TELEDYNE TEKMAR
A Teledyne Technologies Company

Atomx

Automated VOC Sample Prep System

- Single platform system autosampler with built-in purge and trap for all water and soil matrices including drinking water and wastewater
- Capable of sampling low level and high level soil samples
- Only system to automate labor intensive Methanol Extractions
- Utilizes proven 80-position carousel design for optimal throughput
- Utilizes a digital Mass Flow Controller (MFC) for independent mode flow control (patent pending)
- Chiller options available for EPA requirements
- Ability to vary sample volume in 1mL aliquots from 1-25mL
- Reduce carryover with Extractasol - dedicated methanol port for rinsing needle, sample lines, and glassware
- Water reservoir included with standard instrument package
- Three - 15mL UV-protected standard spiking vessels prevent possible compound break-down. Capable of varying volume delivery in 1, 2, 5, 10, and 20µL aliquots and zero waste
- Shortest soil pathway on the market
- Automated system leak check diagnostics
- CFR compliance tools available
- Small footprint saves benchspace

Product Description

The latest advancement in VOC instrumentation by Tekmar is the Atomx Automated Sample Prep System. The Atomx combines an Autosampler and Purge and Trap into a single instrument for the analysis of VOCs in soils and waters. This is the first of its kind and only system that employs a unique methanol extraction automation feature for high level soils in accordance with USEPA Method 5035.

The patent pending Extractasol clean-up step in the Atomx reduces carryover or cross contamination normally associated with high-level water or soil analysis. A new Standard Dosing Valve provides the ability to select variable volumes without generating waste.

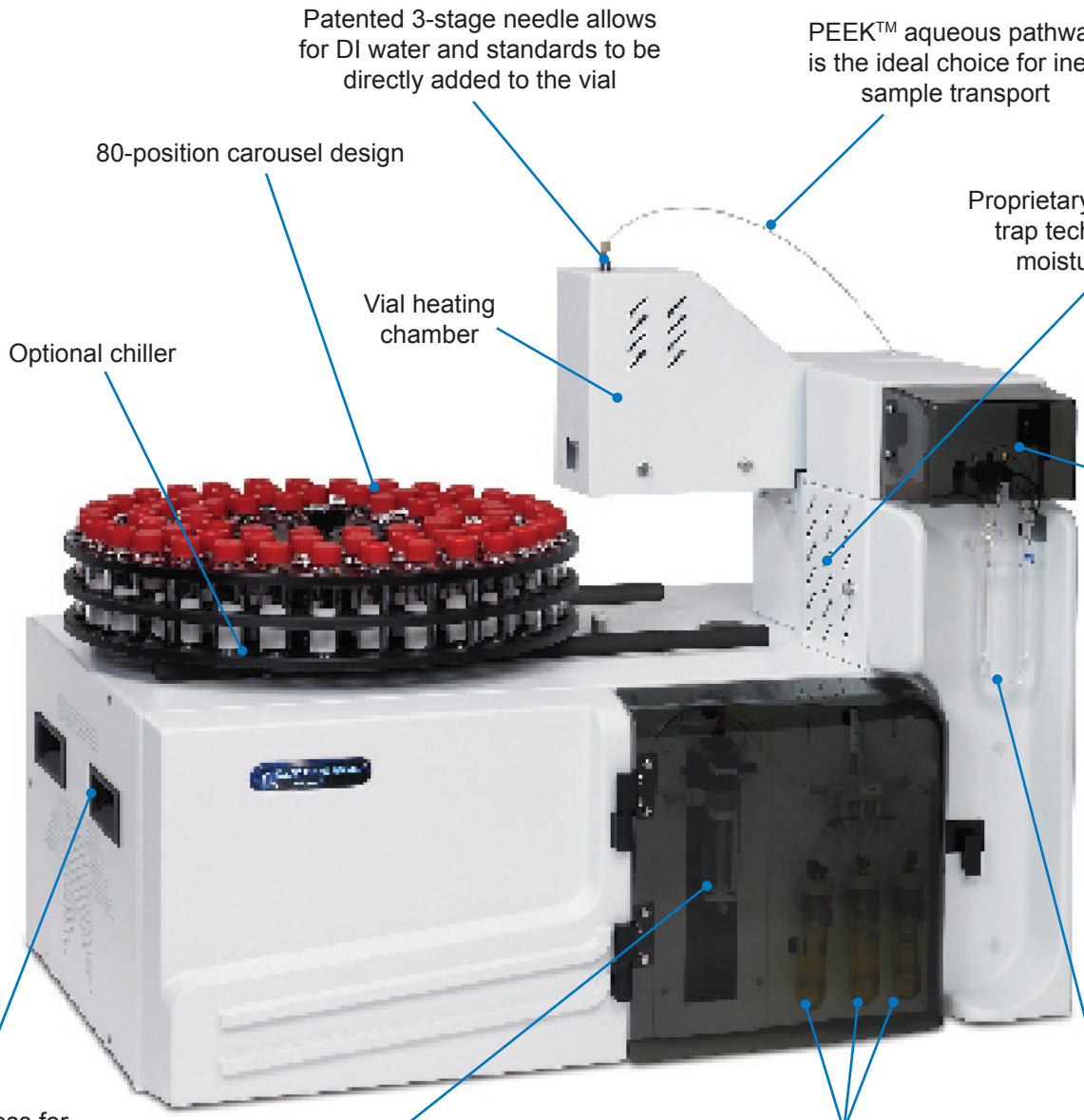
The Atomx features Tekmar's proven carousel drive capable of holding 80-vials for optimal throughput therefore reducing downtime. While priced competitively, this system offers unique features that cannot be found on other sample prep systems on the market today.

ISO 9001
DNV
DNV Certification, Inc.
REGISTERED FIRM

Have questions? Need help?
Our friendly staff of trained sales and service personnel are a call or click away.

www.tekmar.com
800.874.2004

Atomx Features



Atomx
Specifications

Automation

Sample Capacity:	80-positions for 40mL VOA vials.
Vial Size:	Nominal 40mL capacity, single hole cap with Teflon®-faced silicone septum, per EPA specifications; 3 3/4“ high without cap and septum; 1 1/16” OD; 24mm ID cap for water sampling.

Liquid Handling

Sample Liquid Handling:	Sample syringe (27mL) dispenses variable volumes of water from 1 - 25mL in 1mL increments.
Sample Precision:	< 1% RSD (n=7 @ 5mL delivery volume measured by weight)
Sample Gas Pathway:	Glass, PEEK™ and Teflon® for syringe handling. 1/16” OD PEEK™ tubing for liquid transfer
Cleaning:	The entire liquid pathway can be rinsed using a combination of the Extractasol and the High Temperature OptiRinse™ cleaning techniques. The Extractasol allows for the entire liquid pathway to be rinsed with Methanol prior to the High Temperature OptiRinse™, which uses a patented dual internal reservoir to heat blank water up to 90°C. User-defined rinse volume and number of rinses for the needle and glassware.

Gas Handling

Electronic Mass Flow Controller:	System is capable of controlling flow rates between 5mL/min to 500mL/min variable between each mode of operation (patent pending).
Electronic 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 System:	Three standard injection systems utilizing 2-way dosing valves mounted on a 3-position valve manifold.
Capacity:	1, 2, 5, 10, and 20µL increments.
Precision:	< 10% RSD measured by GC/FID for Fluorobenzene and Bromofluorobenzene, (n=7).
Accuracy:	1µL ± 0.1µL
Consumption:	1µL per 1µL injection
Standard Vessels:	Three 15mL standard vessels, UV-protected for added standard stability; Standard vessels sealed under pressure for standard concentration integrity.

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

Sample Glassware:	The system is capable of operation with 5mL or 25mL frit or fritless U-shaped sparge vessels. Ships standard with 5mL 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 blank water reservoir and spiked with standard allowing all autosampler positions to be used for samples.
Cycle Time:	Total Purge & Trap cycle time of less than 20 minutes

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 DI water and standards to be directly added to the vial where the solid sample will subsequently be purged.
Vial Heater:	Variable heat control from 35°C to 90°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:	Methanol can added directly to the vial containing a solid sample where it is mixed and allowed to settle. The methanolic extract is then pulled from the vial and diluted for automated Purge & Trap analysis on the system. If high-level solids were sampled in the field with the extraction solvent and standards added the sample can be mixed and allowed to settle prior to the methanol being pulled and diluted. The extraction method offered complies with USEPA Method 5035 for high-level soil samples.
Matrix Spike:	The system is configured to allow a standard 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 5mL sample volumes.

System Control

Instrument Control:	TekLink™ software in a Windows® XP or greater environment. Via RS-232 or USB converter (optional).
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.
21 CFR Part 11 Compliance Tools:	TekLink™ can be configured to allow for full 21 CFR Part 11 compliance tools to be available to the end user.

Service

Electronic Leak Check:	Ability to leak check the entire sample pathway of the system via the automated Identileak System Check, which has built-in diagnostics that once a leak has been identified, the system will check 3 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.
Email Alert:	The system can be configured to send an email to alert the user of schedule completion or stoppage.
Warranty:	The standard system is covered by a 1-year warranty on all parts excluding consumables.

General Specifications

Dimensions:	26.5” H x 32.7” W x 23.3” D
Weight:	Unit weight: 95lbs
Power Requirements:	100/120/240 VAC (±10%) factory configured, 50/60 Hz, 10.0/5.0 A, 1200VA
Environmental Specifications:	Operating Temperature: 10° to 30°C; Storage Temperature: -20° to 60°C; Relative Humidity: 10% to 90%
Corrosion Resistance:	The front cover and carousel tray are corrosion resistant to waters with a pH range of 1 to 10.
Certifications:	CE, CETL, CSA, ETL

System Accessories

Cryofocusing:	The system can be configured with an optional Cryofocusing Module and will allow for reconcentration of the sample at the head of the column to improve peak shape. The Cryofocusing Module is capable of trap temperatures down to -190°C (based on 75 psig of liquid nitrogen).
Sparge Vessel Heater:	The system can have an optional sparge vessel heater added that will allow liquid samples to be heated during the purge mode to temperatures between 35°C and 90°C.
Vial Cooling:	Optional vial chilling allows for sample vials to be held at 4°C until they are sampled.
Foam Eliminator:	The system can be equipped with an optical foam sensor that will sense any foaming during purge. The sensor can be configured to add anti-foam agent to the sample so that the sample can be completed, if these attempts to control the foaming do not work the sample will be a aborted and drained to minimize the risk of physical damage to the system.