaCarb™ range of filter systems can meet any flow requirement and range in size from small filter drum designs through to large 3.6m diameter High Density Polyethylene (H.D.P.E.) vessels. They can also be arranged in parallel to accommodate higher flow rates. All the filters are designed for the efficient use of the activated carbon in the bed while maintaining a low pressure drop to reduce loading on the blower and maximise its life.

The plug'n'play modular design of Bioaction's FiltaCarb™ filter systems provide total flexibility in designing the system to suit the target flow requirements and emission reduction outcomes. The modular design also enables it to be positioned in relatively constrained spaces in comparison to other systems. The modular design is constructed on an engineered skid base to enable rapid installation and commissioning, typically within 1-3 days of delivery to site.

The configuration of media composition within the system enables Bioaction's experts to reduce odour profiles by more than 99.5% of Hydrogen Sulphide ( $H_2S$ ). They can also address complex industrial gases and target reduction outcomes to determine system design and the type of adsorption media.

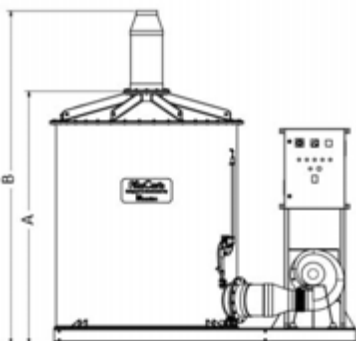
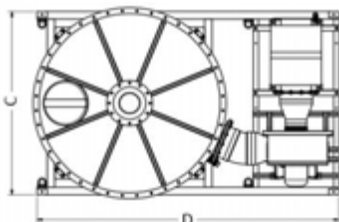
## Benefits of FiltaCarb™ odour control filters:

- More than 99.5% of  $H_2S$  removed
- Optimum use of media through filter vessel design
- Minimal pressure loss across the filter bed
- Very small operating footprint
- High contact time within the filter bed
- Corrosion resistant and U.V. stable High Density Polyethylene (H.D.P.E.) construction
- Complete with blower and electrical control panel
- Skid mounted
- Minimal installation (air and power)



FiltaCarb™ FC510 standard skid mounted system

# Sustainable Modular Filtration Systems



<b>Functional Description</b>	The FiltaCarb™ system is a single-stage treatment using carbon adsorption technology. Hazardous gases are extracted from the source using an extraction/blower fan that then vents the untreated gases through the filter media. The untreated gases accumulate in the lower plenum of the filter before being evenly diffused through the media of the filter bed where contaminants are physically adsorbed. A specific activated carbon media mixture is used to treat the target gases to achieve more than 99.5% removal of source gases.
<b>Construction</b>	FiltaCarb™ vessels are constructed from P300 High Density Polyethylene (H.D.P.E.), incorporating U.V.-impregnated resins that are corrosion resistant and U.V. stabilized throughout the material. They have a high chemical-resistance to provide significant design life expectation and are suitable for all climatic conditions. Construction follows DVS 2202 / 2210 technical codes on plastic joining. Joint construction is butt-welded and extrusion welded.
<b>Adsorptive Media</b>	Utilises a specifically designed activated carbon for use in odour control systems where the primary cause of odour is as a result the presence of mercaptans, Hydrogen Sulphide (H <sub>2</sub> S), and volatile organic compounds (V.O.C.'s). Customised media blends and mixtures can be supplied to meet any needs that fall outside the capacities of our standard activated carbon materials.
<b>Optional Items</b>	Standby fan with PLC upgrade. Stainless steel fans. High level systems operational sensors. Inspection hatch access platform. Continuous Hydrogen Sulphide (H <sub>2</sub> S) monitoring.

Series	Model	Capacity		Empty Bed Residence Time (EBRT) (sec)	Vessel Outside Dia. (m)	Skid Size		System Heights			Media Volume		System Mass				Duct Size (mm) ID	Pressure Drops (Pa)	Fan Details		
		L / s	m <sup>3</sup> / hr.			Width C (m)	Length D (m)	Vessel A (m)	Misc. (Skid, Duct)	Total B (m)	GAC (m <sup>3</sup> )	GAC (m)	GAC Media (kg)	Vessel (kg)	Skid (kg)	Misc. (kg)			Total (kg)	Vessel (Pa)	Model
FiltaCarb™	FC155	155	558	3	1.0	1.5	2.4	1.78	0.16	1.94	0.47	0.62	260	88	200	105	653	154	508	Seat 20	1.10
	FC225	225	810	3	1.2	1.6	2.4	2.18	0.16	2.34	0.68	0.62	378	120	200	130	828	240	514	Seat 20	1.10
	FC350	350	1260	3	1.5	1.6	3.0	2.22	0.16	2.38	1.05	0.61	588	169	255	135	1147	240	511	Seat 20	1.10
	FC510	510	1836	3	1.8	1.8	3.0	2.38	0.16	2.54	1.53	0.61	857	219	300	160	1535	300	520	Seat 25	2.20
	FC900	900	3240	3	2.4	2.4	4.0	2.56	0.16	2.72	2.70	0.61	1512	343	420	200	2475	375	514	Seat 35	5.50
	FC1400	1400	5040	3	3.0	3.0	4.8	2.75	0.16	2.91	4.20	0.60	2352	478	576	350	3765	500	511	Seat 35	5.50
	FC1900	1900	6840	3	3.6	3.6	4.8	3.01	0.16	3.17	5.70	0.57	3192	692	690	380	4954	500	470	Seat 35	5.50



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