



# SMARTCHEM 600

THE NEW GENERATION  
DISCRETE ANALYZER





MORE

# PRODUCTIVITY

The Smartchem 600 is the result of AMS Alliance know-how, manufacturer of analytical instruments with over 35 years' experience. It is the most recent analyzer among a full range of laboratory instruments, and it has been designed to meet the needs of high productivity while reducing the overall cost of analysis and providing accurate, safe, rapid and standardized results.

Thanks to its loading capacity (200 samples, 100 reagents) the Smartchem 600 brings you an incomparable efficiency.

Barcode readers, ready to use reagents, connectivity ... everything has been designed to optimize both the performance and the autonomy of the Smartchem 600, which will reduce the preparation time of your analyses.

The discrete technology flexibility, powered by AMS Alliance, allows to safely combine the analyses and the parameters in all kind of matrix.

The Smartchem 600 will be able to handle all your obligations for maximum efficiency.

## MORE PRODUCTIVITY PROVEN

- RECORD CAPACITY OF 200 SAMPLES
- CONTINUOUS LOADING
- UNLIMITED METHODS
- HIGH THROUGHPUT UP TO 600 TESTS PER HOUR
- AUTOMATIC STARTUP AND CALIBRATION ROUTINE
- REPEAT & REFLEX TESTS
- BARCODE READING
- BI-DIRECTIONAL LIMS READY



M O R E



The Smartchem 600 is a fully automated discrete analyzer that provides one of the best returns over investment on the market, reduces the time of analysis as well as the risk of errors. The analyses are optimized, simplified and accelerated by the use of dedicated ready to use reagents available for most of the parameters.

It uses a proven concept of washable and reusable cuvettes, whose integrity is guaranteed by an integrated wash and control station before and after every analysis.

Furthermore, the device has been designed in accordance with a Green technology, which aims to reduce firstly the amount of water and reagents used, and secondly the volume of waste to be reprocessed.

Finally its compact dimensions enable to minimize the floor area occupied, which will help to decrease your operating costs.

These innovations, coupled with its high speeds, decreases the running costs of the analyzer and the unit cost of the analyses, responding accurately to the needs of laboratories..

S A V I N G

### LOWER RUNNING COSTS PROVEN

- ANALYTICAL THROUGHPUT UP TO 600 TESTS/HOUR
- LONG-LIFE CUVETTES WITH INTEGRATED CUVETTE QUALITY ASSURANCE SYSTEM
- INTEGRATED WASH & CONTROL STATION
- REDUCED REAGENTS VOLUME
- REDUCED WASTE VOLUME
- LOW POWER AND WATER CONSUMPTION
- YOUR ANALYSES FOR A FEW CENTS PER TEST



# PERFORMANCE, FLEXIBILITY AND PRECISION

3 arms: 1 for samples, 2 for reagents



Integrated wash & control station



Up to 100 reagents on board



MORE

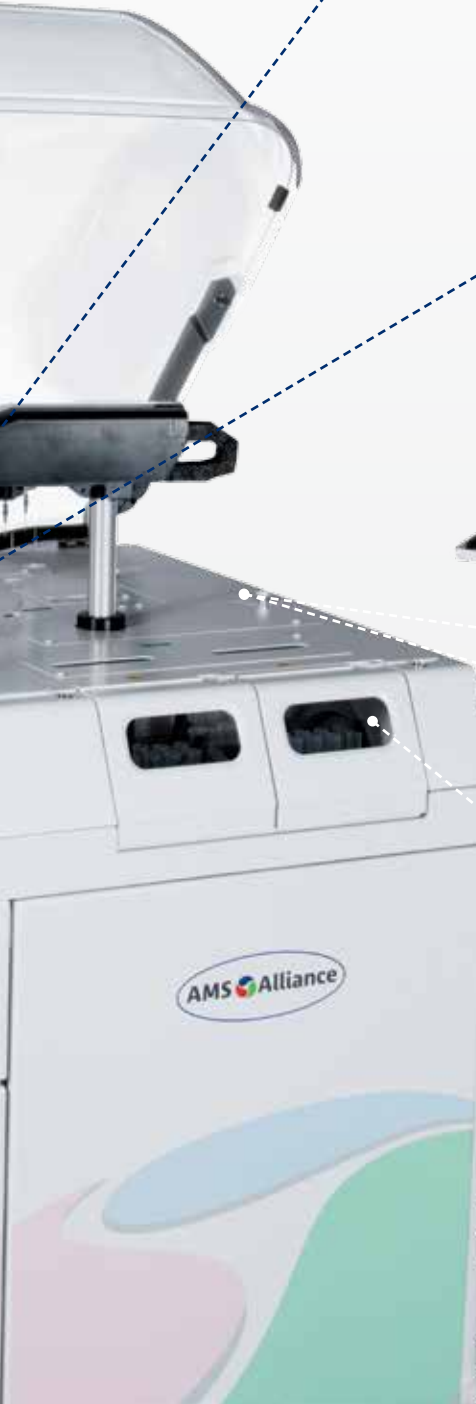
EFFICIENCY

600

2 stirrers



Long-life direct read cuvettes with integrated Cuvette Quality Assurance System



• ISE module for pH, conductivity & redox analysis (option)

• Nitrates module (option)

Record capacity up to 200 samples with continuous loading





# BETTER

# RESULTS

The Smartchem 600 is unquestionably the most performant discrete analyzer on the market. It uses the latest innovations of discrete technology in order to offer more flexibility, more precision, more simplicity, more rapidity, and finally, better results.

The development and introduction of capped sample tubes minimizes the risk of Ammonia cross contamination as well as reducing evaporation. Capping also reduces the effects of aerial factors

that interfere with parameters such as pH and conductivity. Together with the incubator design tests have shown this to be a major advantage over existing technologies.

Our technical support and our application laboratory assist and advice you over the methods to use, and provide the maintenance of your device worldwide in order to permanently ensure its top performances.



# 600

## BETTER RESULTS PROVEN



- 10MM OPTICAL PATH FOR INCREASE ACCURACY



- CAPPED TUBES FOR THE ANALYSIS OF SENSITIVE SAMPLES / PARAMETERS



- AUTOMATED CLEANING OF CUVETTES TO AVOID ANY RISK OF CROSS CONTAMINATION



- FULLY AUTOMATED OPERATION



- READY-TO-USE REAGENTS WITH BAR CODE FOR BETTER TRACEABILITY



- TECHNICAL SUPPORT AND APPLICATION LABORATORY AT YOUR DISPOSAL



# MORE



User-friendly software with  
touchscreen supplied with the device



Possibility of wireless  
control with a  
touchscreen tablet

# FLEXIBILITY

Another unique development of the Smartchem 600 is over range dilutions, these are carried out in sequence and not left until the end of the run, which in the case of systems which leave then until the end of the run can often interfere with reporting sequencing.

## MORE FLEXIBILITY PROVEN

- AUTOMATIC START-UP (INCLUDING CALIBRATION)
- 200 SAMPLES VISIBLE AT A GLANCE
- REPEAT & REFLEX FUNCTIONS
- BARCODE READING FOR SAMPLES & REAGENTS
- ADDITION OF NEW SAMPLE OR METHOD TO A SAMPLE DURING THE RUN
- STAT SAMPLES
- COMPARISON OF CALIBRATION CURVES WITH PREVIOUS CURVES

The Smartchem 600 uses a new user-friendly operating software that drives all the operations with its intuitive access concept and touch screen approach. You have the possibility to have a wireless control of the device thanks to a touch screen tablet or, remotely, through a web interface. Many settings (such as pre-cleaning of the cuvettes, calibrations...) can be programmed in advance in order to optimize the machine-operators' time.

The new software enables and records where every reaction takes place so that the individual test values of a sample can be accurately identified in the incubator. This is particularly relevant in certain analytes known to cause issues in other systems incubators. This enables the operator to rapidly audit and identify any potential anomalies and react swiftly in real-time to provide corrective action.



# MORE

Main analyzed parameters

(Do not hesitate to consult us if you can't find your parameter in the following list)

# PARAMETERS

## Surface, ground, drinking, waste and sea waters

*Alkalinity*  
*Ammonia*  
*Chloride*  
*Chlorine*  
*Chromium*  
*Cyanide*  
*Fluoride*

*Hardness*  
*Iron*  
*Manganese*  
*Nitrate*  
*Nitrite*  
*Phenol*  
*Phosphate*

*Silicate*  
*Sulfate*  
*Total Kjeldahl Nitrogen*  
*Total Kjeldahl Phosphorous*  
*Turbidity*  
*Urea*

## Soils & Plants

*Ammonia*  
*Boron*  
*Calcium*  
*Chloride*

*Lysine*  
*Magnesium*  
*Nitrate*  
*Nitrite*

*Phosphate*  
*Total Nitrogen*  
*Total Phosphorous*  
*Urea*

## Feed & Fertilizers

*Ammonia*  
*Calcium*  
*Chloride*

*Phosphate*  
*Protein*  
*Total Nitrogen*

*Total Phosphorous*  
*Urea*

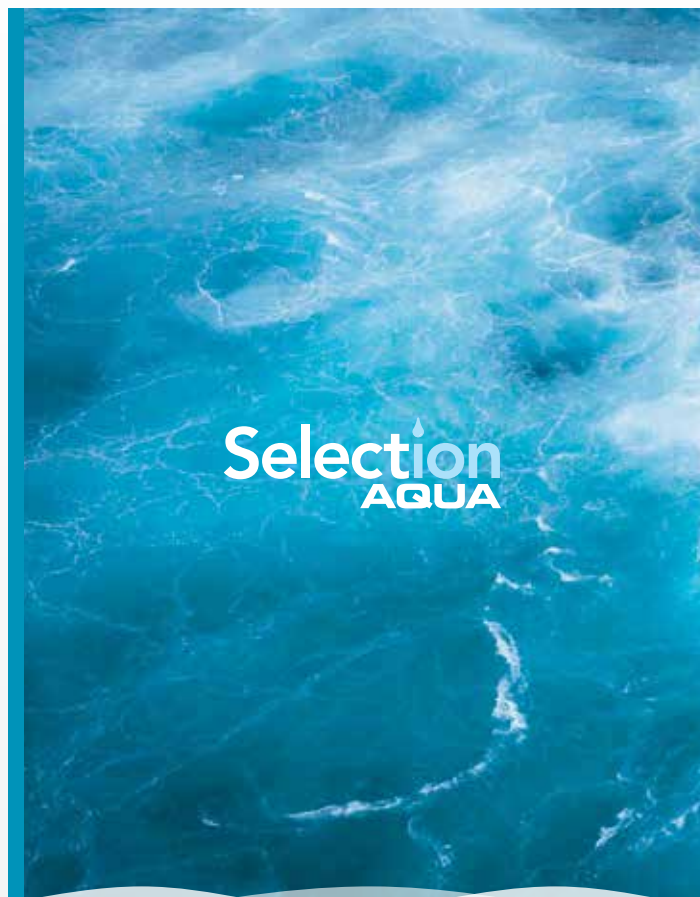
*Some parameters require an external pre-treatment of the sample.*

# READY-TO-USE

# REAGENTS

We have created SELECTION, a full range of enzymatic and colorimetric reagents dedicated to our Smartchem range of discrete analyzers. Developed, tested and validated by our application laboratory, they will guarantee a perfect stability and reproducibility of your analyses. Very easy to use, they are supplied liquid, in specific bottles specifically made for Smartchem, and automatically detected by the barcode reader (optional). Thus, this ready solution greatly simplifies the preparation of your analysis and facilitates the use and storage of reagents. It also secures yours analyzes with reagents adapted to your application and your instrument.

- FAST
- PRACTICAL
- ECONOMICAL
- READY-TO-USE



**Selection**  
AQUA

**Alkalinity (MO)**  
**Alkalinity (BPB)**  
**Ammonia**  
**Chromium VI**  
**Chlorides**  
**Fluoride**  
**Hardness**  
**Nitrate**  
**Nitrite**  
**Phosphates**  
**Silicate**  
**Sulfates**

ALL OUR REAGENTS ARE AVAILABLE ON OUR WEBSHOP  
[www.webshop.amsalliance.com/en](http://www.webshop.amsalliance.com/en)

# AMS ALLIANCE DISCRETE ANALYZERS RANGE

**Smartchem  
140**

Throughput : 140 tests/hour



**Smartchem  
200**

Throughput : 200 tests/hour



**Smartchem  
450**

Throughput : 450 tests/hour



# SMARTCHEM



**Smartchem  
600**

Throughput : 600 tests/hour



# TECHNICAL SPECIFICATIONS

DESCRIPTION	Fully automated, direct read, floor stand, random access, Discrete analyzer	
ASSAY TYPE	End Point, Kinetic, Differential, Bi chromatic assays up to 999 tests, fully programmable	
ON-BOARD REAGENTS	Up to 100 reagents can be loaded into the refrigerated compartment and distributed on: - 5 removable racks (8 main positions) + 5 satellites - 80/50/20/5 ml containers - Reagents barcode reading (option)	
SAMPLES LOADING	- Up to 200 samples on board - 2 independent carousels hosting 20 racks of 10 positions each, for continuous sample loading - Cups and/or tubes of 10-13 mm (max height 100 mm) - Sample tube caps for sensitive application - Samples barcode reading (option)	
URGENT SAMPLE ANALYSIS	allowed at any time	
THROUGHPUT	Up to 600 tests/hour including ISE (pH, conductivity, redox)	
READING SYSTEM	Direct photometry	
MINIMUM REACTION VOLUME	180 µl	
OPTICS SYSTEM	<b>Photometer</b>	direct reading (New Photo-Diode Array Technology)
	<b>Wavelength</b>	12 available wavelengths from 340 nm to 880 nm
	<b>Optical Path</b>	10 mm
	<b>Linear range</b>	0.001 - 3.500 Abs
SAMPLING SYSTEM	<ul style="list-style-type: none"> <li>- 3 sampling arms</li> <li>- 3 Shock sensors</li> <li>- 1 clog sensor (in option)</li> <li>- 3 Capacitive liquid level sensors</li> <li>- 2 stirrers/mixers</li> <li>- Automatic probes washing</li> <li>- Sample rerun with or without dilution</li> <li>- Limited water consumption (less than 7 liters/hour)</li> </ul>	
DILUTOR	Automatic dilution in pre and post-dilution	
REACTION PLATE	<ul style="list-style-type: none"> <li>- 85 cuvettes</li> <li>- Automatic cuvette washing</li> <li>- Continuous monitoring of cuvette quality</li> <li>- Incubation temperature control at 37°C +/- 0,3</li> <li>- Separate waste lines to minimize hazard disposable management</li> <li>- Use of washable cuvettes (Green technology)</li> </ul>	
DIMENSIONS	96 x 70 x 120 cm (W x D x H)	
WEIGHT	115 Kg	
OPTIONAL ACCESSORIES	<ul style="list-style-type: none"> <li>- ISE module for pH, conductivity &amp; Redox</li> <li>- Nitrate module with new reductor</li> </ul>	<ul style="list-style-type: none"> <li>- Barcode reader for reagents</li> <li>- Barcode reader for samples</li> </ul>
COMPLEMENTARY PRODUCTS	<p>Ready to use reagents</p> 	



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