

Air-Tube Desorber Accessory

Analyzing VOCs in Air



- Complies with USEPA Compendium Air-Tube methodology
- Single-position option for operating on the Eclipse Sample Concentrator
- Inert sample pathway
- Glass or glass-lined stainless steel Air-Tube construction for maximum recovery
- Desorption temperatures to 350 °C
- Air, water, and soil analysis on the same instrument
- Compatible with commercially-available, prepacked 1/4" or 6-mm air tubes

Principal Applications

- Ambient air
- USEPA TO-1
- USEPA TO-2

Product Description

The Air-Tube Desorber Accessory provides an economical means of diversifying into air toxics analysis using the Eclipse 4660 Purge-and-Trap Sample Concentrator. Installing the Air-Tube Desorber on the sample concentrator's front panel is as easy as replacing a sparge vessel. The Air-Tube Desorber adds the flexibility of running air samples to an instrument that already processes water, soils, and solids. Standard thermal desorption systems do not possess this level of flexibility.

Operating Principle

Samples are typically collected (in the field) by pulling a known air volume through air-sampling tubes packed with a specified sorbent amount, e.g., Tenax®. The operator sequentially installs the Air-Tubes on the purge-and-trap sample concentrator and clamps the heater block assembly to the Air-Tube. The sample concentrator prepurges the Air-Tube at ambient temperature to remove both oxygen and moisture accumulated during sample collection. The tube then heats, causing adsorbed compounds to release from the sorbent. Purge flow sweeps the Air-Tube, transferring desorbed compounds to the sample concentrator's trap. When the sample concentrator receives the GC ready signal, the concentrator's trap rapidly heats (>1,000 °C/minute). VOCs released from the trap are transferred as a discrete plug to the analytical column for separation and analysis.

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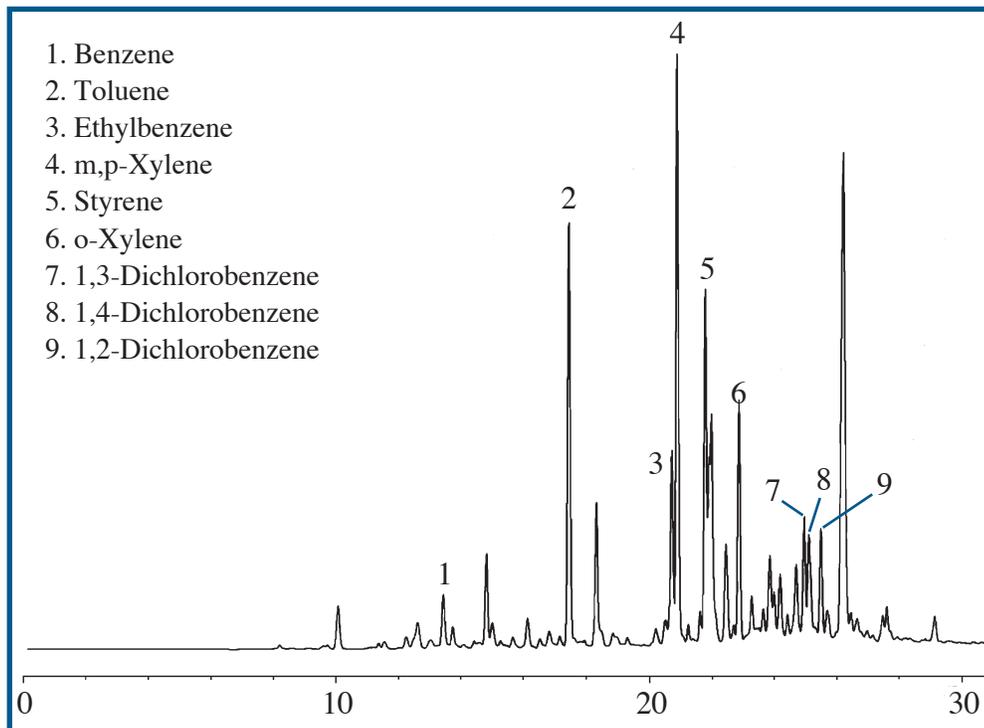
General Specifications

Air-Tube Sizes	
Prepacked Glass or Stainless Steel Tubes	Compatible with ¼" or 6 mm (commercially available)
Minimum Air-Tube Length	4.5" (heating mantle length 3.2")
Glass-Lined Stainless Steel Air-Tube	¼" O.D. x ⅛" I.D. x 4.75" (supplied)
Air-Tube Heating	
Temperature Range	Ambient to 350 °C
Rate	Approximately 70 °C/min
Controller	Sample Concentrator
Sample Pathway	
Sample Lines	Silcosteel®-coated stainless steel
Fittings	Gold plated
Temperature	Adjustable from ambient to 350 °C
Purge Flow	
Rate	0 to >50 mL/min
Supply	Sample Concentrator
Times and Temperature Settings	
Times	Adjustable from 0 to 99 minutes on the Eclipse

Requirements

Required Hardware for Single-Station Desorber	
Air-Tube Accessory	6 mm (PN 321706 for 110 V, PN 321707 for 220 V), requires Eclipse Sample Concentrator
Air-Tube Accessory	18 mm (PN 247999 for 110 V, PN 248682 for 220 V) for older sample concentrators, requires Model 4560 Sample Concentrator
Required Hardware for 16-Position Automated Sampling	
Air-Tube Accessory	18 mm (PN 250878 or PN 247981 for set of 16), requires any OI Analytical DPM-16 with 18-mm sparge mounts

Photoionization Detector (PID): ~20 ppb sample concentration



Air sample from an organics laboratory analyzed by USEPA Method TO-1