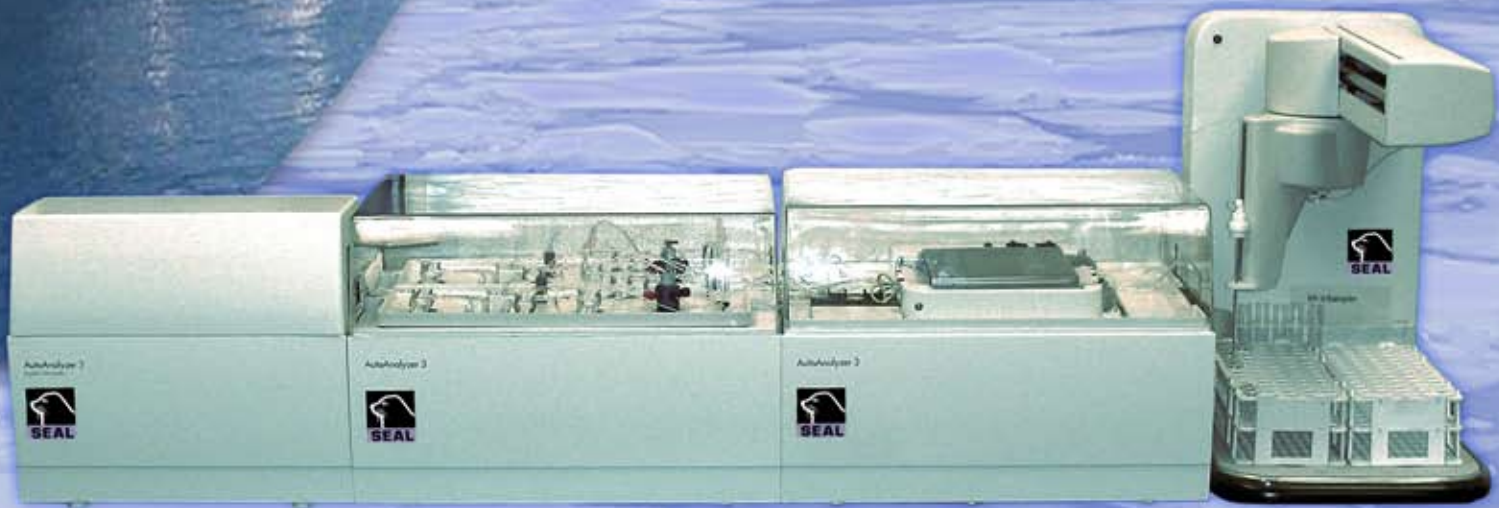


AutoAnalyzer 3 HR

*World's Most Successful
Segmented Flow Analyzer*



Ultra-low Detection Limits

Highly Reproducible

Robust and Reliable

Modular and Flexible

SEAL
Analytical



The AutoAnalyzer 3 HR

The **AutoAnalyzer 3 (AA3) HR** is a high performance segmented flow analyzer that offers unparalleled precision and reliability.

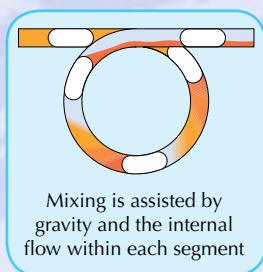
The **AA3 HR** has macroflow hydraulics for reliable, easy operation and a modular design for high flexibility.

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



How does the AutoAnalyzer 3 HR work?

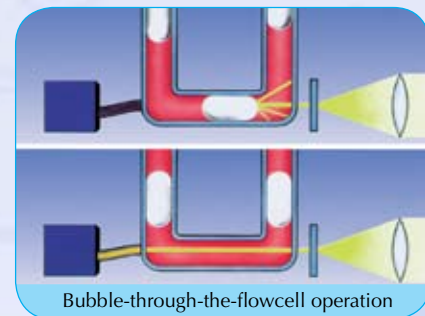
When SEAL acquired the Bran+Luebbe SFA business in 2006, they built on the success of the Technicon™ AutoAnalyzer II and AutoAnalyzer 3 and launched the AutoAnalyzer 3 HR— maintaining its reputation of high quality and reliability.



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.

The World's Most Reliable Segmented Flow Analyzer

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



The **AA3 HR'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. Air bubbles pass through the flow cell without affecting the signal, increasing sampling rate. LED light sources are available for high performance applications, such as use on research vessels. Other detectors, such as flame photometer and UV spectrophotometer are available for special applications.



The **chemistry manifold** is comprised of close-tolerance glass components, which are chemically inert and allow for easy visual check of operation. Multi-test manifolds are available, where different analyses can be run - with no hardware or pump tube changes. Complex procedures, such as distillation, dialysis and UV digestion, can also be incorporated.



High precision multi-speed peristaltic pumps ensure regular, reproducible dosing of liquid. High speed is available for fast start-up and wash-out and low speed is available to conserve reagents following a run. Electronically controlled air valves provide precise air bubble injection.



The **AA3 HR'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.

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.

All AA3 HR modules are compatible with existing AutoAnalyzer II /3 systems for easy upgrading.

Typical applications include:

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

SEAL has more than 1,000 documented methods and new applications are regularly being developed in our laboratories.

Wide dynamic range

Ultra-low detection limits

Modular design – *high flexibility*

Multi-test manifolds allow for easy method change-over – *with no change of hardware*

Run up to eight channels simultaneously – *easily upgradable*

Reliable unattended operation

Low reagent consumption

Comprehensive Support

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

- 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



QUAATRO



AQ2+ Discrete Analyzer

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 AutoAnalyzer 3 HR and QUAATRO series and is intuitive and flexible.

The AQ2+ is a flexible analyzer 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 AQ2+ is ideal when many and varied tests are needed on different samples.



Block Digester BD 50s

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.

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