



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 AutoAnalyzer 3 High Resolution (AA3HR) 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 in-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.

AA3 – The World's Most Reliable Segmented Flow Analyzer

Exceptional Reproducibility • Ultra-low Detection Limits • Robust Modular Design

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, gas diffusion, dialysis and UV digestion can also be incorporated.



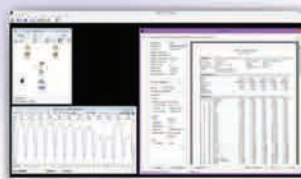
The AA3's high resolution digital photometer, with optimized optics and 24-bit resolution, provides high sensitivity at ultra-low concentrations, wider dynamic ranges and lower detection limits.



SEAL offers a range of fast robust autosamplers to meet your specific needs. Various rack sizes, vial types, single, dual and quad probe available.



Accessory modules and alternate detectors are also available. These include syringe diluter, flame photometer, fluorometer, and LWCC capillary flowcells.



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**

SEAL
Analytical



PLEASE VISIT

www.seal-analytical.com

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

Colorimetric Nutrient Analyzers

DISCRETE ANALYZERS



AQ1



AQ2



AQ400

SEGMENTED FLOW ANALYZERS



AA1



AA3



QUATRO 39

50 Years Experience in Environmental Analysis Built Into Every Analyzer

50 years experience in designing, developing and manufacturing automated wet chemistry analyzers specifically for very low detection levels in environmental applications has helped SEAL to apply the most useful, easy to use features into the SEAL range of Discrete and Segmented Flow analyzers. The SEAL analyzers are widely acknowledged as the best for environmental analysis, giving you everything you need to achieve equal or superior results to the manual and approved laboratory methods the SEAL analyzer replaces.

FOR YOUR SAMPLE PREPARATION — BLOCK DIGESTION : TKN, METALS

SEAL's enhanced computer controlled **BD50** digestion block is ideal for speeding up the acid digestion process for soils, water samples and food products. It is especially suited to Total Kjeldahl Nitrogen and Phosphorous methods. The solid aluminium heating grid delivers even heating across the whole block and ensures reproducible results. Please see our detailed brochure for further information.



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

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

SEAL Analytical, Inc.
6501 West Donges Bay Road
Mequon, WI 53092
United States
Tel: +1 (262) 241 7900
Fax: +1 (262) 241 7970
sales@seal-us.com

SEAL Analytical Ltd.
Unit 3 Tailsman Business Centre
Duncan Road
Park Gate
Southampton, SO31 7GA
United Kingdom
Tel: +44 (0) 1489 864 400
Fax: +44 (0) 1489 880 531
sales@seal-us.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

SEAL Analytical Shanghai
Room 413, 12th Building,
No. 128 Xiangyin Road,
Shanghai, 200433
China
Tel: +86 21 3362 5002
Fax: +86 21 3362 5002

SEAL Analyzers are monitoring environmental samples in every corner of the globe. They are manufactured in the USA. Engineering and chemistry support is provided from SEAL global facilities in USA, Germany, England and China along with a worldwide network of specialist distributors.

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 online 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