

Charcoal (VOC Adsorption) Standard Size



Adsorbable Compounds	Most organics (VOCs) and some inorganics
Adsorption Material	Coconut shell granular activated carbon (GAC)
Adsorption Capacity	20 mg (for toluene at room temperature)
Adsorption Layer	100 mg
Breakthrough Layer	50 mg
Recommended Flowrate	0.01 – 0.2 L/min.
Tube Length	70 ± 1.0 mm
Tube Outer Diameter	6.0 ± 0.5 mm

DESCRIPTION:

These GAC tubes are used to adsorb and measure concentrations of contaminants in air. They are particularly suited for organic compounds like aromatics and chlorinated solvents, but can also be used for alkanes, ketones, esters, etc., and some volatile inorganic compounds. The tube requires a separate pump to draw an air sample and a system for desorbing and analyzing the adsorbed compounds, typically by solvent extraction and gas chromatography (GC). Separate analysis of the adsorption and breakthrough layers determines whether any target vapors have escaped during sampling. From the flowrate, sampling time, and mass of adsorbate recovered, the average air concentration during sampling can be measured.

MEASUREMENT PROCEDURES:

1. Break open both ends of the tube just before sampling.
2. Connect the tube to a pump, ensuring that the air flow is in the direction of the arrow mark on the tube.
3. Pump sample gas through the tube at a flowrate of up to 200 mL/min.
4. Continue sampling for a specified period of time and then cap the tube using the plastic caps provided.
5. To avoid loss of adsorbed compounds, do not remove the caps until just before desorption for analysis by GC or other methods.
6. **CAUTION:** High temperatures, high humidity, and excessive flowrates can cause reduced adsorption capacity.