

AQUATek 100

Waters-only Autosampler

- 100-sample position carousel for standard 40mL vials
- Auto-Blanking feature frees up vial space in carousel for increased throughput
- Two - 15mL UV-protected standard spiking vessels to prevent compound breakdown. Capable of varying volume delivery in 1, 2, 5, 10, and 20µL aliquots with zero waste
- Unique slide out Plumbing Access Compartment (PAC)
- Interchangeable loop system available in 5mL, 10mL, 20mL, and 25mL sizes
- Automated diagnostics and leak check
- Customized TekLink™ software package integrates the Autosampler and Purge & Trap for seamless operation
- Entire liquid pathway can be rinsed using the patented high temperature OptiRinse cleaning techniques
- Built-in Chiller tray allows sample cooling (recirculating bath required)
- Pressurized water reservoir for Blanking and System Rinsing included
- Inert sample path comprised entirely of PEEK™ tubing

Product Description

The AQUATek 100 is a purge and trap autosampler that automates the sample preparation steps for the analysis of liquid samples via purge and trap. The AQUATek 100 utilizes a fixed volume sample loop that is filled during the vial pressurization step. Internal standard is added and the sample is transferred to the concentrator for analysis.

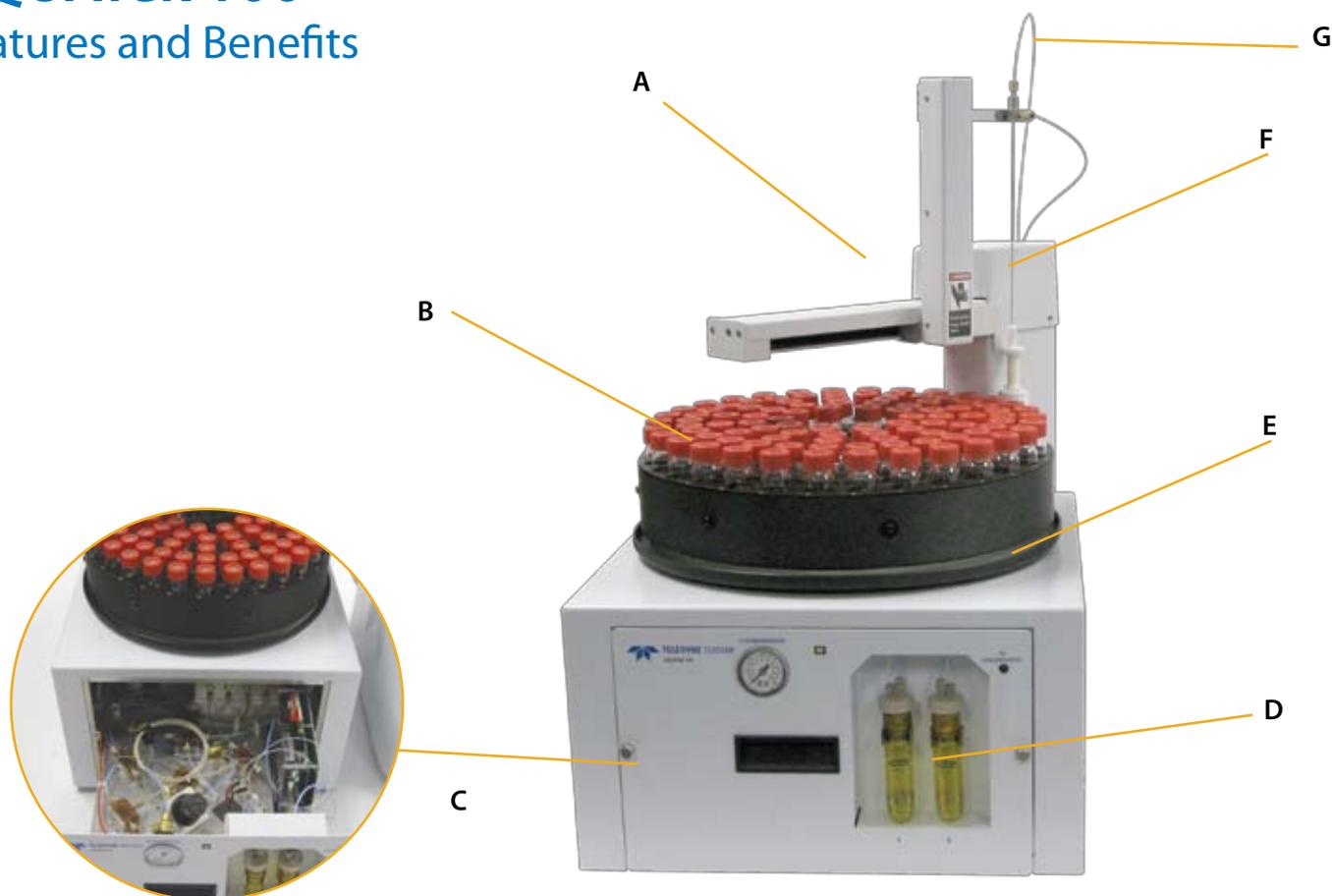
Methods

USEPA 5030 in conjunction with 502.1, 502.2, 524.2, 524.3, 503.1, 601, 602, 603, 624, 8010, 8015, 8020, 8021, 8030, 8240, and 8260



AQUATek 100

Features and Benefits



A. Robotic Arm - The 2-Stage Sample Needle is positioned by the motion of a two axis robotic arm assembly. This robotic arm moves in & out to position the needle over the sample vials and rinse station, it also moves the needle up & down to allow the needle to puncture the vials. The robotic arm utilizes proven reliable technology where the needle is moved to the vials and the vials remain in the carousel.

B. 100-position carousel design for optimal throughput - The carousel drive is an electronically controlled mechanism that positions sample vials for sampling. The carousel tray is removable from the drive assembly for easy vial loading.

C. Plumbing Access Compartment (PAC) - Slide out compartment allows for easy access to the plumbing, tubing and connections.

D. Internal Standards - Internal Standards are stored in two 15mL amber glass vessels to prevent transmission of UV radiation. Vessels are sealed with a PEEK™ cap to prevent adsorption and contamination of the standard solution. Each standard vessel can deliver volumes of 1, 2, 5, 10, or 20µL to each sample. Each standard injection valve can be used independently or in combination.

E. Vial Chiller Tray - The vial chiller allows for sample cooling. The chiller requires the use of an external recirculating cooling bath (optional accessory) for operation.

F. Sample Needle - A 2-Stage Sample Needle is used to displace sample from the vial to the sample loop.

G. Sample Loop - The AQUATek 100 is equipped with a fixed volume PEEK™ sample loop with volumes of 5, 10, 20 and 25mL. The sample loop is filled with liquid sample from the sample vial via a positive displacement method. The loop is connected to two 3-port solenoid valves that allow for the sample volume to be swept to the concentrator for analysis and to allow for cleanup of the loop between samples via hot water rinsing and an inert gas sweep.

Additional Feature

OptiRinse (patented) - The entire liquid pathway can be rinsed using the High Temperature OptiRinse (patented) cleaning technique which uses two internal reservoirs to heat blank water up to 90°C for rinse.

Specifications

Automation	
Sample Types	Liquid samples containing up to 15mm of sediment when measured from the bottom of an upright 40mL vial
Sample Vials	100-positions for 40mL VOA vials, single hole cap with Teflon [®] -faced silicone septum, per EPA specifications; 3 3/4" (9.5cm) high without cap and septum; 1 1/16" OD; 24mm ID cap for water sampling
Vial Transport Device	Carousel/Piercing Needle design using stepper motors and optical encoders for accurate positioning.

General Specifications	
Dimensions (H x W x D)	28.5" x 18" x 19" (72.39cm x 45.72cm x 48.26cm)
Weight	Unit weight: 39lbs (17.69kg); Shipping weight: 100lbs (45.36kg)
Power Requirements	100/120/240 VAC factory configured, 50/60 Hz, 5.0/2.5 A, 600VA
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

Gas Handling	
Sample Gas Pathway	1/16" & 1/8" O.D. PEEK [™] tubing; 1/8" Teflon [™] Tubing
Gas Supply	Ultra-high Purity (99.999%) pure Helium or Nitrogen; Incoming Pressure: 60-100psi, (100psi max)

Liquid Handling	
Sample Liquid Handling	Sample Loop dispenses fixed volumes of water determined by the installed sample loop. Sample loops are available from 5mL, 10mL, 20mL, and 25mL.
Sample Precision	< 1% RSD (n=7 @ 5mL delivery volume measured by weight)
Sample Path	Glass, PEEK [™] , EPDM and Ultem [®] for solenoid valve. 1/16" (0.16cm) OD PEEK [™] tubing for liquid transfer
Water Supply	Requires use of a pressurized blank water reservoir (included)
Cleaning	The entire liquid pathway can be rinsed using the High Temperature OptiRinse (<i>patented</i>) cleaning technique which uses two internal reservoirs to heat blank water up to 90°C for rinse. User defined rinses for the needle and glassware. Water Heater Patent US 6280688.

Samples	
Blanks	Automatic blanks can be pulled from the blank water reservoir and spiked with standard allowing all autosampler positions to be used for samples.
Vial Cooling	Cools samples to 10°C (requires an external recirculating cooling bath).
Cooling Bath Connection	Inlet and outlet hose connections require 1/4" (0.64cm) ID rubber tubing.

Standard Injection	
Standard Injection System	Two standard injection systems utilizing 2-way dosing valves mounted on a valve manifold.
Precision	< 10% RSD measured by GC/FID for Fluorobenzene and Bromofluorobenzene, (n=7).
Accuracy	1µL ± 0.1µL.
Consumption	1µL per 1µL injection.
Standard Vessels	Two 15mL standard vessels, UV-protected for added standard stability; Standard vessels sealed under pressure for standard concentration integrity.

Heater

Hot Water Heater	Variable Heat Control from 35°C to 90°C.
------------------	--

System Control

Instrument Control	TekLink™ software in a Windows® XP or greater environment via RS-232 or USB converter (optional).
Language	TekLink™ can easily be translated into any language via file modification.
Method Storage	Infinite method storage including pre-programmed methods.
Method Scheduling	Water samples can be run from any position in the sample sequence. Up to two standards can be added to any user-specified position.
System History	The system records a complete history of all sample, schedule and method information.
Revision Control	The system records and saves changes to methods, schedules and configurations.
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 AQUATEk 100 sample path in combination with Concentrator System.
Benchmark Test	The system has a mode that will allow for full electromechanical testing including; valving, heater, vial handling systems, liquid delivery system, inputs and outputs
Diagnostics	The system offers independent control of all valves and vial handling mechanisms and for troubleshooting.
E-mail Alert	The system can be configured to send an E-mail to alert the user of schedule completion or stoppage.
Warranty	1 year warranty (excluding consumables)

