Skalar

your partner in chemistry automation

The BluVision™

Discrete analyzer

Introduction

Skalar launches its new automation technology, the BluVision™ discrete analyzer, for the analysis of colorimetric parameters.

With the BluVision™ discrete analyzer we complement our range of products for the automation of colorimetric analysis, which already consists of the San^{++} segmented flow analyzer and the SP2000 test kit robotic analyzer.

The Discrete analyzer is ideal for environmental and industrial laboratories analyzing a wide variety of sample types and matrices. This system integrates years of experience in the field of spectrophotometric analysis and robot automation in one design. Advantages are the low ppb level detection limits, high accuracy and the large sample capacity.

Typical application areas for the BluVision™ are for example drinking water, wastewater, ground water and surface water.

Parameters:

- Alkalinity
- Free Aluminum
- Ammonia
- Calcium
- Chloride
- Chromium VI
- Color
- Free Cyanide
- Total Hardness
- Free Iron
- Magnesium
- Nitrate+Nitrite
- Nitrite
- Free Phenols
- Ortho Phosphate
- Silicate
- Sulfate

All our applications conform to regulatory bodies such as NEN-ISO 15923-1, CMA/2/I/C.8, EPA, Standard Methods for Water and Wastewater (SMWW), ASTM, WAC/III/C/002 etc.

The BluVision™ Discrete analyzer

The BluVision™ automates the sample & reagent pipetting into the cuvettes, mixing, heating, blank correction and photometric measurement.

The BluVision™ discrete analyzer has 100 sample positions and 32 positions for reagents, (stock) standards and QC's. The sample and reagent racks are cooled during the analysis run.

One needle is used for dispensing sample and reagent into the cuvettes. This needle can be optionally equipped with a heated head to pre-heat the samples and reagents prior to dispensing.

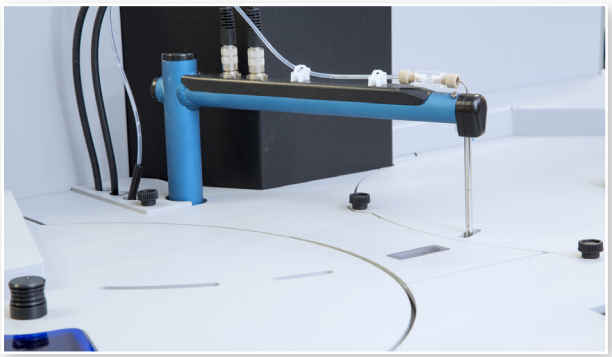
The cuvette tray of 160 test positions is temperature controlled. The cuvette blocks are automatically loaded into the cuvette tray via an autoloader system. The autoloader holds an additional 48 cuvette blocks, giving a total of 640 tests running without operator intervention.

The detector is equipped with a halogen light-source and a filter wheel containing 8 filters with different wavelengths. The BluVision™ is capable of running up to 8 different parameters simultaneously. The filters can be easily exchanged for different chemistry wavelengths.

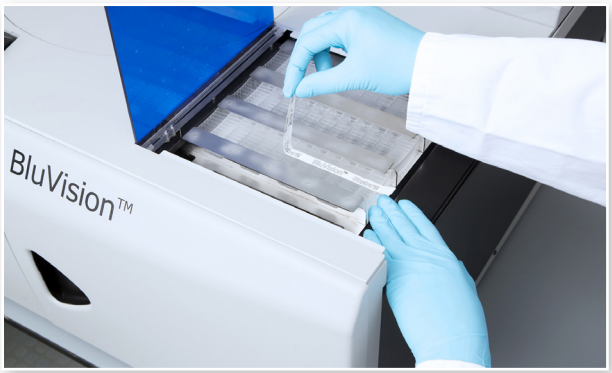
The cuvette has an optical path-length of 15 mm which allows accurate low ppb level detection. The cuvette blocks are disposable, which eliminates any carry-over between tests. Used cuvette blocks are automatically stored in a waste bin for safe removal after analysis. The BluVision™ has a separate waste container for toxic reagents which is automatically selectable per method.

In addition the analyzer can create calibrations from stock solutions; auto dilutions of over-ranged samples or perform re-analysis of samples.

Samples and reagents



Pipetting / dispense needle



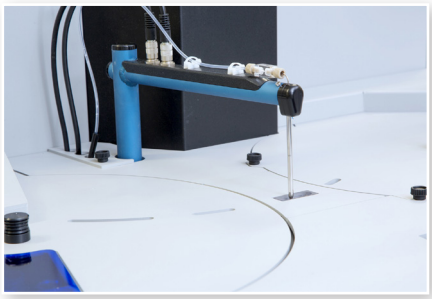
Autoloader for cuvette blocks

Procedure

Typical fully automated discrete analysis sequence consists of the following steps:

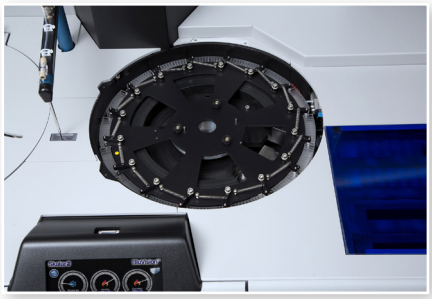
The samples and reagents are loaded into the analyzer. The sample table is set up and the analyzer is started. Depending on the application, certain steps will be automatically executed. Below is an example of the automated procedure:

- . The cuvette-block is pushed from the autoloader into the cuvette wheel
- The needle picks up the first sample
- The sample is dispensed in the cuvette
- The needle is rinsed and whilst simultaneously the cuvette wheel rotates to the measuring unit for a blank measurement of the sample
- The reagent is picked-up and the cuvette wheel rotates back
- Reagent is dispensed into the cuvette
- Again, the needle is rinsed and the cuvette wheel rotates to the measuring position for final measurement after a precisely defined reaction period



Needle and rinsing vessel

Easy access to samples and reagents



Cuvette tray and autoloader

Two waste containers

FEATURES

- Complete "walk-away" automation: sample & reagent pipetting into the cuvettes, mixing, heating, blank correction and photometric measurement
- Optionally, a pipetting needle with heated head to pre-heat reagents or samples before dispensing can be integrated
- Accurate low ppb level detection.
- Disposable cuvette blocks, eliminating any carry-over between samples
- User-friendly, no contact with toxic or corrosive reagents
- Autoloader for an additional 48 cuvette blocks
- Possibility to load priority samples during the run
- Removable sample & reagent racks
- Automatic creation of calibrations from stock solutions
- Sample pre- and post- dilution functions
- DiscreteAccess software package, incl. analyses scheduler, excellent quality control features, user definable print report and export options to i.e. LIMS / Excel etc.
- Segregation of chemical waste, depending on disposal requirements
- Nitrogen over-pressure/exhaust system to maintain stability for low ammonia methods

Software

DiscreteAccess™ is a user-friendly and multi-tasking software package for data acquisition and control of the BluVision™ discrete analyzer.

The BluVision™ integrates a touch screen display which provides all relevant instrument information, such as analyzer status, real-time monitoring of reagent levels and remaining test capacity as well as temperatures of the cuvette and sample trays. In addition, a range of tasks can be executed from this display, for example, loading cuvette blocks, changing filters etc.

For running the analyses, data collection and result calculation the analyzer uses a comprehensive software package, DiscreteAccess™, which complies with all current laboratory requirements. An easy-to-use user interface allows the operator to start up the analyzer within seconds. Each analysis run can be set up batch-wise or random access. For each sample, the user enters the sample ID's or uploads these from a LIMS, selects the necessary analytical parameters to be analyzed and starts the analyzer.

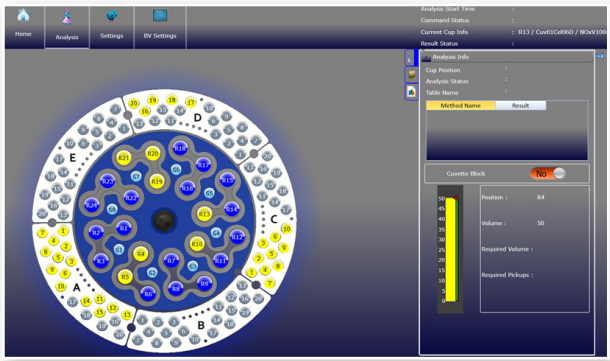
The analyzer can automatically pre-dilute samples or, if a sample goes over-range during analysis, the sample is automatically re-run in a different analytical range and/or re-run after automatic post-dilution.

Extensive QC protocols are available such as CLP and 21 CFR part 11, which includes password protection, data integrity functions, data safety and audit trails. Final results can be printed in a user-definable report format and/or exported to LIMS for further data handling.

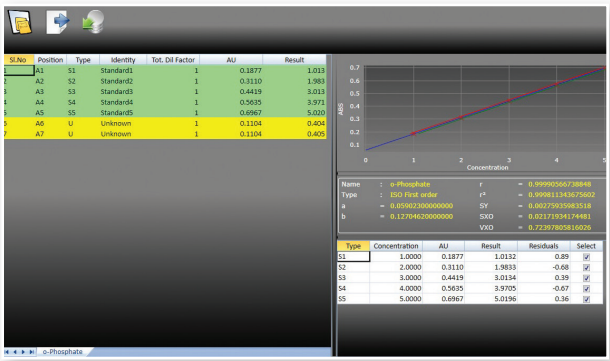
FEATURES

- Definable levels to prevent unauthorized access
- Pre-defined application files for Nitrite, Nitrate, Alkalinity and many more
- Customized applications files can be integrated
- Easy addition / deletion of samples during a run
- Possibility of exporting results during analysis
- Results export to txt, excel file or LIMS
- User defined print reports
- Creating Quality Control Charts from quality control samples
- Merged methods (combine high and low method results into one final result)
- Custom-made methods with calculations
- Display of pipetting order
- Dilutions in cuvette or sample cup
- Measurement with 2nd (compensating) wavelength

Touch screen



Main screen



Results screen

Other available automated colorimetric analyzers

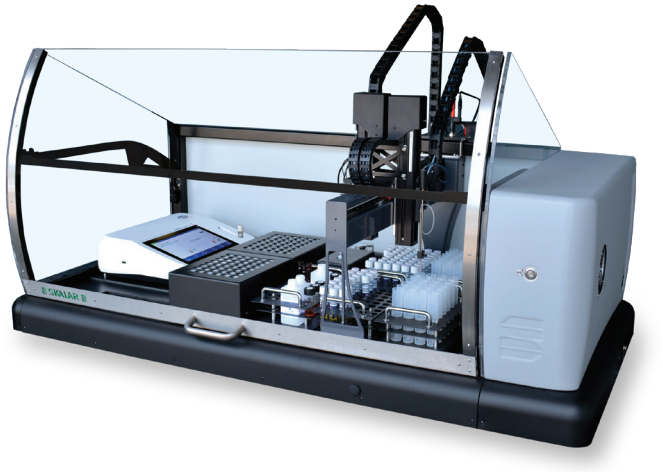
SP2000 test kit analyzer

For complete automation of colorimetric applications using test kits, especially for laboratory which process different parameters on small numbers of samples. Typical application areas are water and wastewater.

Parameters:

- COD
- Total Phosphate
- Total Nitrogen
- Ammonium
- Nitrite

  Etc.



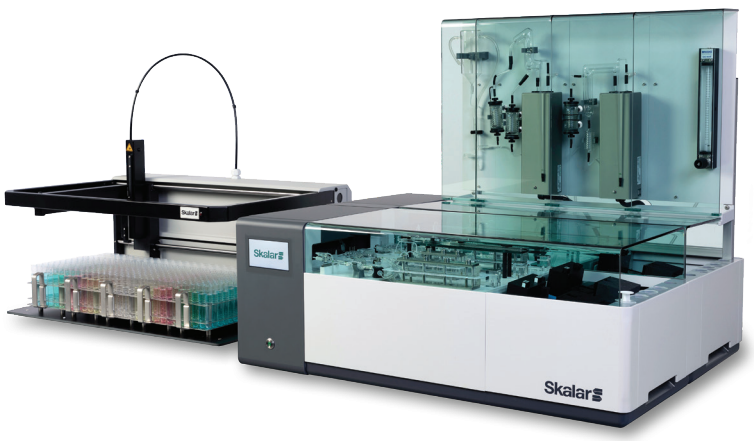
San^{++} continuous flow analyzer

The continuous flow analyzer offers complete automation for a wide range colorimetric parameters including automatic in-line sample pretreatment e.g. dialysis, distillation, extraction and / or digestion. Typical application areas are Water, Beer / Malt, Wine, Tobacco, Soil / Plant / Fertilizer etc.

Parameters:

- Ammonia
- Chloride
- Fluoride
- MBAS
- Nitrate
- Phenol index
- Phosphate
- Sulfate
- Total /Free Cyanide
- Total Nitrogen & Phosphate

  Etc.



To check which analyzer is the best solution to automate your application(s) visit our website **www.skalar.com** or contact us directly via E-mail or phone.

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