

**SEAL**  
Analytical



*Highly Automated*  
*Easy to use*  
*Efficient*  
*Compact Design*

# AQ2

ADVANCED DISCRETE ANALYZER

AQ2 is a flexible analyzer that uses the principle of discrete analysis where each test occurs in a separate or discrete reaction vessel.

# AQ2



*AQ2 is ideal...when many and varied tests are needed on different samples and/or individual results are needed immediately.*

## USEPA, ASTM, ISO

*and other international regulatory compliant methods are available.*

### METHODS INCLUDE

Alkalinity  
Ammonia  
Chloride  
Cyanides  
Iron  
Molybdenum  
Nitrate/Nitrite  
Nitrite  
Phenolics  
Phosphate, ortho  
Phosphorus, total  
Silicate  
Sulfate  
Total Kjeldahl Nitrogen

*PLUS MANY MORE*

## HOW DOES THE AQ2 WORK?

The AQ2 employs a robust robotic sampling arm working in conjunction with a stepper motor-driven syringe that is responsible for aspirating, dispensing and mixing accurate and precise quantities of sample and reagent in miniaturized test tubes called reaction wells.

The sample and reagents are incubated in the reaction wells for a preprogrammed time. A single aliquot is then transferred into a 10mm 100% optical glass cuvette. The absorbance is read on the stationary reactant to ensure the best possible signal to noise ratio.

The sample is always read in the same position in front of the detector, in the same glass cuvette. This eliminates the issues of scratching and reaction well variability found with direct read systems, thus improving reproducibility. In the AQ series, the liquid is moved, not the tray, so fewer moving parts means higher reliability.

The standard methods supplied have optimized reaction times which ensure the reaction is brought to completion. This complete reaction emulates the manual and segmented flow methods and ensures lowest detection limits and good reproducibility.

Once the absorbance is read, the glass cuvette is thoroughly cleaned and checked, ensuring no carryover or cross contamination.

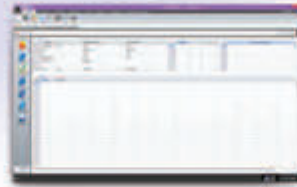
▶ **As a market leader, SEAL has over 1,000 applications available and under continual development. Markets include water, wastewater, soil, plant, fertilizer, food and beverage. Please contact us for your specific application.**

The AQ2 Advanced Discrete Analyzer is a fully automated instrument designed specifically for the environmental and industrial markets.

## ADVANTAGES AND BENEFITS



- ~ 100% optical glass stop-flow cuvette
- ~ Robust detection system utilizes stationary measurement cell
- ~ 10 mm optimum path length



- ~ Highly flexible software designed with user input
- ~ QCPro™ Data Quality Assurance System – allows the user to specify QC types, limits and corrective actions upon a QC failure



- ~ Reagent wedges with on-board cooling – only 20-400  $\mu$ L reagent used per test
- ~ Automatic reagent level sensing verifies sufficient reagent volumes
- ~ Reagent expiration date tracked through software



- ~ Optional integrated automated cadmium coil reduction for nitrate/nitrite determination
- ~ Cadmium coil is fully sealed and valve controlled
- ~ In situ coil regeneration is fully automated through software



- ~ Low cost, disposable wells used for each discrete reaction
- ~ Constant heating and programmable reaction time ensure reaction reaches completion



- ~ Both 57 and 100 position sample trays are available to accommodate sample load
- ~ Sample trays are easily interchangeable

### OTHER FEATURES

- ▶ *Unique probe washer allowing any test to be run in any order*
- ▶ *Walk away operation - including ability to run overnight*
- ▶ *Segregated chemical waste and wash minimizes environmental impact*
- ▶ *Only 500 – 600  $\mu$ L of combined reagents and sample consumed per test*
- ▶ *Add samples after a run has started*
- ▶ *Automated standard preparation and dilution of over range samples*
- ▶ *Tests programmable per sample to reduce analysis time*

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PLEASE VISIT

[www.seal-analytical.com](http://www.seal-analytical.com)

or contact your local SEAL Analytical representative about your specific application.

**AA1****QuAAtro39****AA3****AQ1****AQ400**

## RELATED PRODUCTS

**AA3** and **QuAAtro39** are high performance, fully automated instruments, that use the principle of segmented flow analysis to achieve high throughput, high reproducibility and low detection limits.

The **AA1** is a recent addition to the SEAL Segmented analyzer range. It is compact, sleek and simple – ideal for laboratories running 1 or 2 dedicated chemistries.

**AACE software** is a common platform for all SEAL Segmented Flow Analyzers and is intuitive and flexible.

The **AQ Series** are flexible analyzers that uses the principle of discrete analysis where each test occurs in a separate or discrete reaction vessel.

*Discrete analysis is complementary to segmented flow analysis and many laboratories use both techniques. The AQ series Discrete analyzers are ideal when many and varied tests are needed on different samples.*

SEAL's enhanced computer controlled **BD50** digestion block, is especially suited to Total Kjeldahl Nitrogen and Phosphorous methods. Reproducible results are ensured as it is made from solid aluminum with a heating grid for even heating across the whole block. Please see our detailed brochure for further information.



## COMPREHENSIVE SUPPORT

We offer comprehensive applications, technical service and software support.

### INCLUDING

- ▶ A choice of preventative maintenance and service contracts to meet your specific requirements
- ▶ In-house and on-site training
- ▶ Guaranteed availability of genuine consumables and spare parts
- ▶ Adaptation of methods to specific requirements such as matrix, range or detection limit
- ▶ Continuous in-house development of software to incorporate new customer requested features

## THOMAS CAIN (a SEAL Analytical brand)

*manufactures automated sample preparation and digestion systems for the analysis of trace metals for environmental laboratories. From the **SmartBlock** – a simple manual digestion block – to the **DEENA** acid digestion system, that fully automates the sample preparation and digestion for EPA and other laboratory methods.*



[www.seal-analytical.com](http://www.seal-analytical.com)

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