SmartChem® 200

AUTOMATED DISCRETE ANALYZER

Maximize Productivity for Routine and Special Chemistries



Wet chemistry is a proven method for analysis of samples in environmental, industrial, research, and quality control applications. The SmartChem® 200 Discrete Analyzer is a fully automated wet chemistry direct read platform for photometric and electrochemical analysis. The analyzer consolidates testing procedures into one platform and a simple process, removing tedious and repetitive tasks for the user. It also operates on less amounts of reagents, which benefits the lab and the environment. The SmartChem® 200 platform saves laboratory operators time and costs, and they receive accurate results from consistent, reproducible testing procedures.

SIMPLE, EFFICIENT & WORRY-FREE

Having to operate multiple analyzers for testing is a burden for lab operators, and most labs are moving away from time-consuming manual methods and opting for automated solutions. The SmartChem® 200 discrete analyzers are compact and easy to use, saving operators several hours of time per day and allowing them to complete other tasks. With the SmartChem® platform, all of the essential analysis steps are automated and the operator can walk away while testing procedures run. Workflows are easy to learn and once they are set-up and running, testing can proceed unattended. This improves throughput, optimizes uptime and improves staff productivity.

The SmartChem® 200 operates with a reusable, high purity synthetic optical cuvette system, eliminating compromised sample measurement. The system simplifies laboratory procedures in a short series of steps: load samples and reagents – set up the test – load the work program in the software – launch the routine – collect the results. SmartChem® cuvettes are washed after each use, making them available for the next reaction/measurement and reducing operator dependence on consumables and their availability.

APPLICATIONS

- Water and environmental
- Soil, plants and fertilizers
- Food and feed
- Beverages, wine and beer
- Chemical

SMARTCHEM® 200 FEATURES

- Extensive physical chemical analysis
- Multi-parametric, automated platform
- Guaranteed stability, reproducibility and traceability with our ready-to-use dedicated reagents
- Improved automation level – full LIMS integration
- Programmable and monitored cuvette wash module
- Reagent inventory system and liquid level sensing







SmartChem® 200

PERFORMANCE, FLEXIBILITY & PRECISION

The SmartChem® 200 is modular – configure the analyzer to suit your needs.



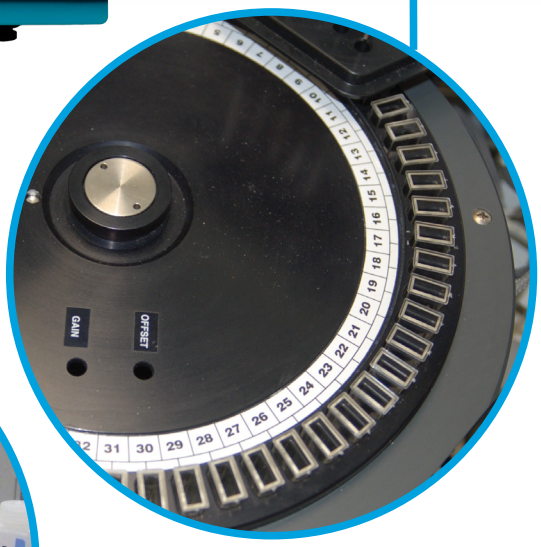
Micro pipettor-dilutor

Washing station Smartwash

Cadmium Reduction Module for Nitrate analysis and/or



Sample/ Reagent Bay



Long-life cuvettes with integrated Cuvette Quality Assurance System



Sample/ Reagent Bay

Available Configurations	Analytical Module: NO_3 Reduction Module and/or EC Module Reagent Cooler (Option) Barcode Reader (Option)

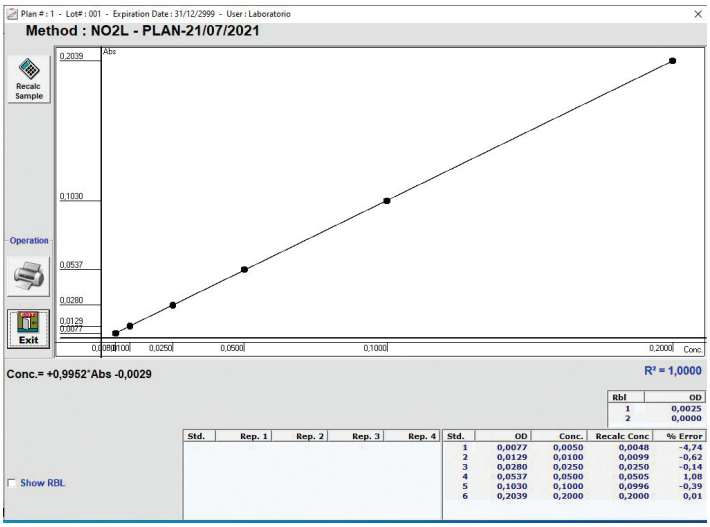
SmartChem® 200

USER-FRIENDLY SOFTWARE

SmartChem® 200 software guides the user through the operating functions. Once the workplan is loaded into the software, the operator launches the routine and can walk away to focus on other tasks during the testing period. The graphical interface fully replicates the instrument as seen by the operator and makes all procedures easy.



System Monitor – View Instrument Status During Testing

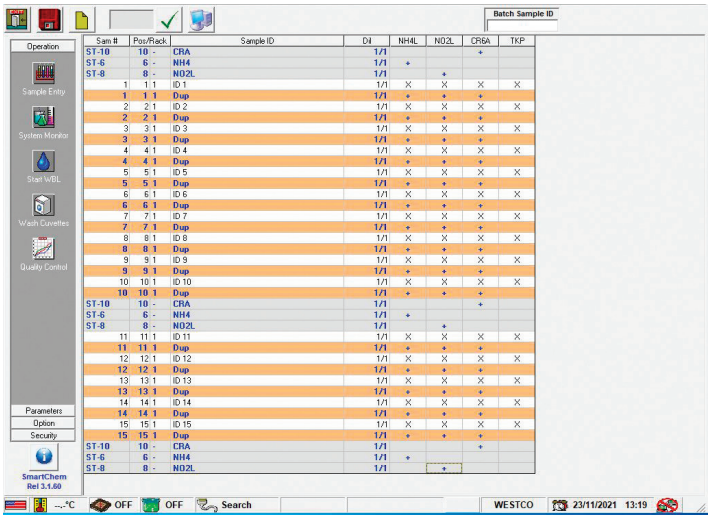


Calibration curve

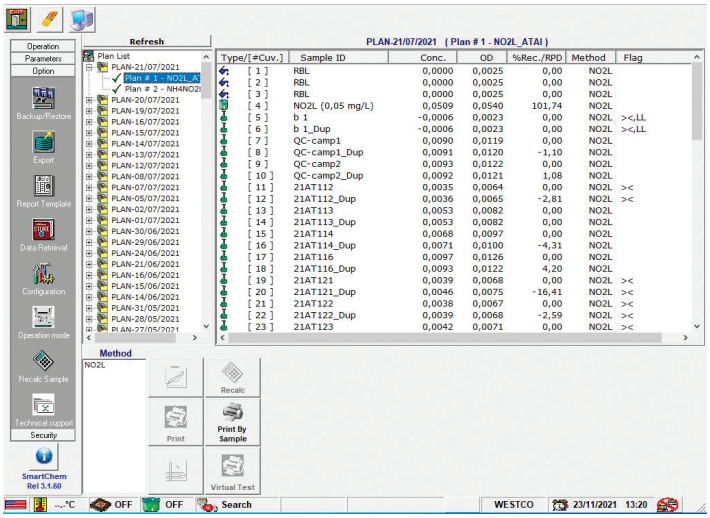
Loading samples, reagents, controls and calibrators is done using an exact digital replica of the instrument's panel and this allows the operator to immediately recognize all required steps.

Reagent levels, cuvette status and other checks are displayed in the System Monitor Screen.

Calibration can be run automatically from the SmartChem® 200 software and it uses only a concentrated standard, because the analyzer will make the relevant dilutions as defined by the standard points in the calibration.



Workplan Set-up



Workplan Results

After having loaded all required reagents, controls, calibrators and samples, the operator is prompted to set-up the work plan, including any required IF-THEN testing as per method or laboratory requirements.

Once the test routine is finished, all results are presented in a report that can be exported to LIMS.

SPECIFICATIONS

Dimensions	Height x Width x Length: 42 x 65 x 100 cm (16.5 x 25.6 x 39.4 in.)
Weight	65 Kg
Power	300 Watts
Assay Type	End Point, Kinetic, Differential, Bi Chromatic Assays, Electrochemical Testing (Optional), Fully Programmable
On-Board Reagents	2 Racks Provided to Contain Up to 16 Reagents as Follows: 1 Rack for 10 Reagent Positions 1 Rack for 6 Reagent Positions and 10 Stock Standards 2 Dedicated Positions for Diluents and Other (Spike Solutions, QC Samples, etc.)
Sample Loading	5 Racks for Continuous Loading of Samples (126 Positions)
Urgent Sample Analysis	Allowed at Any Time
Throughput	Up to 200 Tests/Hour
Reading System	Direct Photometry & Electrochemical (Optional) Photometer: Multi-Wavelength optics, Double Beam Wavelength: 12 Wavelengths Available with 9 on Board Source: Halogen Lamp 6V/10W Optical Path: 10 mm Linear Range: 0.001 – 2.500 Abs Resolution: 0.0001 Abs
Minimum Reaction Volume	300 µl
Sampling System	One Mechanic Arm Provides All Sampling Operation with: Capacitive Liquid Level Sensing Reagent Pre-Warming at 37°C (98.6°F) Automatic Probe Washing Sample Pre-Dilution Sample Rerun with or without Dilution
Dilutor	Automatic Dilution in Pre- and Post-Dilution
Reaction Plate	Holds 60 Cuvettes that Perform the Following Operations: Automatic Cuvette Washing Incubation Temperature Control 37°C (98.6°F) +/- 0.3 Continuous Monitoring of Cuvette Quality Separate Waste Lines to Minimize Hazard Disposal Management Use of Washable Cuvettes (Green Technology)





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