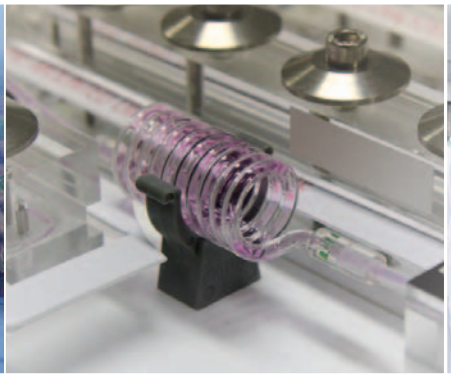
For all your environmental and industrial applications



Skalar

your partner in chemistry automation

Skalar the Company

Skalar is a Dutch company, established in 1965 as a manufacturer of analyzers for the laboratory and process industry. The company has since grown into a worldwide organization with its own subsidiaries in most European countries, North America and India, and with over 80 representatives throughout the world. All these organizations are focused daily on providing the best support to both existing and potential customers.

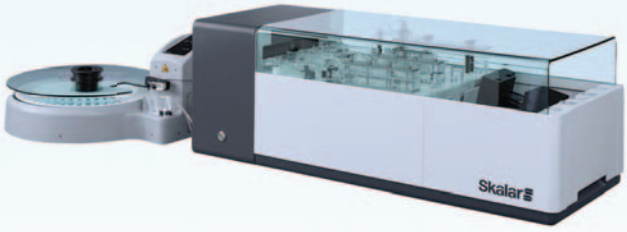
Skalar's worldwide headquarters is located in Breda, the Netherlands. The facility employs about 140 people in Research & Development, Manufacturing, Quality Control, Applications laboratory, Logistics, Sales & Marketing and International Helpdesk.

Skalar analyzers are in daily routine operation in all types of laboratories, and handling sample volumes from a few hundred to hundreds of thousands annually. With over thirty years of experience in automating wet chemistry analysis procedures, the Skalar ISO 9001 certified organization has built up a wealth of knowledge and has generated a vast library of information and techniques that support well-proven applications. This knowledge, in the form of application notes, methodology books, technical brochures, etc., is widely made available. In recent years Skalar's own continuing research and development has added many new innovative analyzers to its product range. The new and existing range of Skalar analyzers has proven to be the most reliable and economical choice of today's modern laboratories.

San^{series} Automatic Wet Chemistry Analyzers

The San^{++}

The San^{compact}



The San^{series} range of analyzers provides the most proven and reliable technology available today in automatic wet chemistry analysis.

The San^{series} of continuous flow analyzers consists of the San^{++} and San^{compact}. Both are modular, which allow them to be configured to meet the varying requirements of the modern laboratory. The San^{compact} is a smaller unit and especially developed for laboratories with less bench space and fewer analyses for automation. Both analyzers include various in-line sample preparation steps such as UV-digestion, distillation, extraction, dialysis, ion-exchange and many more.

With the implementation of a wide range of detection techniques, the San^{series} meets the analytical requirements of over a thousand chemistry applications. These range from simple parameters such as ammonia, chloride, nitrite to the more complex total cyanide, phenol index, total nitrogen, total phosphate and many others.

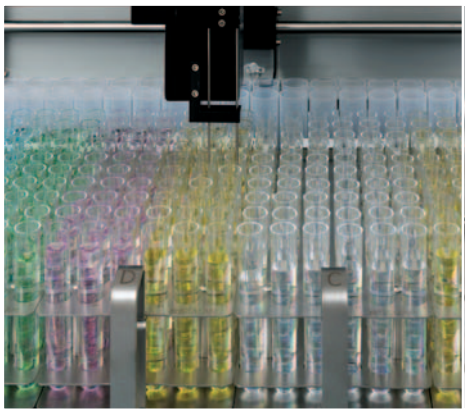
The San^{series} offers an extensive range of auto samplers. Based on sample workload and the required level of automation, a sampler can be selected that fits the need for each individual laboratory

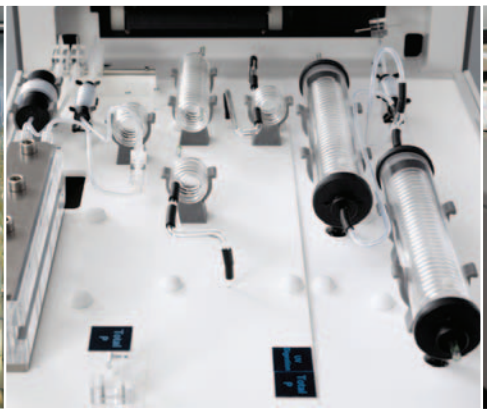
FEATURES

- High sample through put, up to 140 analyses per hour
- Analysis from sub ppb to high ppm levels
- Analysis of up to 16 parameters simultaneously
- 21CFR part 11 compliant FlowAccess™ software for data generation, QC/CLP procedures, automatic and unattended start up of the analysis run at a user-defined time
- Auto samplers for 50 - 576 sample positions available
- Auto pre-run and / or post-run dilutions of overrange samples
- Automatic preparation of working standards
- Analyses according to Standard Methods, EPA, ISO, AOAC, Coresta, EBC, ASBC and many more

APPLICATIONS

Waters, soil, plant & fertilizer, pharmaceutical, food, beverages, wine, beer & malt, detergents, tobacco and petrochemical industry etc.



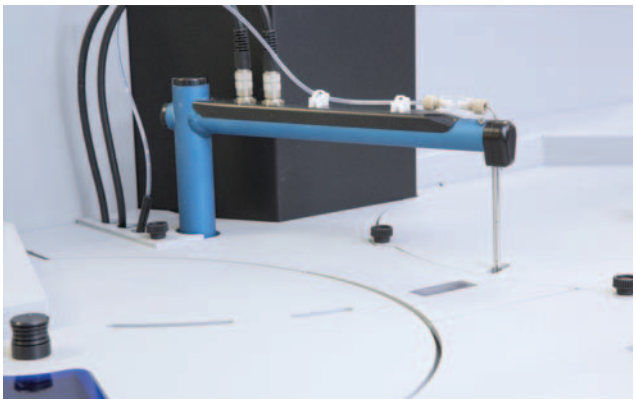


BluVision™
Automatic Discrete Analyzer

The BluVision™ has been specifically developed for the environmental field providing reliable, accurate low ppb level results for a variety of analytical parameters in a wide range of samples and matrices such as drinking water, wastewater, ground water and surface water.

Skalar's discrete analyzer integrates years of experience in the field of automated spectrophotometric analysis and robotic analyzers in one design. The analyzer easily automates the sample & reagent pipetting into the cuvettes, mixing, heating, blank correction, photometric measurement and many other functions depending on the preferences of the laboratory.

All analysis methods are in accordance with (inter)national regulations or can be adapted to customer specific methods. New methods can be developed together with our qualified application laboratory.



An analysis run can be set up batch-wise per sample or random access per parameter. The BluVision™ is capable of running up to 8 different parameters simultaneously.

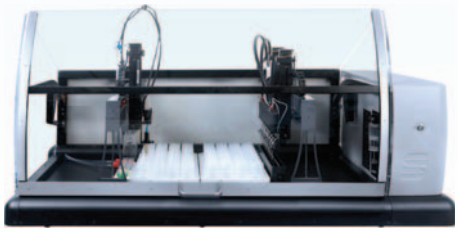
On the integrated touch screen display the instrument status can be monitored and tasks such as loading cuvette blocks can be executed from here.

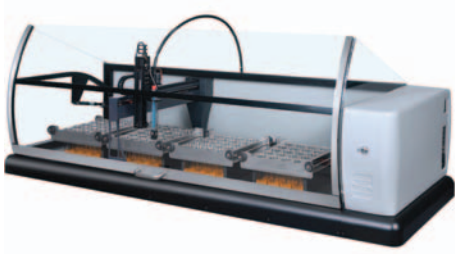
The BluVision™ is perfectly suited for all your routine environmental analysis as well as for research purposes.

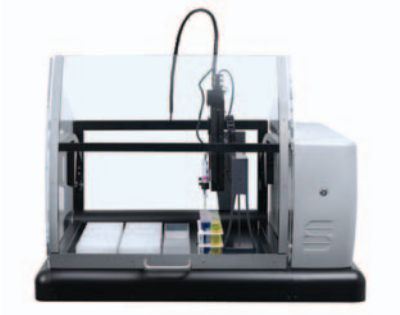
FEATURES

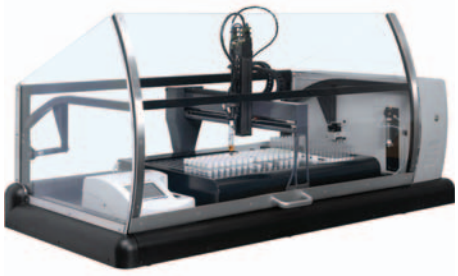
- Complete "walk-away" automation: sample & reagent pipetting into the cuvettes, mixing, heating, blank correction and measurement
- Additional automated functions: preparation of calibration standards from stock solutions, auto dilutions of over-range samples or re-analysis of samples
- Cuvette with optical path-length of 15 mm allowing for accurate low ppb level detection.
- Disposable cuvette blocks, eliminating any carry-over between samples
- Temperature controlled cuvette tray with 160 positions
- Autoloader for an additional 48 cuvette blocks, running 640 tests without operator intervention
- 100 sample positions & 32 positions for reagents, (stock) standards & QC's
- Cooled sample & reagent racks
- One pipetting needle, which pre-heats the samples & reagents before dispensing
- Segregation of chemical waste, depending on disposal requirements

SP2000 Robotic Analyzers









Skalar's sophisticated SP2000 robotic platform offers dedicated and flexible automation solutions for routine analytical testing.

The SP2000 analyzers are modular and hence many configurations are possible. The systems can be set-up to handle any requirement of sample capacity, for example 18 up to 198 BOD bottles or 24 up to 336 test kits can be handled in one batch.

Automation is available for a variety of applications including:

- Biochemical Oxygen Demand (BOD)
- Chemical Oxygen Demand (COD) according to ISO 6060 or ISO 15705 (ST-COD)
- Test kit applications, including Total Phosphate (TP) and Total Nitrogen (TN)
- pH, Conductivity (EC), Alkalinity, Turbidity and Color
- Carbonate/Bicarbonate and other titrations
- Ion Selective Electrode (ISE) measurements
- Particle size distribution analysis in soil
- Automatic sample pipetting

And others

Combinations of the above applications or custom-made applications can also be configured.

FEATURES

- Complete automated functions for liquid handling, mixing, sample pipetting, capping /de-capping etc.
- Protective front and side covers complying with CE regulations
- Configurable to run multiple chemistry applications simultaneously such as pH/EC/Color/Turbidity etc.
- Second robot arm for increased sample throughput or to perform additional tasks
- RoboticAccess™ Software for instrument control, data handling, result calculation and quality control
- Methods according EPA, ISO, etc. also customized calculations can be integrated

TOC & TN Analyzers for Liquid Samples

The Formacs^{SERIES} Total Organic Carbon (TOC) and Total Nitrogen (TN) analyzers have been designed to measure TOC and TN separately or simultaneously in liquid samples.

The flexible design ensures optimal performance and is operational within minutes, providing accurate analyses for Total Carbon (TC), Total Inorganic Carbon (TIC), TOC, Non Purgeable Organic Carbon (NPOC) and TN. As an additional option, the concentration of Nitrate and Nitrite (NN) can be measured which results in a true alternative to the Total Kjeldahl Nitrogen (TKN) method (TKN = TN - NN). This eliminates the need of hazardous reagents, which are required for the conventional TKN analysis. In this way, valuable operator time is saved and better precision is achieved.

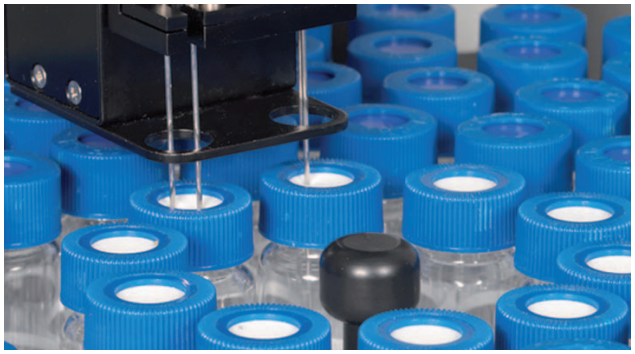
The user-friendly analyzers allow quick and easy access to all components and include a versatile software package for complete instrument control, data acquisition, calculations and report generation.

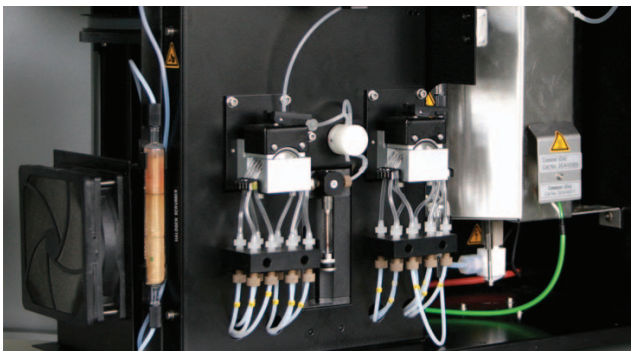
FEATURES

- Analytes TC, TIC, TOC, NPOC, DOC, POC, TN, Nitrate and Nitrite
- High Temperature Combustion with IR detection (carbon) and chemiluminescence detection (nitrogen)
- 160 positions random access auto sampler, optional trays for 20 or 40 ml EPA-VOA vials
- Automatic sample pre- and post dilution of overrange samples and preparation of working standards
- Range up to 25000 ppm C / 300 ppm N
- Excellent alternative for Kjeldahl determination
- Automatic stirring, acidification and sparging for NPOC analysis
- Methods according to EPA, CEN, DIN, ISO and Standard Methods
- 21 CFR part 11 compliant
- Extendable with solid sample module for TC, TIC and TOC

APPLICATIONS

Drinking water, surface water, process water, waste water, etc.





TOC & TN Analyzers for Solid and Liquid Samples

The Primacs^{SERIES} provides fast, reliable, accurate and low level analysis of Total Nitrogen / Protein, Total Carbon, Total Organic Carbon, Total Elemental Carbon and Total Inorganic Carbon all in one unit.

The measurement of TC, TOC, TEC and TIC is based on high temperature catalytic combustion with Non Dispersive Infrared detection (NDIR). The temperature settings are variable and a special temperature ramping program allows the analysis of TEC, according to DIN 19539. The TN/Protein analysis is based upon DUMAS methodology and detection with Thermal Conductivity (TCD). TIC can also be determined separately using automatic acidification and purging. All systems come with a practical and flexible software package, with pre-installed method files, user definable sample table set up, integrated QC features etc.

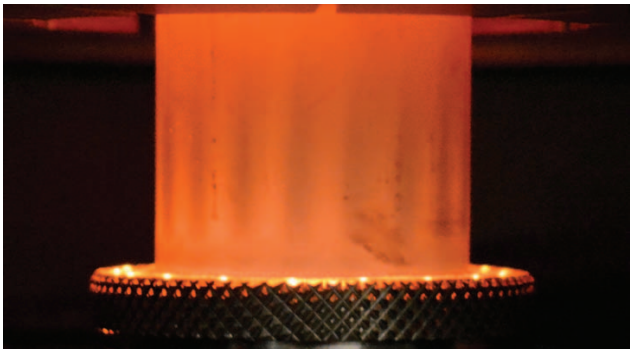
The analyzer contains a large integrated 100 position autosampler with unique vertical sample introduction system. The sample ashes remain in the crucible after the analysis and are taken out to the instrument with the removal of the crucible. This avoids sample ash build-up in the combustion zone and therefore reduces maintenance.

FEATURES

- Analytes TC, TOC, TEC, TIC, TN / Protein
- Suitable for solid samples and liquid samples
- 100 position autosampler
- Sample weights up to 3 grams
- Automatic balance interfacing
- Reusable ceramic sample crucibles
- High temperature combustion with NDIR detection (Carbon)
- Dumas methodology and TCD detection (Nitrogen), environmental friendly alternative for Kjeldahl determination
- Range 0.02 – 100 mg N (abs.)
  Range 0.01 – 200 mg C (abs.)
- Methods according CEN, ISO 10694, NEN-EN 131137, AOAC 990.03, AOAC 992.15, AACC 46-30, ASBC, DIN 19539

APPLICATIONS

Animal feed, malt, food, sludges, sediment, soil, plant, fertilizer, environmental waste etc.



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