

ATOMX

XYZ

Automated VOC Sample Prep System

- 84-position vial tray with optional vial chiller to 4 °C
- Reduced footprint by 13 cm (5") compared to the previous generation Atomx
- Reduction of the amount of water transferred to the GC by as much as 60% over previous models, due to the improved Moisture Control System
- Reduction of potential leak sources due to a precision-machined valve manifold block, ensuring a reliable and robust system
- Faster trap cooling time through dedicated ducting
- Re-designed software that is intuitive, user-friendly, touchscreen compatible and USB driven to be fully compatible with Windows 10
- Use of Helium or Nitrogen due to the patented Electronic Mass Flow Controller (MFC). The MFC gives the ability to vary flow rates in different modes thus increasing sample throughput
- Excellent desorption efficiency due to proprietary trapping material
- Optional Guardian Foam Sensor and Eliminator for foaming sample types
- Foam detection and prevention options, vial chilling and sparge vessel heater accessories all available

Product Description

The Atomx XYZ is the second generation combined soil/water autosampler and purge and trap concentrator system in the Tekmar VOC product family. It is the only instrument of its kind to employ a unique automated methanol extraction feature for high level soils in accordance with USEPA Method 5035. Methanol rinsing, dilutions capability and three standard addition vessels all come standard on the Atomx XYZ. While priced competitively, the system offers unique features that cannot be found on any other sample prep system on the market today.

Methods

- USEPA 502.1, 502.2, 524.2, 524.3, 524.4, 503.1, 601, 602, 603, 624, 5030, 5035, 8010, 8015, 8020, 8021, 8030, 8240, 8260
- ASTM and Standard Methods
- Massachusetts VPH and GRO

Methods



Atomx XYZ Specifications

Automation

Sample Capacity:	84-positions for 40 mL VOA vials.
Vial Size:	Nominal 40 mL capacity, single hole cap with PTFE-faced silicone septum, per EPA specifications; 3 3/4" high without cap and septum; 1 1/16" OD; 24 mm ID cap for water sampling.

Sample Handling

Liquid Handling:	Sample syringe (25 mL) dispenses variable volumes of water from 1 - 25 mL in 1 mL increments. 1/16" OD PEEK™ tubing for liquid transfer
Sample Gas Pathway:	Glass, PEEK™ Inertium®, SilcoTek® and PTFE for sample handling.
Cleaning:	The entire liquid sample pathway can be rinsed using a combination of the methanol rinse and the high-temperature DI water rinse cleaning techniques. User defined rinse volume and number of rinses for the needle and glassware.

Gas Handling

Electronic MFC:	System is capable of controlling flow rates between 5 mL/min to 500 mL/min variable between each mode of operation (patented).
Pressure Monitoring:	Ability to record purge and bake pressure for each sample.
Gas Supply:	Ultra-high purity (99.999%) Helium or Nitrogen; Incoming Pressure: 65 - 100 psig, (100 psig max)

Standard Injection

Standard Injection:	Three standard injection systems utilizing 2-way dosing valves mounted on an internal valve manifold.
Capacity:	1, 2, 5, 10, and 20 µL increments.
Consumption:	1µL per 1 µL injection
Standard Vessels:	Three 15 mL standard vessels, UV-protected and sealed under pressure for standard concentration integrity.

Liquid Samples - includes drinking water and wastewater; Liquid samples containing up to 15 mm of sediment when measured from the bottom of an upright 40 mL vial.

Sample Glassware:	The system is capable of operation with 5 mL or 25 mL frit or fritless sparge vessels. Ships standard with 5 mL fritted glassware.
Sample Dilutions:	Programmable automatic aqueous sample dilutions of 1:100, 1:50, 1:25, 1:10, 1:5, 1:2.
Blanks:	Automatic blanks can be pulled from the water reservoir and spiked with standard allowing all autosampler positions to be used for samples.
Cycle Time:	Total Purge & Trap cycle time of 20 minutes, or less depending on the method.

Low-Level Solid Samples - includes all types of natural soils and sediments. Sampled: Direct purge in the vial per USEPA 5035 low-level soil methodology.

Sample Needle:	A patented 3-stage needle allows for water and standards to be directly added to the vial where the solid sample will be purged.
Vial Heater:	Variable heat control from 35 °C to 80 °C.
Mixing:	The solid sample can be mixed via a stir bar using three variable speeds.

High-Level Solid Samples - includes all types of soils and sediments. Sampled: Automated Methanol Extraction and subsequent dilution per USEPA 5035 high-level soil methodology.

Extraction:	System is capable of fully automating the Methanol extraction of high-concentration soil samples.
Matrix Spike:	The system is configured to allow a surrogate spike to be added directly to the solid sample when the methanol is added for the extraction.
Extraction Dilutions:	Programmable automatic dilutions of methanolic extract of 1:100 or 1:50 for 5 mL sample volumes.

System Control

Instrument Control:	Atomx XYZ TekLink™ software in a Windows® 7 or greater environment. Via USB.
Method Scheduling:	All method types can be run from any position in the sample sequence. Up to three standards can be added to any user-specified position. Multiple runs can be made from the same vial (not recommended).
System History:	The system records a complete history of all sample, schedule and method information.

Service

Electronic Leak Check:	Ability to leak check the entire sample pathway of the system via the automated System Leak Check. Built-in diagnostics that, once a leak has been identified, the system will check independent sub-systems for leaks.
Benchmark Test:	The system has a mode that will allow for full electromechanical testing including; valving, heaters, vial handling systems, liquid delivery system, inputs and outputs.
Diagnostics:	The system offers independent control of all valves, vial handling mechanisms and syringe drive for troubleshooting.

General Specifications

Dimensions & Weight:	Dimensions: 70.1 cm (27.6" W) X 58.42 cm (23" D) X 49.5 cm (19.5" H) Unit weight: 43.1 kg (95 lbs)
Power Requirements:	100-120VAC (±10%), 50/60 Hz, 10.0A, 1150W; 220-240VAC (±10%), 50/60 Hz, 5.0A, 1150W
Environmental Specs:	Operating Temperature: 10° to 30 °C; Storage Temperature: -20° to 60 °C; Relative Humidity: 10% to 90%.
Corrosion Resistance:	The front cover and sample tray are corrosion resistant to waters with a pH range of 1 to 10.