

# SmartChem<sup>®</sup> Series

**AUTOMATED, HIGH-CAPACITY WET  
CHEMISTRY PLATFORMS**



a  KPM brand

## Optimize Your Everyday Laboratory Operations

Wet chemistry is a proven method for analysis of samples in environmental, industrial, research, and quality control applications. The SmartChem<sup>®</sup> Series is a wet chemistry platform for automated photometric and electrochemical analysis.

### ALL IN ONE PLATFORM

Using a single platform to run samples, manage calibrations, standards, maintenance, and operator training, the SmartChem<sup>®</sup> platform offers a reliable and convenient walk-away solution to increase your laboratory's productivity.

Laboratory scientists can concentrate on added-value activities and tasks, while SmartChem<sup>®</sup> automates repeatable, traceable and regulatory compliant testing.

### FULLY AUTOMATED & EFFICIENT

SmartChem<sup>®</sup> operates using small sample reactions ( $\mu$ l). This reduces reagent usage, and less waste is produced, improving your efficiency and environmental footprint while reducing costs.

Our tabletop and stand-alone SmartChem<sup>®</sup> analyzers offer complete analytical solutions with our ready to-use reagents.

### REUSABLE CUVETTES

Thanks to its integrated cuvette wash module and optical integrity monitoring system (Water Blank Level) SmartChem<sup>®</sup> platforms use technical polymer (and optical glass available on SmartChem<sup>®</sup>450) reusable cuvettes. This way cuvettes do not become a consumable in your laboratory allowing you to reduce single-use plastic waste and be more environmentally friendly.

### APPLICATIONS

SmartChem<sup>®</sup> applications include:

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



### SMARTCHEM SERIES FEATURES

- Automated start-up for instrument readiness
- IF THEN driven test sequences
- Samples are kept in discrete cells to reduce error
- Automated, out-of-range retesting decision making
- Integrated wash and control station before and after every analysis
- Optimization of time-consuming techniques such as pH, Cond, ORP
- Full LIMS integration available



## OPTIONS THAT FIT YOUR LABORATORY

SmartChem® analyzers are available in different configurations, running up to 600 tests per hour. Their versatile sample and method loading capacities, together with their optional analytical modules, allow a complete walkaway solution for your wet chemistry testing.



### SmartChem® 210

- Up to 210 tests/hour
- Benchtop analyzer
- Up to 60 sample positions
- Up to 32 reagent positions



### SmartChem® 450

- Up to 450 tests/hour
- Benchtop analyzer
- Up to 100 sample positions
- Up to 72 on-board reagents



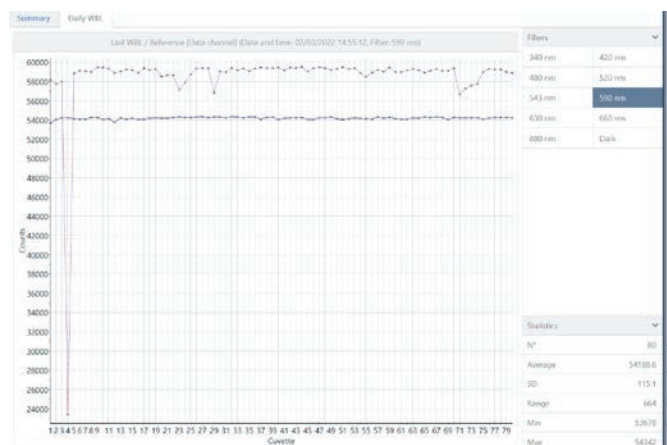
### SmartChem® 600

- Up to 600 tests/hour
- Floor-standing analyzer
- Up to 200 sample positions
- Up to 100 on-board reagents

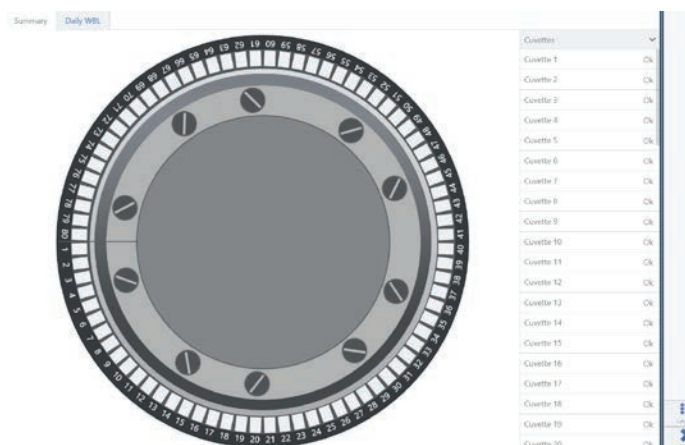
## TRUE WALKAWAY SOLUTION

SmartChem® analyzers use reusable cuvettes via their built-in wash module, allowing a true walkaway experience for operators because there is no cuvette or similar consumable reloading required during the programmed analytical series. With the SmartChem® Series, you receive up to 200 samples of loading capacity, which means there is no limit to the number of tests you can run on each sample. There is always an optically checked and ready to use cuvette available after each wash cycle.

The SmartChem® wash module and cuvette analytical performance are tested in-house and in many locations where our analyzers operate daily, ensuring no cross-contamination. Additionally, special wash rules can be programmed for specific methods.



WBL optical check per wavelength

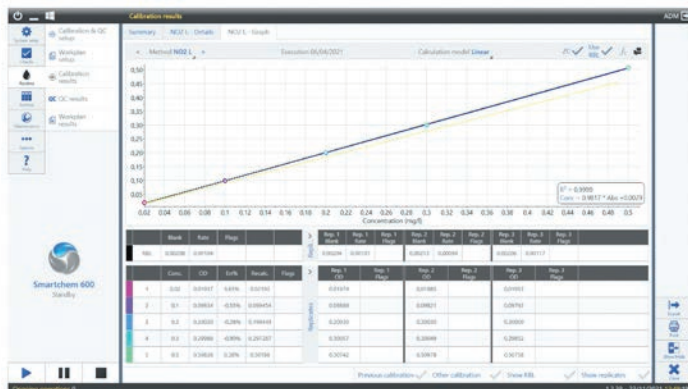


WBL optical readiness overview



## EASY-TO-USE SOFTWARE

SmartChem® Series software makes operating your analyser simple. The user interface fully replicates the instrument for the operator, making it easy to setup and run tests. After loading all required reagents, controls, calibrators and samples, the operator sets up the work plan, including any required IF-THEN testing and reflex testing iterations 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.



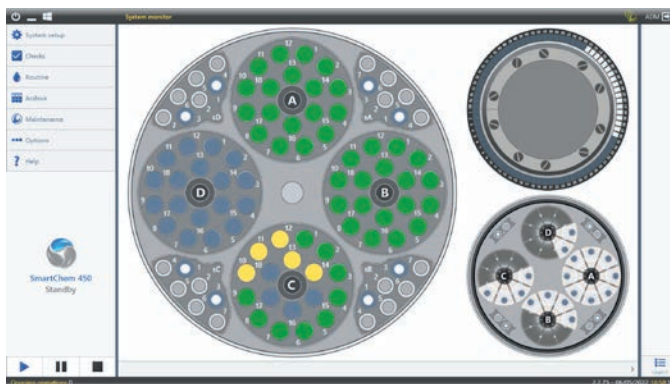
Calibration Curve

Sample	Sample Type	Sample ID	Test	Result	Unit	Test	Result	Unit	Test	Result	Unit
Sample 1	Sample	Sample 1	Test 1	Result 1	Unit 1	Test 2	Result 2	Unit 2	Test 3	Result 3	Unit 3
Sample 2	Sample	Sample 2	Test 1	Result 1	Unit 1	Test 2	Result 2	Unit 2	Test 3	Result 3	Unit 3
Sample 3	Sample	Sample 3	Test 1	Result 1	Unit 1	Test 2	Result 2	Unit 2	Test 3	Result 3	Unit 3
Sample 4	Sample	Sample 4	Test 1	Result 1	Unit 1	Test 2	Result 2	Unit 2	Test 3	Result 3	Unit 3
Sample 5	Sample	Sample 5	Test 1	Result 1	Unit 1	Test 2	Result 2	Unit 2	Test 3	Result 3	Unit 3
Sample 6	Sample	Sample 6	Test 1	Result 1	Unit 1	Test 2	Result 2	Unit 2	Test 3	Result 3	Unit 3
Sample 7	Sample	Sample 7	Test 1	Result 1	Unit 1	Test 2	Result 2	Unit 2	Test 3	Result 3	Unit 3
Sample 8	Sample	Sample 8	Test 1	Result 1	Unit 1	Test 2	Result 2	Unit 2	Test 3	Result 3	Unit 3
Sample 9	Sample	Sample 9	Test 1	Result 1	Unit 1	Test 2	Result 2	Unit 2	Test 3	Result 3	Unit 3
Sample 10	Sample	Sample 10	Test 1	Result 1	Unit 1	Test 2	Result 2	Unit 2	Test 3	Result 3	Unit 3

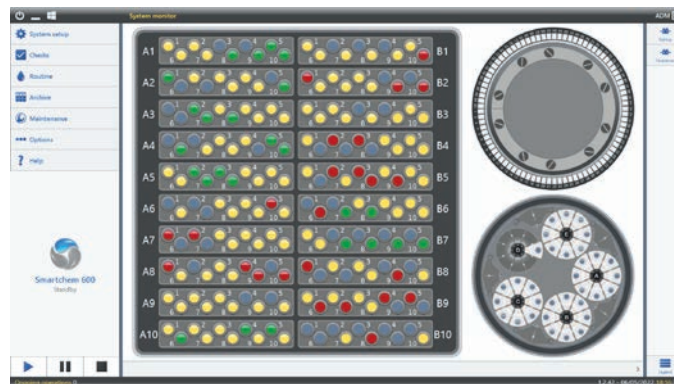
Workplan Setup

SmartChem® intuitive User Interface provides the operator a complete control and visualization of the instrument's operation and performance. SmartChem® 210, 450 and 600 platforms share the same software operation structure, meaning operators can exchange instruments without the need to learn new working modes.

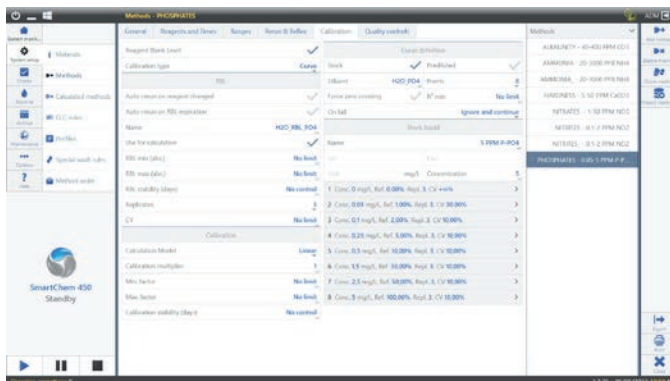
The SmartChem® Software suite allows a complete configuration to its different operators: from basic setup and operation to advance users and method configuration / development.



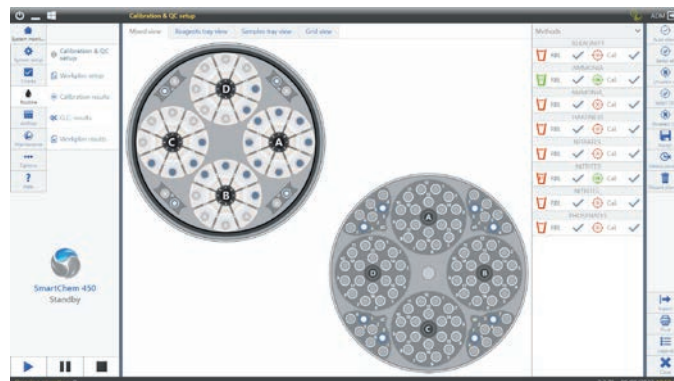
SmartChem® 210 and SmartChem® 450 System Monitor



SmartChem® 600 System Monitor



SmartChem® Method Configurator



SmartChem® QC and Calibration Setup

## COMPANION PRODUCTS



We offer a full range of enzymatic and colorimetric reagents dedicated to our SmartChem® series of discrete analyzers. Developed, tested and validated by our application laboratory, they will guarantee perfect stability and reproducibility of your analyses.

Very easy to use, they are liquid, supplied in specific bottles made for SmartChem®. This ready-to-go solution greatly simplifies the preparation of your analysis and facilitates the use and storage of reagents. It also secures your analyses with reagents adapted to your application and your instrument.

## MODELS AND OPTIONS AVAILABLE

	EC Module	NO <sub>3</sub> Reduction Module	Barcode Readers	Cuvettes
SmartChem®210		✓	<i>Optional:</i> Reagents and Samples	Styrene
SmartChem®450	✓		<i>Optional:</i> Reagents and Samples	Styrene / Optical Glass
SmartChem®450		✓		
SmartChem®600	✓		<i>Included:</i> Reagents and Sample	Styrene
SmartChem®600		✓		
SmartChem®600	✓	✓		

## SPECIFICATIONS

	SmartChem® 210	SmartChem® 450	SmartChem® 600
<b>Dimensions</b>	Height x Width x Length: 50 x 70 x 105 cm (19.7 x 27.6 x 41.3 in.)	Height x Width x Length: 50 x 70 x 105 cm (19.7 x 27.6 x 41.3 in.)	Height x Width x Length: 96 x 70 x 120 cm (37.8 x 27.6 x 47.2 in.)
<b>Weight</b>	48 kg (106 lbs)	48 kg (106 lbs)	115 kg (254 lbs)
<b>Power</b>	350 Watts	350 Watts	430 Watts
<b>Assay Type</b>	End Point, Kinetic, Differential, Bi Chromatic Assays, Fully Programmable (pH, Conductivity, and ORP also available for 450 and 600 models)		
<b>On-Board Reagents</b>	Up to 32 reagents can be loaded into the compartment	Up to 72 reagents can be loaded into the compartment	Up to 100 reagents can be loaded into the compartment
<b>Sample Loading</b>	4 universal, separate racks for continuous loading of samples, calibrators, and controls for total capacity of 60 positions	4 universal, separate racks for continuous loading of samples, calibrators, and controls, for total capacity of 100 positions	<ul style="list-style-type: none"> <li>Up to 200 samples on board</li> <li>2 independent carousels hosting 20 racks of 10 positions each, for continuous sample loading</li> </ul>
<b>Urgent Analysis</b>	Allowed at any time		
<b>Throughput</b>	Up to 210 tests/hour	Up to 450 tests/hour	Up to 600 tests/hour
<b>Reading System</b>	Direct Photometry Photometer: multi-wavelength optics, double beam   Source: halogen lamp 6V/10W   Optical Path: 10 mm   Linear Range: 0.001 – 2.500 Abs   Resolution: 0.0001 Abs   Wavelength: 12 wavelengths available with 9 on board for 210 and 450 models and 12 wavelengths available from 340 nm to 880 nm for 600 model		
<b>Minimum Reaction Volume</b>	300 µl (cuvette type dependent)	300 µl (cuvette type dependent)	180 µl
<b>Sampling System</b>	One mechanic arm provides all sampling operation	One mechanic arm provides all sampling operation	3 sampling arms (1 for samples and 2 for reagents)
<b>Reaction Plate</b>	Holds 60 Cuvettes	Holds 80 Cuvettes	Holds 85 Cuvettes

### KPM Analytics

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