

# QUAATRO

High Performance  
Microflow Analyzer



High Sample Throughput

Ultra-low Detection Limits

High Reproducibility

Compact and Flexible

**SEAL**  
Analytical





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High Performance  
Microflow Analyzer

## QUAATRO

is a high performance, fully automated instrument that uses the principles of segmented flow analysis to achieve complete reaction, high reproducibility and ultra-low detection limits.

QUAATRO uses microflow hydraulics, enabling high sample rates with low sample and reagent consumption.

QUAATRO is ideal for water and seawater analysis when high throughput and ultra-low detection limits are required.

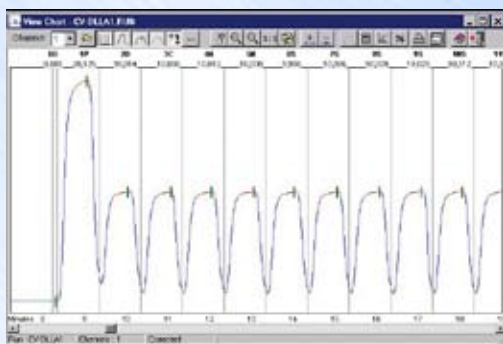
## How does QUAATRO work?

**QUAATRO is the latest generation of the original world-class Technicon™ Segmented Flow Analysis (SFA) systems, which SEAL acquired in 2006.**

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, reactions run to completion and the ratio of sample to reagents in the detector reaches a constant maximum value. This results in ultra-low 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.



**QUAATRO** is a microflow SFA system, the internal diameter of all glassware being 1mm. This reduces reagent consumption and increases throughput, with most methods running at 100 – 120 samples hour.

**QUAATRO** has many unique features to increase ease of use and reduce ownership costs.

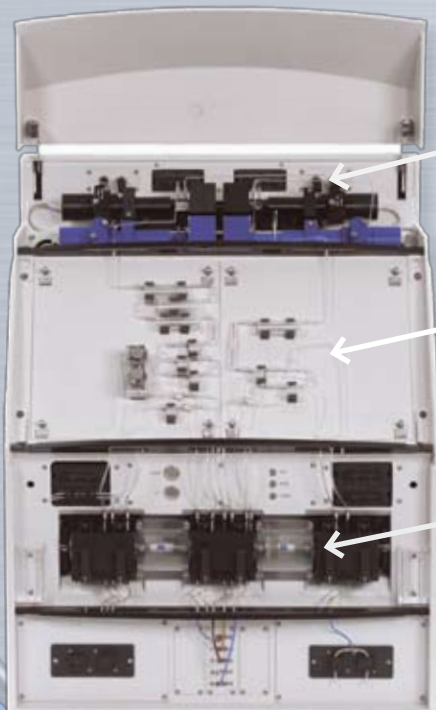
The integrated enclosed manifold and detector are heated to 37° C. Flow stability is ensured as the optimal bubble frequency for each method is programmed by silent air valves. Automatic start-up, method changeover and shutdown allows true unattended operation and overnight running.

**QUAATRO checks its own performance**, with automatic monitoring of noise, drift, bubble pattern and light energy, before and during a run.



# QUAATRO is the World's Most Automated Segmented Flow Analyzer

Microflow Hydraulics • Heated Manifolds • High Resolution Detectors • Advanced Software



**QUAATRO high resolution digital photometer**, with optimized optics and 24-bit resolution, provides higher sensitivity at ultra-low concentrations, wider dynamic ranges and lower detection limits. LED light sources are available for high performance applications, such as use on research vessels. Various flowcells are available, all with bubble-through technology.

The enclosed **heated chemistry manifold on QUAATRO** means there is no need for heating baths. Microflow hydraulics allows faster analysis rates, lower reagent consumption and results in less waste. The inert glass components allow easy visual check for correct operation and easy cleaning. Four chemistries can be run simultaneously on one console.

The heart of the system, the **high precision three-speed peristaltic pump**, ensures regular, reproducible dosing of liquid. Optional reagent valves allow automatic start up, method switching and shut down.

**QUAATRO autosamplers** are fast, robust and available with 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.

**QUAATRO is used to analyze nutrients in a wide variety of sample types:**

- *Drinking Water*
- *Water and Wastewater*
- *Seawater*
- *Soil and plants*
- *Tobacco*
- *Wine*

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

One click start up

Reliable unattended operation

Automatic performance checks  
before, during & after a run

Can generate more than 1000 results/day

Multi-test manifolds for different nutrients  
*with no change of hardware!*

5 channel seawater **QUAATRO** available

Easily transportable

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

# 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



**AutoAnalyzer 3 HR**



**AQ2+ Discrete Analyzer**

The **AutoAnalyzer 3 HR** is the latest generation segmented flow analyzer, based on the robust original Technicon™ AutoAnalyzer II. It offers exceptional reliability, enhanced performance and ease of use.

**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.

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

SEAL Analytical Limited  
2 Concorde Close  
Segensworth  
Fareham  
Hampshire PO15 5RT  
United Kingdom  
Tel: +44 (0) 1489 864 400  
Fax: +44 (0) 1489 880 531  
Email: mail@seal-analytical.com

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  
Email: sales@seal-us.com

SEAL Analytical GmbH  
Werkstrasse 4  
D-22844 Norderstedt  
Germany  
Tel: +49 40 522 02 100  
Fax: +49 40 522 02 473  
Email: info.germany@seal-analytical.com



Part of the Porvair Group

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



**SCA**  
**SCA Pacific Pte Ltd**

Block 108 Ang Mo Kio Ave 4, #01-88  
Singapore 560108

Phone : + 65 6298 9989

Fax : + 65 6291 9989

E-Mail : [scapacific@singnet.com.sg](mailto:scapacific@singnet.com.sg)

[www.scapacific.com.sg](http://www.scapacific.com.sg)