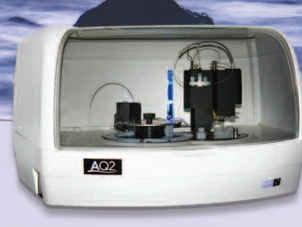


AA1

QuAAtro

AQ1

AQ2



### COMPREHENSIVE SUPPORT

We offer comprehensive applications, technical service and software support before and after installation and training.

INCLUDING

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

### RELATED PRODUCTS

**AA1** is the latest addition to the SEAL Analyzer range. It is sleek and simple — ideal for laboratories running 1 or 2 dedicated chemistries.

**QuAAtro** is a high performance, fully automated instrument, that uses the principle of segmented flow analysis to achieve high throughput, high reproducibility and low detection limits.

**AACE software** is a common platform for both the AA3 and QuAAtro series and is intuitive and flexible.

**AQ1** and **AQ2** 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 AQ1 and AQ2 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.



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

SEAL Analytical is a global company with offices worldwide - contact us at:

**SEAL Analytical, Inc.**  
 Mequon Technology Center  
 10520-C Baehr Rd.  
 Mequon, WI 53092  
 United States  
**Tel:** +1 (262) 241 7900  
**Fax:** +1 (262) 241 7970  
[sales@seal-us.com](mailto:sales@seal-us.com)

**SEAL Analytical Ltd.**  
 2 Concorde Close  
 Segensworth  
 Fareham  
 Hampshire PO15 5RT  
 United Kingdom  
**Tel:** +44 (0) 1489 864400  
**Fax:** +44 (0) 1489 880531  
[mail@seal-analytical.com](mailto:mail@seal-analytical.com)

**SEAL Analytical GmbH**  
 Werkstrasse 5  
 D-22844 Norderstedt  
 Germany  
**Tel:** +49 (0)40 60 9292 9-00  
**Fax:** +49 (0)40 60 9292 9-02  
[info.germany@seal-analytical.com](mailto:info.germany@seal-analytical.com)

**SEAL Analytical Shanghai**  
 Fortune International Plaza  
 Silver Building, Room 614  
 No. 43, Guo Quan Road  
 Shanghai 200433  
 China  
**Tel:** +86 21 3362 5002  
**Fax:** +86 21 3362 5002

AA3 3.0.Q USA 0212



**Ultra-low Detection Limits**  
**Highly Reproducible**  
**Robust and Reliable**  
**Modular and Flexible**

# AA3

WORLD'S MOST SUCCESSFUL  
SEGMENTED FLOW ANALYZER

The AA3 has macroflow hydraulics for reliable, easy to use operation and a modular design for high flexibility.

# AA3



The AA3 is ideal for all types of water, seawater, soil, plant and fertilizer analysis when high reproducibility and low detection limits are required.

USEPA, ASTM, ISO, AOAC, DIN, CORESTA and other international regulatory compliant methods are available.

#### APPLICATIONS INCLUDE

- Seawater
- Water and Wastewater
- Drinking Water
- Fertilizer
- Soil and Plants
- Tobacco
- Wine/Beer
- Animal Feed
- Food

## HOW DOES THE AA3 WORK?

The SEAL AA3 High Resolution 2012 is the new generation of the original Technicon™ AutoAnalyzer II — focusing on maintaining its reputation of high quality and reliability.

A basic SFA system consists of an autosampler, a peristaltic pump, a chemistry manifold, a detector and data acquisition software. Sample and reagents are pumped continuously through the chemistry manifold. Air bubbles are introduced at regular intervals forming unique reaction segments which are mixed using glass coils. Glass is ideal, as it is inert, stays clean and enables easy visual checks.

In SFA, all reactions run to completion. The ratio of sample to reagents in the detector reaches a constant maximum value – the steady-state condition. This ensures maximum sensitivity resulting in lowest detection limits and exceptional reproducibility. Variations in reaction time, temperature and sample matrix do not affect the results as they do in other colorimetric techniques, such as flow injection analysis, where the reaction is not brought to completion.

Higher analysis rates and lower reagent consumption are achieved with Bubble-through-the-flowcell operation. It also makes the system easy to use. The linear range is increased for most methods by the flowcell design with planar end faces and fiber-optic coupling which ensures parallel light transmission through the flowcell.

The AA3 HR is a macroflow system, the internal diameter of all glassware being 2 mm. This enables more complex and non-homogenous sample matrices to be run without clogging. The AA3 HR allows for long reaction times as well as the automation of on-line distillation, UV digestion and other complex procedures. Most methods run at 60-70 samples hour.

▶ **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.**

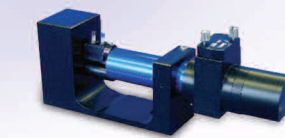
## ADVANTAGES AND BENEFITS



Precise, multi-speed peristaltic pumps ensure regular, reproducible dosing of liquid and electronically controlled air valves provide precise air bubble injection.



The chemistry manifold uses close-tolerance glass components, which are chemically inert and allow for easy visual check of operation. Distillation, dialysis and UV digestion, can also be incorporated.



The AA3's high resolution digital photometer, with optimized optics and 24-bit resolution, provides high sensitivity at ultra-low concentrations, wider dynamic ranges and lower detection limits.



The AA3's random access autosamplers are fast, robust and have various rack sizes to meet your sample requirements. Samples can be added at any time during the run.



**New in 2012** – HR4 4 channel colorimeter. All AA3 modules are compatible with existing AutoAnalyzer II / 3 systems for easy and economical upgrades.



Instrument control and data acquisition is carried out through the intuitive, easy to use AACE software package. AACE is LIMS compatible and both standard and GLP versions are available.

#### OTHER FEATURES

- ▶ Ultra-low detection limits
- ▶ Wide dynamic range
- ▶ Modular design – high flexibility
- ▶ Multi-test manifolds allow for easy method change-over
- ▶ Run up to eight channels simultaneously – easily upgradable
- ▶ Reliable unattended operation
- ▶ Low reagent consumption



PLEASE VISIT

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

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